

# Accessible Version

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## Meeting of the Federal Open Market Committee January 27-28, 2009 Presentation Materials

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[Presentation Materials \(PDF\)](#)

Pages 218 to 267 of the Transcript

### Appendix 1: Materials used by Ms. Mosser and Mr. Hilton

Class II FOMC - Restricted FR

#### Page 1

*Top panel*  
(1)

**Title:** U.S. Libor-OIS Spreads

**Series:** Spreads between One-Week, One-Month, Three-Month Libor Rates and One-Week, One-Month, Three-Month Overnight Index Swap Rates for U.S.

**Horizon:** July 1, 2007 - January 23, 2009

**Description:** U.S. Libor to OIS spreads decline after announcement of Treasury Capital Purchase Program and FDIC Debt Guarantee.

Sept. 14: Lehman Brothers Holdings files for bankruptcy; Oct. 13: Euro Area Announcement; Oct. 14: Treasury Capital Purchase Program, FDIC Debt Guarantee, and further details of Federal Reserve CPFF Program Announced

Source: Bloomberg

*Middle panel*  
(2)

**Title:** Three-Month Commercial Paper Rates

**Series:** Three-Month AA-Rated Financial, AA-Non-Financial, AA-Asset Backed, and A2/P2 Non-Financial Commercial Paper Rates

**Horizon:** August 1, 2008 - January 23, 2009

**Description:** Three-month commercial paper rates decline in January.

Sept. 19: AMLF announced; Oct. 7: CPFF announced (effective Oct. 27); Oct. 21: MMIFF announced

Source: Federal Reserve Board

*Bottom panel*  
(3)

**Title:** Mortgages and Agencies

**Series:** Mortgage Option-Adjusted Spread to Treasury, 5-Year Fannie Mae Debt to Treasury, and 30-Year Fixed Conforming Mortgage Rate

**Horizon:** August 1, 2008 - January 23, 2009

**Description:** Mortgage rates increase while agency rates decline.

Sept. 7: Fannie Mae and Freddie Mac enter conservatorship; Nov. 25: Agency Coupon and Agency-MBS Purchases Announced; Dec. 30: Agency-MBS FAQ Released; Jan. 5: First Agency-MBS Purchase

Source: Bloomberg, Lehman Brothers/Barclays

## Page 2

### *Top panel*

(4)

**Title:** Corporate Debt Cash Spreads Narrow Recently  
**Series:** Investment Grade and High Yield corporate debt cash spreads  
**Horizon:** August 1, 2007 - January 23, 2009  
**Description:** Corporate debt cash spreads narrow.

Source: Merrill Lynch/Bank of America

### *Middle panel*

(5)

**Title:** Monthly Investment Grade Bond Issuance  
**Series:** Guaranteed and Not Guaranteed Investment Grade Bond issuance  
**Horizon:** January 2008 - January 2009  
**Description:** Investment grade guaranteed bond issuance increases from early 2008.

Source: JPMorgan Chase

## Page 3

### *Top panel*

(6)

**Title:** Asset-Backed Security Spreads Narrow After Year End  
**Series:** AAA-Rated Spreads to 1-Month Libor for 3-Year Auto ABS, 5-Year Credit Card ABS, and 3-Year FFELP Student Loan ABS  
**Horizon:** August 1, 2008 - January 23, 2009  
**Description:** Asset-backed security spreads narrow after year end.

Dec. 19: TALF announced

Source: JPMorgan Chase

### *Middle panel*

(7)

**Title:** Commercial Mortgage-Backed and Leveraged Loan Prices Deteriorate  
**Series:** Implied Prices of Series 2, 4 CMBX and LCDX  
**Horizon:** August 1, 2008 - January 23, 2009  
**Description:** Commercial mortgage-backed and leveraged loan prices deteriorate.

Source: Lehman Brothers/Barclays, JPMorgan Chase

## Page 4

### *Top panel*

(8)

**Title:** Average Daily Bid-Ask Spread: Euro-Dollar FX Rate

**Series:** Average daily bid-ask spread of the Euro-Dollar FX rate 10-day moving average and average percent

**Horizon:** January 1, 2007 - January 22, 2009

**Description:** Average daily bid-ask spread of Euro-Dollar FX rate decreasing in January.

Source: ICAP FX

### *Middle panel*

(9)

**Title:** Trade Quote Sizes in the Treasury Market Shrink

**Series:** Average daily trade quote sizes in the Treasury market (2-year, 5-year, 10-year, and 30-year) for 2008, December 2008, and January 2009

**Horizon:** 2008-2009

**Description:** Trade quote sizes in the Treasury market shrink.

Source: Broker Tec

## Page 5

### *Top panel*

(10)

**Title:** Average Absolute Price Error between Treasury Yields and FRB Model

**Series:** Average Absolute Price Error between the FRB Treasury Spline and Nominal Yields

**Horizon:** January 1, 2007 - January 21, 2009

**Description:** The average absolute price error between the FRB Treasury spline and nominal Treasury yields increases.

\* Calculated from securities with two to ten years until maturity, excluding on-the-run and first off-the-run securities.

Source: Federal Reserve Board

### *Middle panel*

(11)

**Title:** Corporate CDS Bond Basis

**Series:** Investment grade and high yield corporate CDS-bond basis

**Horizon:** January 1, 2008 - January 23, 2009

**Description:** Investment grade corporate CDS-bond basis remains steady since December while high yield corporate CDS-bond basis increases.

Source: JPMorgan Chase

### *Bottom panel*

(12)

**Title:** Hedge Fund Returns Decline

**Series:** Credit Suisse/Tremont Hedge Fund Index twelve-month rolling returns

**Horizon:** January 1, 1998 - December 30, 2008

**Description:** Hedge fund annual average returns decline.

Source: CS/Tremont, Bloomberg, Lehman Brothers/Barclays

## Page 6

*Top panel*  
*(13) Bank Earnings Disappoint Expectations*

Q3 2008 - Q4 2008

	Q4 Earnings		Q3 Capital Ratios	
	Earnings Estimate (\$bln)	Actual Earnings (\$bln)	Tangible Common Equity to Assets	Tier 1 Capital Ratio
<b>U.S. Bank Holding Companies</b>				
JPMorgan Chase	0.4	0.7	3.8	8.9
Citigroup	-5.0	-8.3	1.8	8.2
Bank of America	1.6	-1.8	2.6	7.6
Merrill Lynch	-1.9	-15.3		8.7
Wells Fargo**	1.6		5.4	8.6
State Street	0.0	0.1	2.4	16.0
Bank of New York-Mellon	0.7	0.1	2.1	9.3
Goldman Sachs	-1.7	-2.1		11.6
Morgan Stanley	0.5	-2.3		12.7
<b>Foreign Banks (in local currency)</b>				
UBS	-3.1		1.6	10.8
Credit Suisse	-3.0		2.0	10.4
Deutsche Bank	-4.4	-4.8	1.2	7.6
HSBC	4.2		3.4	8.2
Barclays*	1.1		1.0	7.9
RBS*	-4.2		2.7	
BNP Paribas	0.7		2.1	
Societe Generale	0.6		2.7	8.2

\* U.K. banks report semi-annually [Return to table](#)

\*\* Expected to report Q4 earning on 1/28/09 [Return to table](#)

Source: Bloomberg

*Bottom panel*  
*(14)*

**Title:** Bank Capital Ratios

**Series:** Tier 1 and Tangible Common Equity Ratios of eight large banks and fourteen regional banks

**Horizon:** Q3 2008

**Description:** Regional banks, on average, have higher volumes of liquid assets than larger banks, shown in their tangible common equity ratios.

Tier 1 Ratio: 8 Large Banks: 11.5%; 14 Regional Banks: 11.1%. Tangible Common Equity Ratio: 8 Large Banks: 3.4%; 14 Regional Banks: 6.1%.

Source: Goldman Sachs

*Top panel*  
(15)

**Title:** Former Investment Bank Equity Prices

**Series:** Equity prices for Morgan Stanley and Goldman Sachs and the Standard & Poor's 500 Index

**Horizon:** August 1, 2008 - January 23, 2009

**Description:** Former investment bank equity prices are decreasing since they have become bank holding companies.

Sept. 22: Goldman and Morgan Stanley become bank holding companies

Source: Bloomberg

*Middle panel*  
(16)

**Title:** Commercial Bank Equity Prices

**Series:** Equity prices for Bank of America, Citigroup, JPMorgan Chase, Wells Fargo, and S&P 500 Index

**Horizon:** August 1, 2008 - January 23, 2009

**Description:** Commercial bank equity prices for Bank of America, Citigroup, JPMorgan Chase, and Wells Fargo decrease.

Source: Bloomberg

*Bottom panel*  
(17)

**Title:** European Bank Equity Prices

**Series:** Equity prices for Barclays, RBS, HSBC, Deutsche, Societe Generale, UBS, and Credit Suisse

**Horizon:** August 1, 2008 - January 23, 2009

**Description:** European bank equity prices decrease.

Source: Bloomberg

## Page 8

*Top panel*  
(18)

**Title:** Former Investment Bank CDS Spreads

**Series:** Credit Default Swap Spreads for Morgan Stanley and Goldman Sachs

**Horizon:** August 1, 2008 - January 23, 2009

**Description:** Credit default swap spreads for Morgan Stanley and Goldman Sachs stabilize below recent wide levels.

Source: Markit

*Middle panel*  
(19)

**Title:** Commercial Bank CDS Spreads

**Series:** Credit Default Swap Spreads for Bank of America, Citigroup, JPMorgan Chase, and Wells Fargo

**Horizon:** August 1, 2008 - January 23, 2009

**Description:** Commercial bank CDS spreads for Bank of America, JPMorgan Chase, and Wells Fargo widen modestly while Citigroup spread widens dramatically.

Sept. 14: Lehman Brothers Holdings files for bankruptcy & Bank of America announced purchase of Merrill Lynch; Nov. 23: US government provides a package of guarantees, liquidity access, and capital to Citigroup

Source: Markit

*Bottom panel*  
(20)

**Title:** European Bank CDS Spreads

**Series:** Credit Default Swap Spreads for Barclays, RBS, HSBC, Deutsche, Societe Generale, UBS, and Credit Suisse

**Horizon:** August 1, 2008 - January 23, 2009

**Description:** Credit default swap spreads for Barclays and UBS widen.

Source: Bloomberg

## Page 9

*Top panel*  
(21)

**Title:** Sovereign CDS Spreads Widen

**Series:** Credit Default Swap spreads for United States, United Kingdom, Germany, Spain, Japan, Ireland, Australia, and Korea

**Horizon:** August 1, 2008 - January 23, 2009

**Description:** Sovereign credit default swap spreads widen.

Source: Bloomberg

*Middle panel*  
(22)

**Title:** Treasury Yield Curve Steepens Modestly

**Series:** 2-Year, 5-Year, 10-Year, and 30-Year Treasury Yields

**Horizon:** August 1, 2007 - January 23, 2009

**Description:** Treasury yield curve steepens modestly.

Source: Bloomberg

*Bottom panel*  
(23)

**Title:** Distribution of Expected Policy Target Rate Among Primary Dealers Prior to January 28 FOMC Meeting

**Series:** Dealer expectations for policy target rate by quarter, average forecast for policy target by quarter, and market rate for policy expectation by quarter as of 1/20/2009

**Horizon:** Expectations for Q1 2009 - Q4 2010

**Description:** On average, primary dealer economists are forecasting a slower rate of increase in the policy target rate over the next two years than what is currently priced into Eurodollar futures.

Source: Dealer Policy Survey

## Page 10

*Top panel*  
(24)

**Title:** Federal Reserve Balance Sheet Assets

**Series:** The composition of the Federal Reserve balance sheet assets.

**Horizon:** August 2007 - January 2009

**Description:** The Federal Reserve balance sheet contracts slightly.

All Other Lending; PCF+PDCF; AMLF; CPFF; FX Swaps; TAF; Outright Agency Holdings; Single Tranche Repo; Conventional RPs; Outright Treasury Holdings; Autofactors

Source: Federal Reserve Bank of New York

### *Middle panel*

(25)

**Title:** Market Rates Corresponding to Liquidity Facilities

**Series:** One-Month GC Treasury Repo, One-Month Agency-MBS Repo, One-Month USD Libor, Three-Month USD Libor, Three-Month Financial Commercial Paper

**Horizon:** July 1, 2008 - January 23, 2009

**Description:** Market rates steadily decline.

Source: Federal Reserve Bank of New York

## Page 11

### *Top panel*

(26)

**Title:** TSLF Loans Outstanding

**Series:** Schedule 1 Term Securities Lending Facility loans outstanding, Schedule 2 Term Securities Lending Facility loans outstanding, Term Securities Lending Facility Option Program outstanding (Schedule 2)

**Horizon:** March 28, 2008 - January 23, 2009

**Description:** Term Securities Lending Facility loans outstanding decrease.

Source: Federal Reserve Bank of New York

### *Middle panel*

(27)

**Title:** Demand at TSLF Auctions

**Series:** Schedule 1 Auction Size, Schedule 1 Amount Awarded, Schedule 2 Auction Size, Schedule 2 Amount Awarded, Schedule 1 Stop-Out Rate, Schedule 2 Stop-Out Rate

**Horizon:** March 27, 2008 - January 22, 2009

**Description:** Term Securities Lending Facility amount awarded decreases for both Schedule 1 and Schedule 2 auctions.

Source: Federal Reserve Bank of New York

### *Bottom panel*

(28)

**Title:** Total Outstanding FX Swap Draw-Downs Decline

**Series:** Total Outstanding FX Swap Draw-Downs for the Bank of Korea, Swiss National Bank, Riksbank, Reserve Bank of Australia, European Central Bank, Norges Bank, Danmark National Banken, Bank of Japan, and Bank of England

**Horizon:** December 1, 2007 - January 23, 2009

**Description:** Total outstanding FX swap draw-downs decline.

Source: Federal Reserve Bank of New York

## Page 12

### *Top panel* (29)

**Title:** Term Auction Facility Loans Outstanding  
**Series:** Term Auction Facility loans outstanding for Forward, 84-Day, and 28-Day operations  
**Horizon:** December 20, 2007 - January 23, 2009  
**Description:** Term Auction Facility loans outstanding increase after year-end.

Source: Federal Reserve Bank of New York

### *Middle panel* (30)

**Title:** Demand at TAF Auctions  
**Series:** Term Auction Facility Auction Size, Amount Awarded, and Stop-Out Rate Spread to Minimum Bid Rate  
**Horizon:** December 20, 2007 - January 15, 2009  
**Description:** Recent Term Auction Facility auctions stop-out at the minimum bid rate.

Source: Federal Reserve Board

### *Bottom panel* (31)

**Title:** PCF and PDCF Borrowing  
**Series:** Primary Credit Facility and Primary Dealer Credit Facility borrowing  
**Horizon:** January 1, 2008 - January 23, 2009  
**Description:** Primary Credit Facility and Primary Dealer Credit Facility borrowing decreases.

Source: Federal Reserve Bank of New York

## Page 13

### *Top panel* (32)

**Title:** Amount of CPFF Loans Outstanding  
**Series:** Amount of Commercial Paper Funding Facility loans outstanding for commercial paper, FDIC guaranteed commercial paper, and asset-backed commercial paper  
**Horizon:** October 27, 2008 - January 23, 2009  
**Description:** CP and FDIC guaranteed CP outstanding increase slightly recently.

Source: Federal Reserve Bank of New York

### *Middle panel* (33)

**Title:** AMLF Loans Outstanding  
**Series:** Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility loans outstanding  
**Horizon:** September 22, 2008 - January 23, 2009  
**Description:** AMLF loans outstanding decrease.

Source: Federal Reserve Bank of New York



*Bottom panel*

(34)

**Title:** Assets in Prime Money Market Funds

**Series:** Assets in Prime, Treasury Only, Treasury and Repo, and Treasury and Agency Money Market Funds

**Horizon:** August 1, 2008 - January 23, 2009

**Description:** Assets in Prime and Treasury and Agency funds increase while assets in Treasury Only and Treasury and Repo funds decrease.

Sept. 14: Lehman Brothers Holdings files for bankruptcy; Sept. 16: Reserve Fund breaks the buck; Sept. 19: AMLF announced; Oct. 7: CPFF announced (effective Oct. 27); Oct. 21: MMIFF; Jan. 5: MMIFF eligibility expanded

Source: iMoneyNet

## Page 14

*Top panel*

(35)

**Title:** Purchases of Agency-MBS

**Series:** Cumulative Amount of Agency-MBS Purchases and Agency-MBS Purchase Size

**Horizon:** January 5, 2009 - January 23, 2009

**Description:** Cumulative amount of Agency-MBS purchases increases.

Source: Federal Reserve Bank of New York

*Middle panel*

(36)

**Title:** Mortgage Refinance Applications

**Series:** Mortgage Application Index, Mortgage Refinance Application Index

**Horizon:** January 1, 2008 - January 16, 2009

**Description:** Mortgage refinance applications increase.

Nov. 25: Agency Coupon and Agency-MBS Purchases Announced; Dec. 30: Agency-MBS FAQ Released; Jan. 5: First Agency-MBS Purchase

Source: Bloomberg

*Bottom panel*

(37)

**Title:** Purchases of Agency Coupon Debt

**Series:** Cumulative Amount of Agency Coupon Debt and Agency Coupon Purchase Size

**Horizon:** December 5, 2008 - January 22, 2009

**Description:** Cumulative amount of agency coupon debt purchased increases.

Source: Federal Reserve Bank of New York

## APPENDIX: Reference Exhibits

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**Top panel**

(38)

**Title:** Three-Month Libor and Expectations for Three-Month Libor Decline

**Series:** Three-Month U.S. Libor and Three-Month Forward Three-Month Libor

**Horizon:** July 1, 2007 - January 23, 2009

**Description:** Three-month Libor and expectations for three-month Libor decline.

Source: Bloomberg

### Middle panel (39)

**Title:** Spread between Jumbo and Conforming Mortgage Rates Remains Wide

**Series:** Conforming Mortgage Rates, Jumbo Mortgage Rates, and the spread between Conforming Mortgage Rates and Jumbo Mortgage Rates

**Horizon:** January 1, 2008 - January 23, 2009

**Description:** Conforming mortgage rates decline.

Source: Bloomberg

### Bottom panel (40)

**Title:** Ten- and Thirty-Year AAA-Rated Municipal Debt Yields Decline

**Series:** Ten- and thirty-year AAA-Rated municipal debt yields

**Horizon:** August 1, 2008 - January 23, 2009

**Description:** Ten- and thirty-year AAA-rated municipal debt yields decline.

Source: Bloomberg

## *Page 16*

### Top panel (41)

**Title:** Distribution of Expected Policy Target Rate Among Primary Dealers Prior to December 16 FOMC meeting

**Series:** Dealer expectations for policy target rate by quarter, average forecast for policy target by quarter, and market rate for policy expectation by quarter

**Horizon:** Q1 2009 - Q4 2009

**Description:** On average, primary dealer economists are forecasting a slower rate of increase in the policy target rate than what is currently priced into Eurodollar futures.

Source: Dealer Policy Survey

## Appendix 2: Materials used by Mr. Sichel, Ms. Dynan, and Mr. Reeve

Material for **Staff Presentation on the Economic Outlook**

January 27, 2009

### **CLASS II FOMC - Restricted (FR)**

## Exhibit 1 Recent Indicators

### *Top-left panel* *Change in Private Payroll Employment*

Thousands of employees

**Period**

**Change**

Period	Change
January 2005	88.67
February 2005	145.00
March 2005	143.00
April 2005	213.33
May 2005	199.00
June 2005	250.00
July 2005	239.00
August 2005	251.33
September 2005	200.67
October 2005	150.67
November 2005	190.67
December 2005	192.67
January 2006	240.67
February 2006	215.67
March 2006	250.67
April 2006	206.33
May 2006	129.00
June 2006	82.67
July 2006	99.33
August 2006	151.67
September 2006	158.67
October 2006	119.67
November 2006	119.00
December 2006	142.33
January 2007	155.33
February 2007	98.67
March 2007	89.33
April 2007	63.33
May 2007	108.67
June 2007	85.33
July 2007	105.67
August 2007	70.67
September 2007	62.33
October 2007	67.67
November 2007	71.67
December 2007	45.00
January 2008	-16.33
February 2008	-67.33
March 2008	-97.00
April 2008	-101.00

Period	Change
May 2008	-97.67
June 2008	-100.00
July 2008	-105.00
August 2008	-118.33
September 2008	-209.67
October 2008	-320.33
November 2008	-467.67
December 2008	-516.67

Note: Three-month moving average.

*Top-right panel*  
*Manufacturing IP Ex. Motor Vehicles*

Percent change, annual rate

Period	Percent change
January 2005	5.92
February 2005	7.09
March 2005	5.21
April 2005	2.56
May 2005	3.02
June 2005	3.44
July 2005	3.27
August 2005	1.74
September 2005	-3.84
October 2005	2.18
November 2005	6.29
December 2005	12.22
January 2006	7.47
February 2006	1.56
March 2006	0.90
April 2006	0.93
May 2006	1.27
June 2006	3.10
July 2006	2.24
August 2006	3.91
September 2006	1.94
October 2006	-0.87
November 2006	-3.01
December 2006	1.17
January 2007	1.32
February 2007	2.46

Period	Percent change
March 2007	1.48
April 2007	3.93
May 2007	5.00
June 2007	3.85
July 2007	5.49
August 2007	3.16
September 2007	3.81
October 2007	-0.46
November 2007	1.76
December 2007	-0.28
January 2008	1.61
February 2008	-1.54
March 2008	-0.02
April 2008	-2.62
May 2008	-0.44
June 2008	-3.86
July 2008	-3.10
August 2008	-4.51
September 2008	-18.31
October 2008	-13.35
November 2008	-19.48
December 2008	-11.88

Note: Three-month percent changes.

*Middle-left panel*  
*Light Motor Vehicle Production*

Millions of units, annual rate

Period	Production
January 2005	11.48
February 2005	12.06
March 2005	11.58
April 2005	11.02
May 2005	11.17
June 2005	11.53
July 2005	11.33
August 2005	11.73
September 2005	12.10
October 2005	12.07
November 2005	11.32
December 2005	10.84

Period	Production
January 2006	11.37
February 2006	11.06
March 2006	11.32
April 2006	11.12
May 2006	10.91
June 2006	11.13
July 2006	10.16
August 2006	10.68
September 2006	10.55
October 2006	10.23
November 2006	10.54
December 2006	10.73
January 2007	10.00
February 2007	10.38
March 2007	10.37
April 2007	10.76
May 2007	10.62
June 2007	10.92
July 2007	11.08
August 2007	10.71
September 2007	10.24
October 2007	10.18
November 2007	10.37
December 2007	10.23
January 2008	9.98
February 2008	9.90
March 2008	9.16
April 2008	8.18
May 2008	8.44
June 2008	8.96
July 2008	9.44
August 2008	7.99
September 2008	8.21
October 2008	7.87
November 2008	7.40
December 2008	6.44

**Quarterly average**

Millions of units, annual rate

Period	Production
2005:Q1	11.71
2005:Q2	11.24

Period	Production
2005:Q3	11.72
2005:Q4	11.41
2006:Q1	11.25
2006:Q2	11.05
2006:Q3	10.46
2006:Q4	10.50
2007:Q1	10.25
2007:Q2	10.77
2007:Q3	10.68
2007:Q4	10.26
2008:Q1	9.68
2008:Q2	8.53
2008:Q3	8.55
2008:Q4	7.24
2009:Q1 <sup>P</sup>	5.88

*Middle-right panel*  
*Real PCE Goods Ex. Motor Vehicles*

Percent change, annual rate

Period	Percent change	Dec. GB
2008:H1	2.25	ND
2008:Q3	-7.36	ND
2008:Q4	-9.11	-9.26
2009:Q1	-5.28	-4.57

ND No data

*Bottom-left panel*  
*Single-Family Housing Starts*

Millions of units, annual rate

Period	Starts	Permits
January 2005	1.74	1.65
February 2005	1.79	1.63
March 2005	1.58	1.58
April 2005	1.66	1.65
May 2005	1.71	1.64
June 2005	1.72	1.68
July 2005	1.72	1.72
August 2005	1.73	1.72
September 2005	1.79	1.80
October 2005	1.74	1.74

Period	Starts	Permits
November 2005	1.81	1.73
December 2005	1.63	1.66
January 2006	1.82	1.69
February 2006	1.80	1.64
March 2006	1.60	1.55
April 2006	1.51	1.50
May 2006	1.57	1.45
June 2006	1.45	1.39
July 2006	1.42	1.31
August 2006	1.36	1.28
September 2006	1.38	1.22
October 2006	1.21	1.18
November 2006	1.29	1.16
December 2006	1.25	1.20
January 2007	1.11	1.14
February 2007	1.19	1.12
March 2007	1.20	1.14
April 2007	1.20	1.08
May 2007	1.15	1.06
June 2007	1.14	1.02
July 2007	1.06	1.00
August 2007	0.97	0.93
September 2007	0.94	0.87
October 2007	0.88	0.81
November 2007	0.82	0.77
December 2007	0.78	0.71
January 2008	0.75	0.68
February 2008	0.72	0.65
March 2008	0.71	0.62
April 2008	0.68	0.65
May 2008	0.68	0.64
June 2008	0.66	0.62
July 2008	0.64	0.58
August 2008	0.62	0.55
September 2008	0.55	0.54
October 2008	0.54	0.47
November 2008	0.46	0.41
December 2008	0.40	0.36



*Bottom-right panel*  
*Real GDP*

(Percent change, annual rate)

	Jan. GB	Dec. GB
2008:Q4	-4.9	-4.7
2009:Q1	-5.6	-5.0
2009:Q2	-1.3	-1.2

## Exhibit 2

### Key Background Factors and Medium-Term Outlook

*Top-left panel*  
*Real GDP*

Percent change, annual rate

Period	Percent change	Dec. GB
2008:H2	-2.74	-2.58
2009:H1	-3.45	-3.11
2009:H2	1.95	1.31
2010	2.61	2.47

*Top-right panel*  
*Factors Contributing to Recovery*

- Financial stress begins to recede
- Housing begins to stabilize
- Fiscal and monetary stimulus
- Inventory dynamics

*Middle-left panel*  
*Response to 2009 Fiscal Stimulus Package*

- Households begin spending tax cuts (\$180) and transfers (\$90) when received.
- Investment response to business tax cuts (\$120) is limited.
- Of total new funding for state and local governments (\$400), only 40 percent spent by the end of 2010.

*Middle-right panel*  
*Contribution of Fiscal Package to GDP Growth\**

Percentage points

Period	Contribution	Dec. GB
2009	1.35	0.90
2010	0.90	0.55

\* Includes housing-related programs financed by the TARP. [Return to text](#)

*Bottom-left panel*  
*Contributions of Inventories to Real GDP Growth*

(Percentage points, annual rate)

	<b>Current Episode*</b>	<b>Postwar Average</b>
1. Year before peak	-0.5	0.4
2. Peak to trough	-0.3	-1.6
3. Year after trough	1.0	1.3

\* GDP peak in 2008:Q2 and trough in 2009:Q2. [Return to table](#)

*Bottom-right panel*  
*Inventory Dynamics*

- In the year before the peak, inventories held down real GDP growth.
- Peak-to-trough, inventories hold down real GDP only a little.
- In the year after the trough, the cessation of inventory decumulation contributes importantly to real GDP growth.

## Exhibit 3

### Single-Family Housing

*Top-left panel*  
*Single-Family Starts*

Millions of units, annual rate

<b>Period</b>	<b>Starts</b>
2004:Q1	1.56
2004:Q2	1.61
2004:Q3	1.64
2004:Q4	1.61
2005:Q1	1.70
2005:Q2	1.70
2005:Q3	1.75
2005:Q4	1.73
2006:Q1	1.74
2006:Q2	1.51
2006:Q3	1.39
2006:Q4	1.25
2007:Q1	1.16
2007:Q2	1.16
2007:Q3	0.99
2007:Q4	0.83
2008:Q1	0.73
2008:Q2	0.68

Period	Starts
2008:Q3	0.60
2008:Q4	0.46
<i>Forecast</i>	
2009:Q1	0.36
2009:Q2	0.39
2009:Q3	0.48
2009:Q4	0.55
2010:Q1	0.58
2010:Q2	0.61
2010:Q3	0.64
2010:Q4	0.70

*Top-right panel*  
*Rate on 30-year Fixed-Rate Conforming Mortgages*

Period	Percent
10 January 2007	6.21
17 January 2007	6.23
24 January 2007	6.25
31 January 2007	6.34
7 February 2007	6.28
14 February 2007	6.30
21 February 2007	6.22
28 February 2007	6.18
7 March 2007	6.14
14 March 2007	6.14
21 March 2007	6.16
28 March 2007	6.16
4 April 2007	6.17
11 April 2007	6.22
18 April 2007	6.17
25 April 2007	6.16
2 May 2007	6.16
9 May 2007	6.15
16 May 2007	6.21
23 May 2007	6.37
30 May 2007	6.42
6 June 2007	6.53
13 June 2007	6.74
20 June 2007	6.69
27 June 2007	6.67

Period	Percent
4 July 2007	6.63
11 July 2007	6.73
18 July 2007	6.73
25 July 2007	6.69
1 August 2007	6.68
8 August 2007	6.59
15 August 2007	6.62
22 August 2007	6.52
29 August 2007	6.45
5 September 2007	6.46
12 September 2007	6.31
19 September 2007	6.34
26 September 2007	6.42
3 October 2007	6.37
10 October 2007	6.40
17 October 2007	6.40
24 October 2007	6.33
31 October 2007	6.26
7 November 2007	6.24
14 November 2007	6.24
21 November 2007	6.20
28 November 2007	6.10
5 December 2007	5.96
12 December 2007	6.11
19 December 2007	6.14
26 December 2007	6.17
2 January 2008	6.07
9 January 2008	5.87
16 January 2008	5.69
23 January 2008	5.48
30 January 2008	5.68
6 February 2008	5.67
13 February 2008	5.72
20 February 2008	6.04
27 February 2008	6.24
5 March 2008	6.03
12 March 2008	6.13
19 March 2008	5.87
26 March 2008	5.85
2 April 2008	5.88

Period	Percent
9 April 2008	5.88
16 April 2008	5.88
23 April 2008	6.03
30 April 2008	6.06
7 May 2008	6.05
14 May 2008	6.01
21 May 2008	5.98
28 May 2008	6.08
4 June 2008	6.09
11 June 2008	6.32
18 June 2008	6.42
25 June 2008	6.45
2 July 2008	6.35
9 July 2008	6.37
16 July 2008	6.26
23 July 2008	6.63
30 July 2008	6.52
6 August 2008	6.52
13 August 2008	6.52
20 August 2008	6.47
27 August 2008	6.40
3 September 2008	6.35
10 September 2008	5.93
17 September 2008	5.78
24 September 2008	6.09
1 October 2008	6.10
8 October 2008	5.94
15 October 2008	6.46
22 October 2008	6.04
29 October 2008	6.46
5 November 2008	6.20
12 November 2008	6.14
19 November 2008	6.04
26 November 2008	5.97
3 December 2008	5.53
10 December 2008	5.47
17 December 2008	5.19
24 December 2008	5.14
31 December 2008	5.10
<i>Forecast</i>	

Period	Percent
2009:Q1	5.15
2009:Q2	5.10
2009:Q3	5.05
2009:Q4	5.05
2010:Q1	5.00
2010:Q2	5.00
2010:Q3	4.95
2010:Q4	4.95

MBS purchase program announced on November 25, 2008.

*Middle-left panel*  
*Tighter Supply of Mortgage Credit*

Much more difficult to obtain mortgages for households:

- Lacking solid credit histories
- Unable to make significant downpayments
- In need of low introductory rates

Lending is more restrictive than in the past to those seeking to finance an amount above the conforming limit.

*Middle-right panel*  
*Overvaluation of Single-Family Homes\**

Period	Percent
1979:Q1	2.18
1979:Q2	4.14
1979:Q3	4.07
1979:Q4	4.89
1980:Q1	6.79
1980:Q2	6.86
1980:Q3	5.67
1980:Q4	5.87
1981:Q1	4.33
1981:Q2	6.10
1981:Q3	7.10
1981:Q4	5.19
1982:Q1	4.84
1982:Q2	4.07
1982:Q3	1.28
1982:Q4	-1.09
1983:Q1	-0.92
1983:Q2	-1.67

Period	Percent
1983:Q3	-1.01
1983:Q4	-1.48
1984:Q1	-1.36
1984:Q2	-1.21
1984:Q3	-0.55
1984:Q4	-1.56
1985:Q1	-1.42
1985:Q2	-2.55
1985:Q3	-3.00
1985:Q4	-3.46
1986:Q1	-3.77
1986:Q2	-3.29
1986:Q3	-2.86
1986:Q4	-3.06
1987:Q1	-3.65
1987:Q2	-0.85
1987:Q3	-1.21
1987:Q4	0.26
1988:Q1	-0.74
1988:Q2	1.91
1988:Q3	3.26
1988:Q4	3.25
1989:Q1	4.23
1989:Q2	2.64
1989:Q3	2.52
1989:Q4	2.49
1990:Q1	3.02
1990:Q2	1.98
1990:Q3	0.11
1990:Q4	-0.85
1991:Q1	-0.42
1991:Q2	-0.38
1991:Q3	-1.46
1991:Q4	-2.38
1992:Q1	-1.48
1992:Q2	-2.85
1992:Q3	-3.62
1992:Q4	-3.34
1993:Q1	-5.05
1993:Q2	-5.60

Period	Percent
1993:Q3	-5.51
1993:Q4	-4.92
1994:Q1	-4.60
1994:Q2	-3.40
1994:Q3	-3.45
1994:Q4	-3.38
1995:Q1	-4.20
1995:Q2	-4.78
1995:Q3	-4.26
1995:Q4	-4.70
1996:Q1	-4.56
1996:Q2	-3.74
1996:Q3	-4.35
1996:Q4	-5.09
1997:Q1	-4.98
1997:Q2	-4.57
1997:Q3	-5.39
1997:Q4	-4.89
1998:Q1	-4.44
1998:Q2	-4.19
1998:Q3	-4.38
1998:Q4	-3.90
1999:Q1	-3.29
1999:Q2	-2.20
1999:Q3	-0.95
1999:Q4	-0.53
2000:Q1	0.61
2000:Q2	1.63
2000:Q3	2.10
2000:Q4	2.06
2001:Q1	2.07
2001:Q2	2.78
2001:Q3	3.05
2001:Q4	3.12
2002:Q1	4.40
2002:Q2	5.83
2002:Q3	6.68
2002:Q4	7.72
2003:Q1	8.32
2003:Q2	9.42



Period	Percent
2003:Q3	12.30
2003:Q4	14.61
2004:Q1	16.45
2004:Q2	19.90
2004:Q3	21.62
2004:Q4	24.13
2005:Q1	27.23
2005:Q2	29.85
2005:Q3	32.20
2005:Q4	33.57
2006:Q1	33.07
2006:Q2	31.95
2006:Q3	30.46
2006:Q4	29.13
2007:Q1	27.22
2007:Q2	25.01
2007:Q3	21.40
2007:Q4	15.85
2008:Q1	10.69
2008:Q2	9.13
2008:Q3	4.90
<i>Forecast</i>	
2008:Q4	-0.88
2009:Q1	-6.42
2009:Q2	-10.97
2009:Q3	-14.91
2009:Q4	-17.77
2010:Q1	-19.85
2010:Q2	-21.57
2010:Q3	-22.72
2010:Q4	-23.52

\* Deviation of log price-rent ratio from a linear trend, estimated over 1975:Q1-2003:Q3. [Return to text](#)

*Bottom-left panel*  
*Housing Equity*

	Sept. 2007	Sept. 2008
Current equity < 20%		
1. Subprime	52	61
2. Prime*	17	31
Current equity < 0		

	Sept. 2007	Sept. 2008
3. Subprime	11	28
4. Prime*	1	9

\* Includes near-prime mortgages; first liens only. [Return to table](#)

### *Bottom-right panel* *Foreclosure Starts*

Millions

	Prime*	Subprime	FHA/VA
2006	0.32	0.54	0.16
2007	0.55	0.85	0.15
2008	0.99	1.08	0.20
<i>Forecast</i>			
2009	1.08	0.71	0.25
2010	0.76	0.42	0.21

\* Includes near-prime mortgages. [Return to table](#)

Note: 2008 figure based on data through 2008:Q3 and a projection for 2008:Q4.

## Exhibit 4 Consumer Spending

### *Top-left panel* *Real PCE and DPI*

Percent change, annual rate

Period	DPI	PCE
2006	3.58	3.24
2007	1.84	2.20
2008:H1	4.85	1.04
<i>Forecast</i>		
2008:H2	-2.33	-3.85
2009	2.49	0.64
2010	2.27	2.93

### *Top-right panel* *Saving Rate and Wealth-to-Income Ratio*

Period	Personal saving rate (Percent)	Wealth-to-income ratio
2003:Q1	1.87	5.12
2003:Q2	2.15	5.32
2003:Q3	2.35	5.35
2003:Q4	2.19	5.61

Period	Personal saving rate (Percent)	Wealth-to-income ratio
2004:Q1	2.07	5.65
2004:Q2	2.00	5.67
2004:Q3	1.78	5.67
2004:Q4	1.41	5.90
2005:Q1	0.82	5.96
2005:Q2	0.51	6.09
2005:Q3	-0.69	6.23
2005:Q4	0.80	6.21
2006:Q1	1.00	6.31
2006:Q2	0.57	6.20
2006:Q3	0.50	6.21
2006:Q4	0.88	6.33
2007:Q1	1.09	6.31
2007:Q2	0.31	6.37
2007:Q3	0.46	6.28
2007:Q4	0.41	6.03
2008:Q1	0.20	5.74
2008:Q2	2.48	5.50
2008:Q3	1.22	5.30
<i>Forecast</i>		
2008:Q4	3.25	4.86
2009:Q1	5.42	4.67
2009:Q2	5.76	4.58
2009:Q3	5.38	4.55
2009:Q4	5.17	4.53
2010:Q1	5.16	4.51
2010:Q2	4.99	4.51
2010:Q3	4.88	4.50
2010:Q4	4.70	4.51

*Middle-left panel*  
*Sources of Financing for Consumer Spending*

Billions of dollars, annual rate

Period	Borrowing through:	
	Consumer credit	Home equity loans and cash-out refinancings
2007	134	396
2008:H1	110	222
2008:Q3	30	73
2008:Q4	-90	17

Note: 2008:Q4 estimated based on partial data.

*Middle-right panel*  
*Commercial Banks Tightening Standards on Consumer Loans*

Net percentage of respondents

Period	Credit cards	Consumer installment loans
1996:Q1	25.0	15.7
1996:Q2	23.5	12.0
1996:Q3	48.9	24.5
1996:Q4	48.8	23.1
1997:Q1	36.9	20.0
1997:Q2	45.9	19.3
1997:Q3	23.3	8.4
1997:Q4	25.0	12.0
1998:Q1	22.2	16.3
1998:Q2	16.3	6.1
1998:Q3	20.0	7.8
1998:Q4	15.9	8.0
1999:Q1	7.4	-1.9
1999:Q2	13.3	5.4
1999:Q3	4.8	5.6
1999:Q4	4.9	0.0
2000:Q1	4.8	3.9
2000:Q2	2.5	5.5
2000:Q3	-2.6	3.7
2000:Q4	8.3	7.4
2001:Q1	11.8	18.6
2001:Q2	20.0	18.9
2001:Q3	11.4	9.1
2001:Q4	20.0	20.0
2002:Q1	18.2	17.0
2002:Q2	8.6	20.0
2002:Q3	14.7	9.0
2002:Q4	15.2	16.8
2003:Q1	16.2	8.8
2003:Q2	9.7	12.9
2003:Q3	0.0	5.5
2003:Q4	2.9	1.8
2004:Q1	6.3	5.7
2004:Q2	3.3	-2.0
2004:Q3	0.0	0.0

Period	Credit cards	Consumer installment loans
2004:Q4	-2.9	-3.9
2005:Q1	-3.0	-2.0
2005:Q2	-8.3	-9.8
2005:Q3	-6.5	-3.9
2005:Q4	-3.0	-3.9
2006:Q1	3.2	0.0
2006:Q2	-2.6	1.8
2006:Q3	-3.0	-5.8
2006:Q4	-3.0	-5.8
2007:Q1	0.0	0.0
2007:Q2	-11.1	7.8
2007:Q3	-3.2	12.0
2007:Q4	3.2	26.0
2008:Q1	9.7	32.1
2008:Q2	32.4	44.4
2008:Q3	66.6	67.4
2008:Q4	58.8	64.2
January 2009	58.8	58.0

*Bottom-left panel*

*Developments in Consumer ABS Markets*

- Very little issuance since October.
- The commercial banks that make most credit card loans have alternative sources of funding.
- But, the finance companies affiliated with the auto manufacturers have not (for the most part) had access to these sources.

*Bottom-right panel*

*Auto Loans Originated by the Detroit Three Finance Companies per Unit Sold*

Period	Thousands of dollars
January 2006	5.26
February 2006	5.85
March 2006	5.86
April 2006	5.74
May 2006	6.27
June 2006	5.95
July 2006	8.45
August 2006	7.20
September 2006	7.21
October 2006	5.14
November 2006	5.90
December 2006	4.60

Period	Thousands of dollars
January 2007	4.27
February 2007	6.05
March 2007	5.89
April 2007	5.29
May 2007	5.91
June 2007	5.89
July 2007	5.63
August 2007	5.31
September 2007	4.74
October 2007	6.40
November 2007	6.14
December 2007	5.79
January 2008	5.48
February 2008	4.93
March 2008	5.26
April 2008	5.92
May 2008	5.24
June 2008	4.89
July 2008	6.93
August 2008	4.85
September 2008	5.51
October 2008	5.37
November 2008	3.39

## Exhibit 5 Business Investment and Finance

*Top-left panel  
The Accelerator*

Period	NFB output (Percent change)	BFI share (Percent)
1990:Q1	3.69	21.14
1990:Q2	2.13	20.50
1990:Q3	2.71	20.78
1990:Q4	2.20	20.62
1991:Q1	1.19	20.15
1991:Q2	-0.22	19.64
1991:Q3	-2.17	19.28
1991:Q4	-1.52	18.97
1992:Q1	-0.66	18.53
1992:Q2	1.08	19.04

Period	NFB output (Percent change)	BFI share (Percent)
1992:Q3	3.10	19.03
1992:Q4	3.37	19.29
1993:Q1	3.96	19.36
1993:Q2	4.99	19.82
1993:Q3	3.86	19.70
1993:Q4	3.37	20.30
1994:Q1	3.06	20.35
1994:Q2	3.13	20.26
1994:Q3	4.16	20.40
1994:Q4	5.17	20.93
1995:Q1	4.84	21.62
1995:Q2	4.87	21.51
1995:Q3	4.15	21.30
1995:Q4	2.74	21.42
1996:Q1	3.38	21.52
1996:Q2	2.69	21.53
1996:Q3	3.12	21.95
1996:Q4	4.84	21.96
1997:Q1	4.73	22.00
1997:Q2	5.21	21.97
1997:Q3	5.19	22.59
1997:Q4	5.11	22.29
1998:Q1	5.48	22.55
1998:Q2	4.97	22.85
1998:Q3	5.58	22.62
1998:Q4	4.49	22.75
1999:Q1	4.35	22.81
1999:Q2	5.40	22.99
1999:Q3	4.93	23.03
1999:Q4	5.13	22.49
2000:Q1	5.22	22.96
2000:Q2	5.35	23.12
2000:Q3	4.36	23.18
2000:Q4	5.30	22.87
2001:Q1	3.64	22.45
2001:Q2	2.13	21.45
2001:Q3	1.87	21.19
2001:Q4	0.35	20.44
2002:Q1	-0.17	19.60
2002:Q2	-0.42	19.20

Period	NFB output (Percent change)	BFI share (Percent)
2002:Q3	0.73	18.93
2002:Q4	0.77	18.76
2003:Q1	2.30	18.45
2003:Q2	2.04	18.71
2003:Q3	1.47	18.57
2003:Q4	2.20	18.59
2004:Q1	4.10	18.22
2004:Q2	4.48	18.52
2004:Q3	4.84	18.91
2004:Q4	4.99	19.27
2005:Q1	3.26	19.26
2005:Q2	3.51	19.50
2005:Q3	3.79	19.51
2005:Q4	3.28	19.57
2006:Q1	3.51	20.00
2006:Q2	3.18	20.09
2006:Q3	3.73	20.21
2006:Q4	3.71	20.10
2007:Q1	2.58	19.99
2007:Q2	2.61	20.09
2007:Q3	0.92	20.05
2007:Q4	1.63	20.10
2008:Q1	2.92	19.97
2008:Q2	2.36	19.81
2008:Q3	2.82	19.74
<i>Forecast</i>		
2008:Q4	2.09	19.27
2009:Q1	0.27	18.59
2009:Q2	-1.35	17.77
2009:Q3	-3.53	17.01
2009:Q4	-4.69	16.46
2010:Q1	-3.78	16.20
2010:Q2	-1.46	16.25
2010:Q3	1.13	16.41
2010:Q4	2.31	16.58
2011:Q1*	2.60	ND
2011:Q2*	3.00	ND

Note: BFI share equals nominal BFI divided by nominal nonfarm business (NFB) output. NFB output growth is measured as the percent change from four quarters earlier, lagged two quarters.

\* Approximate values. [Return to table](#)



*Top-right panel*  
*Components of BFI*

Percent change, Q4/Q4

Period	Equipment and software	Nonresidential structures
2007	2.85	14.54
<i>Forecast</i>		
2008	-8.65	9.41
2009	-11.97	-24.42
2010	9.02	-8.18

*Middle-left panel*  
*Equity Valuation for S&P 500*

Monthly  
 Percent

Period	Trend E/P <sub>-</sub> *	Real Treasury perpetuity yield
January 1986	10.10	6.41
February 1986	10.09	5.86
March 1986	9.43	4.74
April 1986	8.95	3.96
May 1986	9.08	4.36
June 1986	8.64	4.64
July 1986	8.52	4.32
August 1986	9.04	4.31
September 1986	8.44	4.83
October 1986	9.22	4.82
November 1986	8.74	4.52
December 1986	8.55	4.41
January 1987	8.81	4.09
February 1987	7.79	4.17
March 1987	7.52	4.07
April 1987	7.34	4.68
May 1987	7.44	5.03
June 1987	7.43	4.89
July 1987	7.11	4.63
August 1987	6.44	4.93
September 1987	7.26	5.55
October 1987	9.53	5.56
November 1987	9.11	4.95
December 1987	8.98	4.92
January 1988	8.87	4.91
February 1988	8.73	4.64

Period	Trend E/P*	Real Treasury perpetuity yield
March 1988	8.36	4.84
April 1988	8.79	5.14
May 1988	9.16	5.45
June 1988	8.47	5.14
July 1988	8.72	5.34
August 1988	9.10	5.39
September 1988	8.90	5.03
October 1988	8.75	4.89
November 1988	9.29	4.90
December 1988	9.00	4.64
January 1989	8.74	4.54
February 1989	8.60	4.63
March 1989	8.63	4.76
April 1989	8.44	4.65
May 1989	8.25	4.54
June 1989	8.18	4.01
July 1989	7.98	4.11
August 1989	7.83	4.09
September 1989	7.91	4.10
October 1989	8.07	3.86
November 1989	8.16	3.79
December 1989	7.93	3.78
January 1990	8.27	4.41
February 1990	8.57	4.66
March 1990	8.47	4.69
April 1990	8.41	4.65
May 1990	8.14	4.62
June 1990	7.93	4.35
July 1990	7.98	4.47
August 1990	8.59	5.00
September 1990	9.26	5.19
October 1990	9.85	5.10
November 1990	9.21	4.79
December 1990	8.96	4.45
January 1991	9.36	4.57
February 1991	8.02	4.39
March 1991	7.90	4.65
April 1991	7.57	4.51
May 1991	8.01	4.54
June 1991	7.86	4.74

Period	Trend E/P*	Real Treasury perpetuity yield
July 1991	7.72	4.69
August 1991	7.54	4.42
September 1991	7.59	4.25
October 1991	7.47	4.45
November 1991	7.38	4.52
December 1991	7.64	4.42
January 1992	6.96	4.32
February 1992	7.17	4.52
March 1992	7.14	4.61
April 1992	7.08	4.39
May 1992	7.01	4.37
June 1992	7.27	4.48
July 1992	7.02	4.65
August 1992	7.01	4.45
September 1992	7.00	4.59
October 1992	7.19	4.82
November 1992	6.98	4.62
December 1992	6.85	4.37
January 1993	6.83	4.46
February 1993	6.84	4.32
March 1993	6.63	4.06
April 1993	6.64	3.92
May 1993	6.67	4.01
June 1993	6.69	3.86
July 1993	6.67	3.85
August 1993	6.61	3.50
September 1993	6.55	3.37
October 1993	6.58	3.34
November 1993	6.56	3.60
December 1993	6.63	3.57
January 1994	6.49	3.61
February 1994	6.54	3.72
March 1994	6.62	4.04
April 1994	7.00	4.32
May 1994	6.93	4.43
June 1994	6.87	4.52
July 1994	7.10	4.56
August 1994	6.90	4.51
September 1994	6.91	4.83
October 1994	6.94	5.00

Period	Trend E/P*	Real Treasury perpetuity yield
November 1994	7.08	4.96
December 1994	7.32	4.55
January 1995	7.16	4.70
February 1995	7.02	4.61
March 1995	6.99	4.57
April 1995	6.88	4.55
May 1995	6.67	4.11
June 1995	6.63	3.71
July 1995	6.53	4.03
August 1995	6.50	4.17
September 1995	6.36	3.88
October 1995	6.34	3.84
November 1995	6.35	3.69
December 1995	6.14	3.48
January 1996	6.36	3.50
February 1996	5.95	3.82
March 1996	6.17	4.20
April 1996	6.20	4.38
May 1996	6.03	4.48
June 1996	6.12	4.54
July 1996	6.45	4.47
August 1996	6.23	4.35
September 1996	6.11	4.47
October 1996	5.96	4.27
November 1996	5.79	3.98
December 1996	5.84	4.03
January 1997	5.62	4.30
February 1997	5.36	4.17
March 1997	5.59	4.40
April 1997	5.80	4.65
May 1997	5.35	4.46
June 1997	5.08	4.32
July 1997	4.86	3.87
August 1997	4.99	3.94
September 1997	4.92	3.80
October 1997	4.85	3.96
November 1997	5.00	3.79
December 1997	4.94	3.62
January 1998	5.02	3.53
February 1998	4.70	3.61

Period	Trend E/P*	Real Treasury perpetuity yield
March 1998	4.50	3.64
April 1998	4.40	3.71
May 1998	4.43	3.69
June 1998	4.51	3.39
July 1998	4.28	3.44
August 1998	4.61	3.36
September 1998	4.87	3.24
October 1998	5.10	3.29
November 1998	4.50	3.37
December 1998	4.46	3.25
January 1999	4.21	3.50
February 1999	4.27	3.65
March 1999	4.04	3.85
April 1999	3.96	3.65
May 1999	3.94	3.84
June 1999	4.00	4.03
July 1999	3.83	3.94
August 1999	4.05	4.02
September 1999	4.12	4.14
October 1999	4.26	4.25
November 1999	3.91	4.09
December 1999	3.93	4.26
January 2000	3.84	4.34
February 2000	4.06	3.76
March 2000	4.08	3.64
April 2000	4.01	3.48
May 2000	3.98	3.78
June 2000	3.96	3.61
July 2000	3.96	3.56
August 2000	4.00	3.38
September 2000	4.02	3.55
October 2000	4.48	3.58
November 2000	4.36	3.52
December 2000	4.48	3.30
January 2001	4.61	3.41
February 2001	4.67	3.37
March 2001	5.28	3.31
April 2001	4.98	3.69
May 2001	4.78	3.78
June 2001	4.96	3.67

Period	Trend E/P*	Real Treasury perpetuity yield
July 2001	5.10	3.60
August 2001	5.22	3.46
September 2001	6.18	3.59
October 2001	5.69	3.38
November 2001	5.34	3.25
December 2001	5.28	3.66
January 2002	5.36	3.64
February 2002	5.38	3.56
March 2002	5.20	3.82
April 2002	5.32	3.77
May 2002	5.48	3.79
June 2002	5.94	3.75
July 2002	6.78	3.73
August 2002	6.42	3.49
September 2002	7.08	3.19
October 2002	6.78	3.48
November 2002	6.58	3.47
December 2002	6.72	3.43
January 2003	6.48	3.40
February 2003	7.07	3.25
March 2003	6.75	3.25
April 2003	6.60	3.32
May 2003	6.23	2.93
June 2003	5.93	2.79
July 2003	6.01	3.34
August 2003	5.96	3.78
September 2003	5.69	3.61
October 2003	5.64	3.62
November 2003	5.75	3.53
December 2003	5.48	3.45
January 2004	5.29	3.38
February 2004	5.25	3.29
March 2004	5.39	3.11
April 2004	5.40	3.49
May 2004	5.63	3.69
June 2004	5.47	3.65
July 2004	5.68	3.47
August 2004	5.78	3.33
September 2004	5.67	3.16
October 2004	5.83	3.09

Period	Trend E/P*	Real Treasury perpetuity yield
November 2004	5.49	3.08
December 2004	5.46	3.03
January 2005	5.65	2.85
February 2005	5.58	2.58
March 2005	5.69	2.79
April 2005	5.89	2.62
May 2005	5.80	2.42
June 2005	5.77	2.16
July 2005	5.72	2.22
August 2005	5.86	2.25
September 2005	5.89	2.28
October 2005	6.21	2.45
November 2005	5.96	2.51
December 2005	5.91	2.41
January 2006	5.91	2.31
February 2006	5.96	2.31
March 2006	5.96	2.51
April 2006	6.00	2.89
May 2006	6.31	3.02
June 2006	6.41	2.91
July 2006	6.53	2.86
August 2006	6.36	2.72
September 2006	6.33	2.56
October 2006	6.18	2.57
November 2006	6.10	2.40
December 2006	6.05	2.42
January 2007	6.11	2.71
February 2007	6.05	2.71
March 2007	6.39	2.63
April 2007	6.10	2.72
May 2007	5.99	2.75
June 2007	6.01	3.01
July 2007	5.95	2.89
August 2007	6.62	2.82
September 2007	6.22	2.66
October 2007	6.19	2.64
November 2007	6.80	2.42
December 2007	6.66	2.48
January 2008	7.35	2.33
February 2008	7.32	2.62

Period	Trend E/P*	Real Treasury perpetuity yield
March 2008	7.48	2.61
April 2008	7.32	2.60
May 2008	7.05	2.68
June 2008	7.50	2.72
July 2008	8.02	2.64
August 2008	7.85	2.59
September 2008	8.44	2.30
October 2008	10.78	2.13
November 2008	13.55	1.98
December 2008	11.45	0.87
26 January 2009 <sup>+</sup>	11.43	1.23

+ Approximate values. Denotes latest observation using daily interest rates and stock prices data from I/B/E/S. [Return to table](#)

\* Estimated using analyst year-ahead earnings from I/B/E/S. [Return to table](#)

*Middle-right panel*  
*Estimated Equity Premium\**

**Monthly**

Period	Percentage points
January 2005	2.80
February 2005	3.01
March 2005	2.90
April 2005	3.27
May 2005	3.38
June 2005	3.61
July 2005	3.49
August 2005	3.61
September 2005	3.61
October 2005	3.76
November 2005	3.46
December 2005	3.49
January 2006	3.60
February 2006	3.65
March 2006	3.46
April 2006	3.11
May 2006	3.29
June 2006	3.50
July 2006	3.67
August 2006	3.63
September 2006	3.77
October 2006	3.60



Period	Percentage points
November 2006	3.69
December 2006	3.63
January 2007	3.40
February 2007	3.34
March 2007	3.76
April 2007	3.38
May 2007	3.24
June 2007	3.00
July 2007	3.06
August 2007	3.80
September 2007	3.55
October 2007	3.55
November 2007	4.38
December 2007	4.18
January 2008	5.01
February 2008	4.70
March 2008	4.87
April 2008	4.72
May 2008	4.36
June 2008	4.78
July 2008	5.38
August 2008	5.26
September 2008	6.13
October 2008	8.65
November 2008	11.57
December 2008	10.58

\* Trend E/P ratio less real Treasury perpetuity yield. [Return to text](#)

*Bottom-left panel*  
*Investment-Grade Corporate Bond Yield*

Daily

Date	Percent
1 January 2002	ND
2 January 2002	7.61
3 January 2002	7.56
4 January 2002	7.56
7 January 2002	7.48
8 January 2002	7.49
9 January 2002	7.48
10 January 2002	7.38

Date	Percent
11 January 2002	7.32
14 January 2002	7.32
15 January 2002	7.29
16 January 2002	7.31
17 January 2002	7.40
18 January 2002	7.36
21 January 2002	ND
22 January 2002	7.36
23 January 2002	7.45
24 January 2002	7.45
25 January 2002	7.47
28 January 2002	7.47
29 January 2002	7.38
30 January 2002	7.43
31 January 2002	7.49
1 February 2002	7.45
4 February 2002	7.45
5 February 2002	7.52
6 February 2002	7.58
7 February 2002	7.62
8 February 2002	7.53
11 February 2002	7.57
12 February 2002	7.62
13 February 2002	7.63
14 February 2002	7.57
15 February 2002	7.50
18 February 2002	ND
19 February 2002	7.56
20 February 2002	7.57
21 February 2002	7.56
22 February 2002	7.53
25 February 2002	7.52
26 February 2002	7.55
27 February 2002	7.46
28 February 2002	7.48
1 March 2002	7.58
4 March 2002	7.58
5 March 2002	7.58
6 March 2002	7.60
7 March 2002	7.72

Date	Percent
8 March 2002	7.79
11 March 2002	7.80
12 March 2002	7.79
13 March 2002	7.78
14 March 2002	7.90
15 March 2002	7.85
18 March 2002	7.83
19 March 2002	7.84
20 March 2002	7.90
21 March 2002	7.88
22 March 2002	7.89
25 March 2002	7.89
26 March 2002	7.83
27 March 2002	7.83
28 March 2002	7.89
29 March 2002	ND
1 April 2002	7.88
2 April 2002	7.82
3 April 2002	7.76
4 April 2002	7.75
5 April 2002	7.69
8 April 2002	7.72
9 April 2002	7.69
10 April 2002	7.72
11 April 2002	7.71
12 April 2002	7.67
15 April 2002	7.65
16 April 2002	7.68
17 April 2002	7.71
18 April 2002	7.69
19 April 2002	7.67
22 April 2002	7.66
23 April 2002	7.66
24 April 2002	7.60
25 April 2002	7.61
26 April 2002	7.58
29 April 2002	7.63
30 April 2002	7.63
1 May 2002	7.66
2 May 2002	7.70

Date	Percent
3 May 2002	7.67
6 May 2002	7.69
7 May 2002	7.71
8 May 2002	7.83
9 May 2002	7.77
10 May 2002	7.74
13 May 2002	7.82
14 May 2002	7.89
15 May 2002	7.84
16 May 2002	7.82
17 May 2002	7.83
20 May 2002	7.82
21 May 2002	7.77
22 May 2002	7.70
23 May 2002	7.74
24 May 2002	7.73
27 May 2002	ND
28 May 2002	7.68
29 May 2002	7.61
30 May 2002	7.55
31 May 2002	7.42
3 June 2002	7.41
4 June 2002	7.39
5 June 2002	7.42
6 June 2002	7.40
7 June 2002	7.45
10 June 2002	7.43
11 June 2002	7.40
12 June 2002	7.38
13 June 2002	7.35
14 June 2002	7.26
17 June 2002	7.33
18 June 2002	7.33
19 June 2002	7.25
20 June 2002	7.38
21 June 2002	7.34
24 June 2002	7.46
25 June 2002	7.44
26 June 2002	7.44
27 June 2002	7.54

Date	Percent
28 June 2002	7.59
1 July 2002	7.54
2 July 2002	7.55
3 July 2002	7.54
4 July 2002	ND
5 July 2002	7.64
8 July 2002	7.56
9 July 2002	7.47
10 July 2002	7.38
11 July 2002	7.41
12 July 2002	7.37
15 July 2002	7.48
16 July 2002	7.56
17 July 2002	7.47
18 July 2002	7.45
19 July 2002	7.44
22 July 2002	7.38
23 July 2002	7.41
24 July 2002	7.51
25 July 2002	7.49
26 July 2002	7.48
29 July 2002	7.68
30 July 2002	7.73
31 July 2002	7.52
1 August 2002	7.45
2 August 2002	7.34
5 August 2002	7.40
6 August 2002	7.53
7 August 2002	7.42
8 August 2002	7.49
9 August 2002	7.42
12 August 2002	7.38
13 August 2002	7.31
14 August 2002	7.29
15 August 2002	7.39
16 August 2002	7.50
19 August 2002	7.47
20 August 2002	7.26
21 August 2002	7.26
22 August 2002	7.31

Date	Percent
23 August 2002	7.22
26 August 2002	7.19
27 August 2002	7.26
28 August 2002	7.19
29 August 2002	7.16
30 August 2002	7.14
2 September 2002	ND
3 September 2002	7.05
4 September 2002	7.01
5 September 2002	6.99
6 September 2002	7.10
9 September 2002	7.11
10 September 2002	7.05
11 September 2002	7.16
12 September 2002	7.05
13 September 2002	6.98
16 September 2002	6.96
17 September 2002	6.96
18 September 2002	6.92
19 September 2002	6.87
20 September 2002	6.89
23 September 2002	6.83
24 September 2002	6.86
25 September 2002	6.95
26 September 2002	6.98
27 September 2002	6.91
30 September 2002	6.83
1 October 2002	6.94
2 October 2002	6.91
3 October 2002	6.93
4 October 2002	6.91
7 October 2002	6.93
8 October 2002	7.03
9 October 2002	7.06
10 October 2002	7.18
11 October 2002	7.29
14 October 2002	ND
15 October 2002	7.42
16 October 2002	7.47
17 October 2002	7.58

Date	Percent
18 October 2002	7.59
21 October 2002	7.72
22 October 2002	7.72
23 October 2002	7.69
24 October 2002	7.59
25 October 2002	7.52
28 October 2002	7.46
29 October 2002	7.32
30 October 2002	7.30
31 October 2002	7.23
1 November 2002	7.27
4 November 2002	7.29
5 November 2002	7.26
6 November 2002	7.17
7 November 2002	6.98
8 November 2002	6.95
11 November 2002	6.95
12 November 2002	7.00
13 November 2002	6.99
14 November 2002	7.10
15 November 2002	7.08
18 November 2002	6.94
19 November 2002	6.91
20 November 2002	6.98
21 November 2002	7.00
22 November 2002	7.01
25 November 2002	7.03
26 November 2002	6.94
27 November 2002	7.10
28 November 2002	7.10
29 November 2002	7.06
2 December 2002	6.96
3 December 2002	7.01
4 December 2002	6.97
5 December 2002	6.91
6 December 2002	6.90
9 December 2002	6.88
10 December 2002	6.88
11 December 2002	6.81
12 December 2002	6.80

Date	Percent
13 December 2002	6.86
16 December 2002	6.89
17 December 2002	6.82
18 December 2002	6.73
19 December 2002	6.63
20 December 2002	6.63
23 December 2002	6.64
24 December 2002	6.60
25 December 2002	ND
26 December 2002	6.59
27 December 2002	6.50
30 December 2002	6.47
31 December 2002	6.50
1 January 2003	ND
2 January 2003	6.70
3 January 2003	6.67
6 January 2003	6.68
7 January 2003	6.61
8 January 2003	6.57
9 January 2003	6.73
10 January 2003	6.69
13 January 2003	6.63
14 January 2003	6.60
15 January 2003	6.62
16 January 2003	6.65
17 January 2003	6.62
20 January 2003	6.65
21 January 2003	6.62
22 January 2003	6.58
23 January 2003	6.60
24 January 2003	6.56
27 January 2003	6.63
28 January 2003	6.63
29 January 2003	6.68
30 January 2003	6.62
31 January 2003	6.59
3 February 2003	6.58
4 February 2003	6.54
5 February 2003	6.60
6 February 2003	6.55



Date	Percent
7 February 2003	6.51
10 February 2003	6.57
11 February 2003	6.55
12 February 2003	6.50
13 February 2003	6.47
14 February 2003	6.55
17 February 2003	ND
18 February 2003	6.55
19 February 2003	6.46
20 February 2003	6.42
21 February 2003	6.46
24 February 2003	6.40
25 February 2003	6.39
26 February 2003	6.34
27 February 2003	6.32
28 February 2003	6.23
3 March 2003	6.16
4 March 2003	6.14
5 March 2003	6.15
6 March 2003	6.17
7 March 2003	6.18
10 March 2003	6.14
11 March 2003	6.18
12 March 2003	6.20
13 March 2003	6.30
14 March 2003	6.26
17 March 2003	6.37
18 March 2003	6.42
19 March 2003	6.47
20 March 2003	6.50
21 March 2003	6.56
24 March 2003	6.44
25 March 2003	6.44
26 March 2003	6.37
27 March 2003	6.34
28 March 2003	6.28
31 March 2003	6.18
1 April 2003	6.16
2 April 2003	6.21
3 April 2003	6.19

Date	Percent
4 April 2003	6.24
7 April 2003	6.27
8 April 2003	6.22
9 April 2003	6.20
10 April 2003	6.23
11 April 2003	6.25
14 April 2003	6.30
15 April 2003	6.22
16 April 2003	6.16
17 April 2003	6.17
18 April 2003	ND
21 April 2003	6.17
22 April 2003	6.14
23 April 2003	6.10
24 April 2003	5.99
25 April 2003	5.96
28 April 2003	5.97
29 April 2003	5.99
30 April 2003	5.92
1 May 2003	5.90
2 May 2003	5.93
5 May 2003	5.89
6 May 2003	5.65
7 May 2003	5.63
8 May 2003	5.61
9 May 2003	5.62
12 May 2003	5.58
13 May 2003	5.57
14 May 2003	5.52
15 May 2003	5.55
16 May 2003	5.46
19 May 2003	5.48
20 May 2003	5.42
21 May 2003	5.46
22 May 2003	5.38
23 May 2003	5.36
26 May 2003	ND
27 May 2003	5.43
28 May 2003	5.44
29 May 2003	5.36

Date	Percent
30 May 2003	5.36
2 June 2003	5.44
3 June 2003	5.33
4 June 2003	5.30
5 June 2003	5.32
6 June 2003	5.33
9 June 2003	5.26
10 June 2003	5.16
11 June 2003	5.16
12 June 2003	5.13
13 June 2003	5.06
16 June 2003	5.09
17 June 2003	5.14
18 June 2003	5.24
19 June 2003	5.24
20 June 2003	5.29
23 June 2003	5.23
24 June 2003	5.18
25 June 2003	5.26
26 June 2003	5.43
27 June 2003	5.47
30 June 2003	5.41
1 July 2003	5.46
2 July 2003	5.44
3 July 2003	5.55
4 July 2003	ND
7 July 2003	5.59
8 July 2003	5.58
9 July 2003	5.56
10 July 2003	5.53
11 July 2003	5.50
14 July 2003	5.56
15 July 2003	5.74
16 July 2003	5.76
17 July 2003	5.75
18 July 2003	5.78
21 July 2003	5.97
22 July 2003	5.95
23 July 2003	5.90
24 July 2003	5.96

Date	Percent
25 July 2003	5.98
28 July 2003	6.11
29 July 2003	6.22
30 July 2003	6.17
31 July 2003	6.34
1 August 2003	6.31
4 August 2003	6.23
5 August 2003	6.33
6 August 2003	6.20
7 August 2003	6.15
8 August 2003	6.12
11 August 2003	6.21
12 August 2003	6.21
13 August 2003	6.42
14 August 2003	6.45
15 August 2003	6.40
18 August 2003	6.37
19 August 2003	6.25
20 August 2003	6.29
21 August 2003	6.33
22 August 2003	6.28
25 August 2003	6.35
26 August 2003	6.31
27 August 2003	6.35
28 August 2003	6.23
29 August 2003	6.25
1 September 2003	ND
2 September 2003	6.35
3 September 2003	6.34
4 September 2003	6.27
5 September 2003	6.14
8 September 2003	6.17
9 September 2003	6.14
10 September 2003	6.04
11 September 2003	6.09
12 September 2003	6.02
15 September 2003	5.99
16 September 2003	6.03
17 September 2003	5.90
18 September 2003	5.88

Date	Percent
19 September 2003	5.85
22 September 2003	5.94
23 September 2003	5.93
24 September 2003	5.85
25 September 2003	5.80
26 September 2003	5.73
29 September 2003	5.78
30 September 2003	5.66
1 October 2003	5.66
2 October 2003	5.74
3 October 2003	5.90
6 October 2003	5.86
7 October 2003	5.95
8 October 2003	5.94
9 October 2003	5.98
10 October 2003	5.92
13 October 2003	ND
14 October 2003	6.02
15 October 2003	6.03
16 October 2003	6.05
17 October 2003	5.98
20 October 2003	5.97
21 October 2003	5.97
22 October 2003	5.91
23 October 2003	5.96
24 October 2003	5.84
27 October 2003	5.87
28 October 2003	5.82
29 October 2003	5.91
30 October 2003	5.94
31 October 2003	5.91
3 November 2003	5.96
4 November 2003	5.90
5 November 2003	5.95
6 November 2003	6.02
7 November 2003	6.04
10 November 2003	6.05
11 November 2003	ND
12 November 2003	5.98
13 November 2003	5.83

Date	Percent
14 November 2003	5.76
17 November 2003	5.73
18 November 2003	5.71
19 November 2003	5.78
20 November 2003	5.71
21 November 2003	5.70
24 November 2003	5.78
25 November 2003	5.73
26 November 2003	5.79
27 November 2003	ND
28 November 2003	5.86
1 December 2003	5.92
2 December 2003	5.90
3 December 2003	5.91
4 December 2003	5.85
5 December 2003	5.71
8 December 2003	5.78
9 December 2003	5.84
10 December 2003	5.81
11 December 2003	5.75
12 December 2003	5.75
15 December 2003	5.77
16 December 2003	5.75
17 December 2003	5.69
18 December 2003	5.63
19 December 2003	5.61
22 December 2003	5.65
23 December 2003	5.74
24 December 2003	5.67
25 December 2003	ND
26 December 2003	5.62
29 December 2003	5.69
30 December 2003	5.74
31 December 2003	5.71
1 January 2004	ND
2 January 2004	5.81
5 January 2004	5.79
6 January 2004	5.68
7 January 2004	5.65
8 January 2004	5.64

Date	Percent
9 January 2004	5.51
12 January 2004	5.50
13 January 2004	5.45
14 January 2004	5.40
15 January 2004	5.39
16 January 2004	5.43
19 January 2004	ND
20 January 2004	5.47
21 January 2004	5.45
22 January 2004	5.38
23 January 2004	5.48
26 January 2004	5.56
27 January 2004	5.50
28 January 2004	5.61
29 January 2004	5.63
30 January 2004	5.58
2 February 2004	5.61
3 February 2004	5.55
4 February 2004	5.59
5 February 2004	5.64
6 February 2004	5.55
9 February 2004	5.52
10 February 2004	5.56
11 February 2004	5.47
12 February 2004	5.50
13 February 2004	5.47
16 February 2004	ND
17 February 2004	5.48
18 February 2004	5.49
19 February 2004	5.50
20 February 2004	5.55
23 February 2004	5.51
24 February 2004	5.50
25 February 2004	5.50
26 February 2004	5.52
27 February 2004	5.46
1 March 2004	5.45
2 March 2004	5.52
3 March 2004	5.52
4 March 2004	5.49

Date	Percent
5 March 2004	5.31
8 March 2004	5.25
9 March 2004	5.20
10 March 2004	5.22
11 March 2004	5.25
12 March 2004	5.26
15 March 2004	5.27
16 March 2004	5.21
17 March 2004	5.20
18 March 2004	5.26
19 March 2004	5.29
22 March 2004	5.24
23 March 2004	5.23
24 March 2004	5.25
25 March 2004	5.27
26 March 2004	5.36
29 March 2004	5.40
30 March 2004	5.40
31 March 2004	5.34
1 April 2004	5.40
2 April 2004	5.62
5 April 2004	5.69
6 April 2004	5.64
7 April 2004	5.63
8 April 2004	5.66
9 April 2004	ND
12 April 2004	5.68
13 April 2004	5.78
14 April 2004	5.81
15 April 2004	5.85
16 April 2004	5.81
19 April 2004	5.82
20 April 2004	5.87
21 April 2004	5.88
22 April 2004	5.83
23 April 2004	5.91
26 April 2004	5.88
27 April 2004	5.86
28 April 2004	5.94
29 April 2004	6.01



Date	Percent
30 April 2004	5.96
3 May 2004	5.97
4 May 2004	6.02
5 May 2004	6.06
6 May 2004	6.12
7 May 2004	6.29
10 May 2004	6.32
11 May 2004	6.31
12 May 2004	6.34
13 May 2004	6.40
14 May 2004	6.33
17 May 2004	6.26
18 May 2004	6.28
19 May 2004	6.33
20 May 2004	6.26
21 May 2004	6.30
24 May 2004	6.28
25 May 2004	6.27
26 May 2004	6.21
27 May 2004	6.12
28 May 2004	6.19
31 May 2004	ND
1 June 2004	6.23
2 June 2004	6.25
3 June 2004	6.25
4 June 2004	6.31
7 June 2004	6.29
8 June 2004	6.28
9 June 2004	6.32
10 June 2004	6.30
11 June 2004	ND
14 June 2004	6.38
15 June 2004	6.19
16 June 2004	6.25
17 June 2004	6.21
18 June 2004	6.22
21 June 2004	6.21
22 June 2004	6.22
23 June 2004	6.21
24 June 2004	6.15

Date	Percent
25 June 2004	6.16
28 June 2004	6.25
29 June 2004	6.21
30 June 2004	6.13
1 July 2004	6.09
2 July 2004	5.98
5 July 2004	ND
6 July 2004	6.01
7 July 2004	6.00
8 July 2004	6.00
9 July 2004	6.00
12 July 2004	5.97
13 July 2004	6.01
14 July 2004	6.01
15 July 2004	6.00
16 July 2004	5.87
19 July 2004	5.86
20 July 2004	5.95
21 July 2004	5.99
22 July 2004	5.95
23 July 2004	5.93
26 July 2004	5.97
27 July 2004	6.10
28 July 2004	6.08
29 July 2004	6.07
30 July 2004	5.96
2 August 2004	5.99
3 August 2004	5.95
4 August 2004	5.96
5 August 2004	5.94
6 August 2004	5.76
9 August 2004	5.77
10 August 2004	5.82
11 August 2004	5.81
12 August 2004	5.78
13 August 2004	5.73
16 August 2004	5.78
17 August 2004	5.72
18 August 2004	5.74
19 August 2004	5.72

Date	Percent
20 August 2004	5.74
23 August 2004	5.78
24 August 2004	5.78
25 August 2004	5.75
26 August 2004	5.71
27 August 2004	5.71
30 August 2004	5.66
31 August 2004	5.60
1 September 2004	5.59
2 September 2004	5.66
3 September 2004	5.75
6 September 2004	ND
7 September 2004	5.70
8 September 2004	5.61
9 September 2004	5.64
10 September 2004	5.61
13 September 2004	5.58
14 September 2004	5.56
15 September 2004	5.59
16 September 2004	5.48
17 September 2004	5.55
20 September 2004	5.46
21 September 2004	5.45
22 September 2004	5.40
23 September 2004	5.44
24 September 2004	5.44
27 September 2004	5.40
28 September 2004	5.42
29 September 2004	5.49
30 September 2004	5.51
1 October 2004	5.58
4 October 2004	5.56
5 October 2004	5.55
6 October 2004	5.61
7 October 2004	5.62
8 October 2004	5.50
11 October 2004	5.51
12 October 2004	5.48
13 October 2004	5.44
14 October 2004	5.38

Date	Percent
15 October 2004	5.42
18 October 2004	5.42
19 October 2004	5.42
20 October 2004	5.37
21 October 2004	5.38
22 October 2004	5.37
25 October 2004	5.36
26 October 2004	5.35
27 October 2004	5.45
28 October 2004	5.43
29 October 2004	5.36
1 November 2004	5.43
2 November 2004	5.41
3 November 2004	5.39
4 November 2004	5.38
5 November 2004	5.48
8 November 2004	5.51
9 November 2004	5.51
10 November 2004	5.53
11 November 2004	5.53
12 November 2004	5.47
15 November 2004	5.46
16 November 2004	5.47
17 November 2004	5.40
18 November 2004	5.36
19 November 2004	5.44
22 November 2004	5.41
23 November 2004	5.42
24 November 2004	5.42
25 November 2004	5.42
26 November 2004	5.47
29 November 2004	5.56
30 November 2004	5.58
1 December 2004	5.60
2 December 2004	5.61
3 December 2004	5.48
6 December 2004	5.45
7 December 2004	5.43
8 December 2004	5.32
9 December 2004	5.35

Date	Percent
10 December 2004	5.35
13 December 2004	5.34
14 December 2004	5.31
15 December 2004	5.26
16 December 2004	5.37
17 December 2004	5.38
20 December 2004	5.37
21 December 2004	5.34
22 December 2004	5.37
23 December 2004	5.39
24 December 2004	ND
27 December 2004	5.46
28 December 2004	5.46
29 December 2004	5.49
30 December 2004	5.43
31 December 2004	5.39
3 January 2005	5.39
4 January 2005	5.44
5 January 2005	5.44
6 January 2005	5.45
7 January 2005	5.46
10 January 2005	5.45
11 January 2005	5.42
12 January 2005	5.41
13 January 2005	5.36
14 January 2005	5.39
17 January 2005	ND
18 January 2005	5.37
19 January 2005	5.36
20 January 2005	5.35
21 January 2005	5.33
24 January 2005	5.31
25 January 2005	5.37
26 January 2005	5.36
27 January 2005	5.38
28 January 2005	5.31
31 January 2005	5.29
1 February 2005	5.29
2 February 2005	5.28
3 February 2005	5.30

Date	Percent
4 February 2005	5.19
7 February 2005	5.17
8 February 2005	5.15
9 February 2005	5.10
10 February 2005	5.19
11 February 2005	5.21
14 February 2005	5.18
15 February 2005	5.21
16 February 2005	5.27
17 February 2005	5.28
18 February 2005	5.35
21 February 2005	ND
22 February 2005	5.39
23 February 2005	5.37
24 February 2005	5.37
25 February 2005	5.36
28 February 2005	5.45
1 March 2005	5.45
2 March 2005	5.47
3 March 2005	5.47
4 March 2005	5.38
7 March 2005	5.37
8 March 2005	5.45
9 March 2005	5.58
10 March 2005	5.53
11 March 2005	5.61
14 March 2005	5.60
15 March 2005	5.63
16 March 2005	5.63
17 March 2005	5.61
18 March 2005	5.64
21 March 2005	5.67
22 March 2005	5.76
23 March 2005	5.79
24 March 2005	5.77
25 March 2005	ND
28 March 2005	5.82
29 March 2005	5.80
30 March 2005	5.78
31 March 2005	5.73

Date	Percent
1 April 2005	5.69
4 April 2005	5.72
5 April 2005	5.73
6 April 2005	5.68
7 April 2005	5.71
8 April 2005	5.72
11 April 2005	5.70
12 April 2005	5.61
13 April 2005	5.63
14 April 2005	5.64
15 April 2005	5.58
18 April 2005	5.57
19 April 2005	5.52
20 April 2005	5.52
21 April 2005	5.60
22 April 2005	5.54
25 April 2005	5.53
26 April 2005	5.55
27 April 2005	5.52
28 April 2005	5.47
29 April 2005	5.52
2 May 2005	5.52
3 May 2005	5.54
4 May 2005	5.52
5 May 2005	5.45
6 May 2005	5.56
9 May 2005	5.57
10 May 2005	5.52
11 May 2005	5.51
12 May 2005	5.50
13 May 2005	5.49
16 May 2005	5.49
17 May 2005	5.50
18 May 2005	5.46
19 May 2005	5.49
20 May 2005	5.49
23 May 2005	5.42
24 May 2005	5.39
25 May 2005	5.42
26 May 2005	5.41

Date	Percent
27 May 2005	5.39
30 May 2005	ND
31 May 2005	5.32
1 June 2005	5.22
2 June 2005	5.18
3 June 2005	5.26
6 June 2005	5.24
7 June 2005	5.19
8 June 2005	5.22
9 June 2005	5.27
10 June 2005	5.35
13 June 2005	5.39
14 June 2005	5.43
15 June 2005	5.43
16 June 2005	5.39
17 June 2005	5.39
20 June 2005	5.41
21 June 2005	5.36
22 June 2005	5.27
23 June 2005	5.28
24 June 2005	5.24
27 June 2005	5.23
28 June 2005	5.29
29 June 2005	5.31
30 June 2005	5.26
1 July 2005	5.35
4 July 2005	ND
5 July 2005	5.42
6 July 2005	5.40
7 July 2005	5.35
8 July 2005	5.42
11 July 2005	5.40
12 July 2005	5.43
13 July 2005	5.46
14 July 2005	5.46
15 July 2005	5.45
18 July 2005	5.49
19 July 2005	5.46
20 July 2005	5.43
21 July 2005	5.54



Date	Percent
22 July 2005	5.48
25 July 2005	5.50
26 July 2005	5.49
27 July 2005	5.50
28 July 2005	5.43
29 July 2005	5.51
1 August 2005	5.53
2 August 2005	5.56
3 August 2005	5.52
4 August 2005	5.55
5 August 2005	5.62
8 August 2005	5.65
9 August 2005	5.63
10 August 2005	5.63
11 August 2005	5.58
12 August 2005	5.51
15 August 2005	5.52
16 August 2005	5.49
17 August 2005	5.55
18 August 2005	5.48
19 August 2005	5.47
22 August 2005	5.47
23 August 2005	5.45
24 August 2005	5.42
25 August 2005	5.40
26 August 2005	5.43
29 August 2005	5.41
30 August 2005	5.34
31 August 2005	5.28
1 September 2005	5.30
2 September 2005	5.31
5 September 2005	ND
6 September 2005	5.37
7 September 2005	5.42
8 September 2005	5.43
9 September 2005	5.42
12 September 2005	5.46
13 September 2005	5.43
14 September 2005	5.46
15 September 2005	5.52

Date	Percent
16 September 2005	5.56
19 September 2005	5.56
20 September 2005	5.55
21 September 2005	5.50
22 September 2005	5.50
23 September 2005	5.57
26 September 2005	5.61
27 September 2005	5.62
28 September 2005	5.58
29 September 2005	5.61
30 September 2005	5.64
3 October 2005	5.71
4 October 2005	5.69
5 October 2005	5.67
6 October 2005	5.69
7 October 2005	5.68
10 October 2005	ND
11 October 2005	5.71
12 October 2005	5.79
13 October 2005	5.84
14 October 2005	5.86
17 October 2005	5.86
18 October 2005	5.84
19 October 2005	5.83
20 October 2005	5.83
21 October 2005	5.76
24 October 2005	5.82
25 October 2005	5.88
26 October 2005	5.97
27 October 2005	5.95
28 October 2005	5.96
31 October 2005	5.95
1 November 2005	5.97
2 November 2005	6.00
3 November 2005	6.03
4 November 2005	6.05
7 November 2005	6.03
8 November 2005	5.95
9 November 2005	6.03
10 November 2005	5.96

Date	Percent
11 November 2005	ND
14 November 2005	6.00
15 November 2005	5.96
16 November 2005	5.90
17 November 2005	5.88
18 November 2005	5.92
21 November 2005	5.88
22 November 2005	5.86
23 November 2005	5.90
24 November 2005	ND
25 November 2005	5.86
28 November 2005	5.83
29 November 2005	5.90
30 November 2005	5.91
1 December 2005	5.94
2 December 2005	5.94
5 December 2005	5.99
6 December 2005	5.93
7 December 2005	5.95
8 December 2005	5.90
9 December 2005	5.97
12 December 2005	5.98
13 December 2005	5.97
14 December 2005	5.88
15 December 2005	5.90
16 December 2005	5.87
19 December 2005	5.87
20 December 2005	5.89
21 December 2005	5.91
22 December 2005	5.86
23 December 2005	5.80
26 December 2005	ND
27 December 2005	5.76
28 December 2005	5.80
29 December 2005	5.80
30 December 2005	5.82
2 January 2006	ND
3 January 2006	5.79
4 January 2006	5.78
5 January 2006	5.78

Date	Percent
6 January 2006	5.80
9 January 2006	5.80
10 January 2006	5.85
11 January 2006	5.88
12 January 2006	5.84
13 January 2006	5.78
16 January 2006	ND
17 January 2006	5.76
18 January 2006	5.77
19 January 2006	5.81
20 January 2006	5.78
23 January 2006	5.78
24 January 2006	5.81
25 January 2006	5.89
26 January 2006	5.93
27 January 2006	5.90
30 January 2006	5.93
31 January 2006	5.92
1 February 2006	5.95
2 February 2006	5.94
3 February 2006	5.91
6 February 2006	5.92
7 February 2006	5.95
8 February 2006	5.97
9 February 2006	5.95
10 February 2006	5.99
13 February 2006	5.98
14 February 2006	6.01
15 February 2006	5.99
16 February 2006	5.98
17 February 2006	5.92
20 February 2006	ND
21 February 2006	5.94
22 February 2006	5.90
23 February 2006	5.93
24 February 2006	5.94
27 February 2006	5.96
28 February 2006	5.91
1 March 2006	5.96
2 March 2006	6.01

Date	Percent
3 March 2006	6.06
6 March 2006	6.11
7 March 2006	6.12
8 March 2006	6.12
9 March 2006	6.11
10 March 2006	6.14
13 March 2006	6.16
14 March 2006	6.08
15 March 2006	6.12
16 March 2006	6.03
17 March 2006	6.05
20 March 2006	6.04
21 March 2006	6.09
22 March 2006	6.08
23 March 2006	6.12
24 March 2006	6.06
27 March 2006	6.09
28 March 2006	6.17
29 March 2006	6.20
30 March 2006	6.25
31 March 2006	6.25
3 April 2006	6.27
4 April 2006	6.26
5 April 2006	6.23
6 April 2006	6.29
7 April 2006	6.36
10 April 2006	6.36
11 April 2006	6.33
12 April 2006	6.37
13 April 2006	6.43
14 April 2006	ND
17 April 2006	6.40
18 April 2006	6.37
19 April 2006	6.42
20 April 2006	6.42
21 April 2006	6.39
24 April 2006	6.36
25 April 2006	6.44
26 April 2006	6.47
27 April 2006	6.44

Date	Percent
28 April 2006	6.42
1 May 2006	6.47
2 May 2006	6.45
3 May 2006	6.48
4 May 2006	6.49
5 May 2006	6.44
8 May 2006	6.45
9 May 2006	6.45
10 May 2006	6.45
11 May 2006	6.49
12 May 2006	6.54
15 May 2006	6.50
16 May 2006	6.47
17 May 2006	6.53
18 May 2006	6.46
19 May 2006	6.43
22 May 2006	6.43
23 May 2006	6.46
24 May 2006	6.44
25 May 2006	6.48
26 May 2006	6.45
29 May 2006	ND
30 May 2006	6.50
31 May 2006	6.55
1 June 2006	6.54
2 June 2006	6.43
5 June 2006	6.46
6 June 2006	6.45
7 June 2006	6.48
8 June 2006	6.45
9 June 2006	6.44
12 June 2006	6.45
13 June 2006	6.44
14 June 2006	6.54
15 June 2006	6.59
16 June 2006	6.62
19 June 2006	6.64
20 June 2006	6.66
21 June 2006	6.67
22 June 2006	6.72

Date	Percent
23 June 2006	6.75
26 June 2006	6.77
27 June 2006	6.74
28 June 2006	6.78
29 June 2006	6.74
30 June 2006	6.65
3 July 2006	6.69
4 July 2006	ND
5 July 2006	6.76
6 July 2006	6.72
7 July 2006	6.66
10 July 2006	6.66
11 July 2006	6.63
12 July 2006	6.63
13 July 2006	6.61
14 July 2006	6.61
17 July 2006	6.62
18 July 2006	6.67
19 July 2006	6.60
20 July 2006	6.57
21 July 2006	6.58
24 July 2006	6.58
25 July 2006	6.61
26 July 2006	6.57
27 July 2006	6.57
28 July 2006	6.52
31 July 2006	6.52
1 August 2006	6.51
2 August 2006	6.49
3 August 2006	6.47
4 August 2006	6.43
7 August 2006	6.45
8 August 2006	6.46
9 August 2006	6.47
10 August 2006	6.48
11 August 2006	6.51
14 August 2006	6.53
15 August 2006	6.46
16 August 2006	6.41
17 August 2006	6.40

Date	Percent
18 August 2006	6.37
21 August 2006	6.36
22 August 2006	6.35
23 August 2006	6.36
24 August 2006	6.35
25 August 2006	6.34
28 August 2006	6.35
29 August 2006	6.34
30 August 2006	6.32
31 August 2006	6.29
1 September 2006	6.28
4 September 2006	ND
5 September 2006	6.33
6 September 2006	6.35
7 September 2006	6.34
8 September 2006	6.32
11 September 2006	6.35
12 September 2006	6.32
13 September 2006	6.31
14 September 2006	6.33
15 September 2006	6.34
18 September 2006	6.35
19 September 2006	6.28
20 September 2006	6.27
21 September 2006	6.21
22 September 2006	6.16
25 September 2006	6.12
26 September 2006	6.14
27 September 2006	6.15
28 September 2006	6.19
29 September 2006	6.20
2 October 2006	6.18
3 October 2006	6.17
4 October 2006	6.13
5 October 2006	6.17
6 October 2006	6.25
9 October 2006	ND
10 October 2006	6.30
11 October 2006	6.34
12 October 2006	6.33



Date	Percent
13 October 2006	6.35
16 October 2006	6.33
17 October 2006	6.32
18 October 2006	6.29
19 October 2006	6.31
20 October 2006	6.30
23 October 2006	6.34
24 October 2006	6.34
25 October 2006	6.29
26 October 2006	6.23
27 October 2006	6.19
30 October 2006	6.18
31 October 2006	6.11
1 November 2006	6.06
2 November 2006	6.09
3 November 2006	6.19
6 November 2006	6.18
7 November 2006	6.13
8 November 2006	6.10
9 November 2006	6.09
10 November 2006	6.05
13 November 2006	6.06
14 November 2006	6.03
15 November 2006	6.08
16 November 2006	6.12
17 November 2006	6.07
20 November 2006	6.06
21 November 2006	6.04
22 November 2006	6.04
23 November 2006	ND
24 November 2006	6.02
27 November 2006	6.01
28 November 2006	5.99
29 November 2006	5.99
30 November 2006	5.95
1 December 2006	5.92
4 December 2006	5.92
5 December 2006	5.93
6 December 2006	5.96
7 December 2006	5.95

Date	Percent
8 December 2006	6.02
11 December 2006	5.99
12 December 2006	5.97
13 December 2006	6.05
14 December 2006	6.07
15 December 2006	6.07
18 December 2006	6.06
19 December 2006	6.07
20 December 2006	6.07
21 December 2006	6.03
22 December 2006	6.09
25 December 2006	ND
26 December 2006	6.07
27 December 2006	6.12
28 December 2006	6.16
29 December 2006	6.17
1 January 2007	ND
2 January 2007	6.16
3 January 2007	6.13
4 January 2007	6.08
5 January 2007	6.11
8 January 2007	6.11
9 January 2007	6.11
10 January 2007	6.14
11 January 2007	6.19
12 January 2007	6.22
15 January 2007	ND
16 January 2007	6.20
17 January 2007	6.23
18 January 2007	6.19
19 January 2007	6.20
22 January 2007	6.19
23 January 2007	6.23
24 January 2007	6.23
25 January 2007	6.28
26 January 2007	6.29
29 January 2007	6.30
30 January 2007	6.29
31 January 2007	6.24
1 February 2007	6.25

Date	Percent
2 February 2007	6.24
5 February 2007	6.21
6 February 2007	6.17
7 February 2007	6.14
8 February 2007	6.13
9 February 2007	6.18
12 February 2007	6.19
13 February 2007	6.20
14 February 2007	6.12
15 February 2007	6.09
16 February 2007	6.07
19 February 2007	ND
20 February 2007	6.06
21 February 2007	6.07
22 February 2007	6.10
23 February 2007	6.04
26 February 2007	6.00
27 February 2007	5.91
28 February 2007	5.95
1 March 2007	5.96
2 March 2007	5.93
5 March 2007	5.96
6 March 2007	5.97
7 March 2007	5.94
8 March 2007	5.94
9 March 2007	6.02
12 March 2007	5.98
13 March 2007	5.95
14 March 2007	5.98
15 March 2007	5.99
16 March 2007	6.00
19 March 2007	6.02
20 March 2007	6.01
21 March 2007	5.99
22 March 2007	6.06
23 March 2007	6.08
26 March 2007	6.06
27 March 2007	6.09
28 March 2007	6.10
29 March 2007	6.11

Date	Percent
30 March 2007	6.13
2 April 2007	6.13
3 April 2007	6.15
4 April 2007	6.15
5 April 2007	6.17
6 April 2007	ND
9 April 2007	6.23
10 April 2007	6.20
11 April 2007	6.21
12 April 2007	6.21
13 April 2007	6.23
16 April 2007	6.20
17 April 2007	6.15
18 April 2007	6.11
19 April 2007	6.13
20 April 2007	6.13
23 April 2007	6.11
24 April 2007	6.08
25 April 2007	6.11
26 April 2007	6.14
27 April 2007	6.16
30 April 2007	6.08
1 May 2007	6.09
2 May 2007	6.09
3 May 2007	6.12
4 May 2007	6.09
7 May 2007	6.08
8 May 2007	6.07
9 May 2007	6.11
10 May 2007	6.09
11 May 2007	6.11
14 May 2007	6.12
15 May 2007	6.14
16 May 2007	6.14
17 May 2007	6.18
18 May 2007	6.23
21 May 2007	6.21
22 May 2007	6.25
23 May 2007	6.28
24 May 2007	6.28

Date	Percent
25 May 2007	6.28
28 May 2007	ND
29 May 2007	6.30
30 May 2007	6.31
31 May 2007	6.33
1 June 2007	6.39
4 June 2007	6.36
5 June 2007	6.41
6 June 2007	6.41
7 June 2007	6.55
8 June 2007	6.58
11 June 2007	6.60
12 June 2007	6.71
13 June 2007	6.66
14 June 2007	6.67
15 June 2007	6.62
18 June 2007	6.60
19 June 2007	6.54
20 June 2007	6.58
21 June 2007	6.63
22 June 2007	6.61
25 June 2007	6.56
26 June 2007	6.59
27 June 2007	6.56
28 June 2007	6.60
29 June 2007	6.52
2 July 2007	6.49
3 July 2007	6.54
4 July 2007	ND
5 July 2007	6.64
6 July 2007	6.69
9 July 2007	6.65
10 July 2007	6.54
11 July 2007	6.60
12 July 2007	6.63
13 July 2007	6.62
16 July 2007	6.57
17 July 2007	6.60
18 July 2007	6.55
19 July 2007	6.58

Date	Percent
20 July 2007	6.53
23 July 2007	6.55
24 July 2007	6.55
25 July 2007	6.53
26 July 2007	6.55
27 July 2007	6.60
30 July 2007	6.64
31 July 2007	6.60
1 August 2007	6.59
2 August 2007	6.58
3 August 2007	6.52
6 August 2007	6.57
7 August 2007	6.58
8 August 2007	6.67
9 August 2007	6.62
10 August 2007	6.62
13 August 2007	6.61
14 August 2007	6.58
15 August 2007	6.59
16 August 2007	6.52
17 August 2007	6.60
20 August 2007	6.57
21 August 2007	6.54
22 August 2007	6.56
23 August 2007	6.54
24 August 2007	6.55
27 August 2007	6.51
28 August 2007	6.47
29 August 2007	6.49
30 August 2007	6.46
31 August 2007	6.46
3 September 2007	ND
4 September 2007	6.48
5 September 2007	6.40
6 September 2007	6.44
7 September 2007	6.34
10 September 2007	6.31
11 September 2007	6.35
12 September 2007	6.40
13 September 2007	6.47

Date	Percent
14 September 2007	6.45
17 September 2007	6.46
18 September 2007	6.47
19 September 2007	6.49
20 September 2007	6.60
21 September 2007	6.55
24 September 2007	6.53
25 September 2007	6.53
26 September 2007	6.53
27 September 2007	6.48
28 September 2007	6.48
1 October 2007	6.45
2 October 2007	6.43
3 October 2007	6.43
4 October 2007	6.40
5 October 2007	6.50
8 October 2007	ND
9 October 2007	6.49
10 October 2007	6.47
11 October 2007	6.46
12 October 2007	6.48
15 October 2007	6.46
16 October 2007	6.46
17 October 2007	6.36
18 October 2007	6.32
19 October 2007	6.24
22 October 2007	6.25
23 October 2007	6.26
24 October 2007	6.20
25 October 2007	6.23
26 October 2007	6.26
29 October 2007	6.25
30 October 2007	6.26
31 October 2007	6.37
1 November 2007	6.28
2 November 2007	6.24
5 November 2007	6.28
6 November 2007	6.32
7 November 2007	6.33
8 November 2007	6.31

Date	Percent
9 November 2007	6.28
12 November 2007	ND
13 November 2007	6.33
14 November 2007	6.35
15 November 2007	6.28
16 November 2007	6.29
19 November 2007	6.25
20 November 2007	6.27
21 November 2007	6.24
22 November 2007	ND
23 November 2007	6.25
26 November 2007	6.10
27 November 2007	6.21
28 November 2007	6.30
29 November 2007	6.25
30 November 2007	6.28
3 December 2007	6.22
4 December 2007	6.23
5 December 2007	6.30
6 December 2007	6.41
7 December 2007	6.53
10 December 2007	6.55
11 December 2007	6.41
12 December 2007	6.48
13 December 2007	6.57
14 December 2007	6.62
17 December 2007	6.58
18 December 2007	6.50
19 December 2007	6.45
20 December 2007	6.41
21 December 2007	6.55
24 December 2007	6.58
25 December 2007	ND
26 December 2007	6.65
27 December 2007	6.57
28 December 2007	6.47
31 December 2007	6.42
1 January 2008	ND
2 January 2008	6.30
3 January 2008	6.32



Date	Percent
4 January 2008	6.32
7 January 2008	6.31
8 January 2008	6.33
9 January 2008	6.33
10 January 2008	6.43
11 January 2008	6.37
14 January 2008	6.37
15 January 2008	6.30
16 January 2008	6.31
17 January 2008	6.29
18 January 2008	6.31
21 January 2008	ND
22 January 2008	6.23
23 January 2008	6.20
24 January 2008	6.31
25 January 2008	6.33
28 January 2008	6.33
29 January 2008	6.39
30 January 2008	6.47
31 January 2008	6.39
1 February 2008	6.36
4 February 2008	6.41
5 February 2008	6.36
6 February 2008	6.39
7 February 2008	6.52
8 February 2008	6.46
11 February 2008	6.45
12 February 2008	6.52
13 February 2008	6.55
14 February 2008	6.68
15 February 2008	6.65
18 February 2008	ND
19 February 2008	6.75
20 February 2008	6.78
21 February 2008	6.68
22 February 2008	6.71
25 February 2008	6.81
26 February 2008	6.79
27 February 2008	6.77
28 February 2008	6.66

Date	Percent
29 February 2008	6.50
3 March 2008	6.53
4 March 2008	6.58
5 March 2008	6.72
6 March 2008	6.71
7 March 2008	6.67
10 March 2008	6.60
11 March 2008	6.77
12 March 2008	6.67
13 March 2008	6.75
14 March 2008	6.65
17 March 2008	6.61
18 March 2008	6.72
19 March 2008	6.65
20 March 2008	6.62
21 March 2008	ND
24 March 2008	6.80
25 March 2008	6.78
26 March 2008	6.78
27 March 2008	6.82
28 March 2008	6.77
31 March 2008	6.73
1 April 2008	6.84
2 April 2008	6.85
3 April 2008	6.85
4 April 2008	6.74
7 April 2008	6.77
8 April 2008	6.76
9 April 2008	6.67
10 April 2008	6.74
11 April 2008	6.68
14 April 2008	6.72
15 April 2008	6.78
16 April 2008	6.90
17 April 2008	6.90
18 April 2008	6.88
21 April 2008	6.84
22 April 2008	6.82
23 April 2008	6.81
24 April 2008	6.89

Date	Percent
25 April 2008	6.92
28 April 2008	6.85
29 April 2008	6.82
30 April 2008	6.72
1 May 2008	6.69
2 May 2008	6.73
5 May 2008	6.87
6 May 2008	6.77
7 May 2008	6.74
8 May 2008	6.69
9 May 2008	6.65
12 May 2008	6.66
13 May 2008	6.78
14 May 2008	6.81
15 May 2008	6.73
16 May 2008	6.71
19 May 2008	6.70
20 May 2008	6.66
21 May 2008	6.70
22 May 2008	6.82
23 May 2008	6.74
26 May 2008	ND
27 May 2008	6.84
28 May 2008	6.91
29 May 2008	6.98
30 May 2008	6.94
2 June 2008	6.82
3 June 2008	6.74
4 June 2008	6.80
5 June 2008	6.87
6 June 2008	6.78
9 June 2008	6.82
10 June 2008	6.94
11 June 2008	6.92
12 June 2008	7.04
13 June 2008	7.08
16 June 2008	7.08
17 June 2008	7.07
18 June 2008	7.00
19 June 2008	7.06

Date	Percent
20 June 2008	7.01
23 June 2008	7.04
24 June 2008	7.00
25 June 2008	7.02
26 June 2008	6.98
27 June 2008	6.96
30 June 2008	6.99
1 July 2008	7.02
2 July 2008	6.98
3 July 2008	7.01
4 July 2008	ND
7 July 2008	6.97
8 July 2008	6.95
9 July 2008	6.92
10 July 2008	6.92
11 July 2008	7.06
14 July 2008	7.00
15 July 2008	7.00
16 July 2008	7.11
17 July 2008	7.20
18 July 2008	7.24
21 July 2008	7.22
22 July 2008	7.25
23 July 2008	7.30
24 July 2008	7.18
25 July 2008	7.27
28 July 2008	7.18
29 July 2008	7.21
30 July 2008	7.22
31 July 2008	7.17
1 August 2008	7.15
4 August 2008	7.17
5 August 2008	7.21
6 August 2008	7.26
7 August 2008	7.14
8 August 2008	7.16
11 August 2008	7.22
12 August 2008	7.15
13 August 2008	7.18
14 August 2008	7.14

Date	Percent
15 August 2008	7.10
18 August 2008	7.08
19 August 2008	7.11
20 August 2008	7.10
21 August 2008	7.15
22 August 2008	7.18
25 August 2008	7.11
26 August 2008	7.12
27 August 2008	7.11
28 August 2008	7.13
29 August 2008	7.16
1 September 2008	ND
2 September 2008	7.08
3 September 2008	7.05
4 September 2008	7.01
5 September 2008	7.04
8 September 2008	7.05
9 September 2008	7.01
10 September 2008	7.09
11 September 2008	7.10
12 September 2008	7.22
15 September 2008	7.11
16 September 2008	7.19
17 September 2008	7.20
18 September 2008	7.27
19 September 2008	7.57
22 September 2008	7.61
23 September 2008	7.63
24 September 2008	7.58
25 September 2008	7.76
26 September 2008	7.78
29 September 2008	7.66
30 September 2008	7.96
1 October 2008	7.96
2 October 2008	7.95
3 October 2008	8.02
6 October 2008	7.89
7 October 2008	8.07
8 October 2008	8.42
9 October 2008	8.63

Date	Percent
10 October 2008	9.06
13 October 2008	ND
14 October 2008	9.30
15 October 2008	9.39
16 October 2008	9.46
17 October 2008	9.60
20 October 2008	9.61
21 October 2008	9.44
22 October 2008	9.36
23 October 2008	9.33
24 October 2008	9.54
27 October 2008	9.65
28 October 2008	9.77
29 October 2008	9.91
30 October 2008	9.97
31 October 2008	10.00
3 November 2008	9.93
4 November 2008	9.77
5 November 2008	9.72
6 November 2008	9.70
7 November 2008	9.75
10 November 2008	9.70
11 November 2008	ND
12 November 2008	9.59
13 November 2008	9.68
14 November 2008	9.63
17 November 2008	9.66
18 November 2008	9.65
19 November 2008	9.61
20 November 2008	9.53
21 November 2008	9.69
24 November 2008	9.92
25 November 2008	9.76
26 November 2008	9.70
27 November 2008	ND
28 November 2008	9.68
1 December 2008	9.43
2 December 2008	9.47
3 December 2008	9.54
4 December 2008	9.47

Date	Percent
5 December 2008	9.59
8 December 2008	9.69
9 December 2008	9.64
10 December 2008	9.66
11 December 2008	9.66
12 December 2008	9.65
15 December 2008*	9.59
16 December 2008*	9.51
17 December 2008	9.29
18 December 2008	9.19
19 December 2008	9.21
22 December 2008	9.21
23 December 2008	9.23
24 December 2008	9.22
25 December 2008	ND
26 December 2008	9.15
29 December 2008	9.12
30 December 2008	9.09
31 December 2008	9.34
1 January 2009	ND
2 January 2009	9.51
5 January 2009	9.44
6 January 2009	9.30
7 January 2009	9.17
8 January 2009	9.08
9 January 2009	8.99
12 January 2009	8.86
13 January 2009	8.86
14 January 2009	8.78
15 January 2009	8.78
16 January 2009	8.85
19 January 2009	ND
20 January 2009	8.83
21 January 2009	9.02
22 January 2009	9.07
23 January 2009	9.08
26 January 2009	9.06

\* Dec. FOMC [Return to table](#)

Note: Yield for 10-year BBB bonds. Issuance shown at a monthly rate; January is month-to-date.

**Issuance**

(billions)

2008:Q3	\$10.5
2008:Q4	\$17.9
2009:Jan.	\$18.8

*Bottom-right panel*  
*High-Yield Corporate Bond Yield*

Daily

Date	Percent
1 January 2002	ND
2 January 2002	11.05
3 January 2002	10.95
4 January 2002	10.88
7 January 2002	10.86
8 January 2002	10.89
9 January 2002	10.89
10 January 2002	10.84
11 January 2002	10.83
14 January 2002	10.81
15 January 2002	10.85
16 January 2002	10.89
17 January 2002	10.95
18 January 2002	10.95
21 January 2002	ND
22 January 2002	10.96
23 January 2002	10.99
24 January 2002	10.98
25 January 2002	10.97
28 January 2002	11.03
29 January 2002	11.02
30 January 2002	11.12
31 January 2002	10.80
1 February 2002	10.79
4 February 2002	11.01
5 February 2002	10.86
6 February 2002	10.91
7 February 2002	10.93
8 February 2002	10.95
11 February 2002	10.97
12 February 2002	10.99
13 February 2002	11.00



Date	Percent
14 February 2002	11.03
15 February 2002	11.01
18 February 2002	ND
19 February 2002	11.06
20 February 2002	11.07
21 February 2002	11.11
22 February 2002	11.10
25 February 2002	11.18
26 February 2002	11.21
27 February 2002	11.14
28 February 2002	10.88
1 March 2002	10.87
4 March 2002	10.81
5 March 2002	10.75
6 March 2002	10.71
7 March 2002	10.67
8 March 2002	10.61
11 March 2002	10.60
12 March 2002	10.57
13 March 2002	10.55
14 March 2002	10.58
15 March 2002	10.57
18 March 2002	10.54
19 March 2002	10.54
20 March 2002	10.53
21 March 2002	10.56
22 March 2002	10.55
25 March 2002	10.54
26 March 2002	10.56
27 March 2002	10.58
28 March 2002	10.66
29 March 2002	ND
1 April 2002	10.66
2 April 2002	10.62
3 April 2002	10.69
4 April 2002	10.65
5 April 2002	10.64
8 April 2002	10.66
9 April 2002	10.66
10 April 2002	10.64

Date	Percent
11 April 2002	10.61
12 April 2002	10.68
15 April 2002	10.65
16 April 2002	10.67
17 April 2002	10.63
18 April 2002	10.55
19 April 2002	10.52
22 April 2002	10.54
23 April 2002	10.55
24 April 2002	10.54
25 April 2002	10.58
26 April 2002	10.62
29 April 2002	10.59
30 April 2002	10.30
1 May 2002	10.31
2 May 2002	10.36
3 May 2002	10.26
6 May 2002	10.31
7 May 2002	10.33
8 May 2002	10.39
9 May 2002	10.38
10 May 2002	10.41
13 May 2002	10.47
14 May 2002	10.53
15 May 2002	10.56
16 May 2002	10.61
17 May 2002	10.70
20 May 2002	10.69
21 May 2002	10.70
22 May 2002	10.71
23 May 2002	10.65
24 May 2002	10.64
27 May 2002	ND
28 May 2002	10.65
29 May 2002	10.65
30 May 2002	10.69
31 May 2002	10.76
3 June 2002	10.79
4 June 2002	10.78
5 June 2002	10.67

Date	Percent
6 June 2002	10.70
7 June 2002	10.77
10 June 2002	10.90
11 June 2002	10.87
12 June 2002	10.92
13 June 2002	10.92
14 June 2002	10.96
17 June 2002	10.91
18 June 2002	10.95
19 June 2002	10.94
20 June 2002	11.00
21 June 2002	11.30
24 June 2002	11.15
25 June 2002	11.26
26 June 2002	11.54
27 June 2002	11.79
28 June 2002	11.83
1 July 2002	11.10
2 July 2002	11.24
3 July 2002	11.26
4 July 2002	ND
5 July 2002	11.27
8 July 2002	11.27
9 July 2002	11.22
10 July 2002	11.23
11 July 2002	11.34
12 July 2002	11.31
15 July 2002	11.34
16 July 2002	11.35
17 July 2002	11.33
18 July 2002	11.33
19 July 2002	11.36
22 July 2002	11.43
23 July 2002	11.57
24 July 2002	11.73
25 July 2002	11.70
26 July 2002	11.79
29 July 2002	11.82
30 July 2002	11.82
31 July 2002	11.70

Date	Percent
1 August 2002	11.59
2 August 2002	11.70
5 August 2002	11.73
6 August 2002	11.83
7 August 2002	11.81
8 August 2002	11.87
9 August 2002	11.84
12 August 2002	11.89
13 August 2002	11.91
14 August 2002	11.91
15 August 2002	11.91
16 August 2002	11.92
19 August 2002	11.92
20 August 2002	11.76
21 August 2002	11.82
22 August 2002	11.69
23 August 2002	11.59
26 August 2002	11.48
27 August 2002	11.47
28 August 2002	11.42
29 August 2002	11.40
30 August 2002	11.40
2 September 2002	ND
3 September 2002	11.44
4 September 2002	11.38
5 September 2002	11.41
6 September 2002	11.45
9 September 2002	11.47
10 September 2002	11.44
11 September 2002	11.42
12 September 2002	11.25
13 September 2002	ND
16 September 2002	11.35
17 September 2002	11.31
18 September 2002	11.39
19 September 2002	11.49
20 September 2002	11.53
23 September 2002	11.52
24 September 2002	11.61
25 September 2002	11.67

Date	Percent
26 September 2002	11.63
27 September 2002	11.68
30 September 2002	11.78
1 October 2002	11.83
2 October 2002	11.81
3 October 2002	11.83
4 October 2002	11.94
7 October 2002	11.98
8 October 2002	12.14
9 October 2002	12.27
10 October 2002	12.35
11 October 2002	12.38
14 October 2002	ND
15 October 2002	12.31
16 October 2002	12.28
17 October 2002	12.25
18 October 2002	12.29
21 October 2002	12.28
22 October 2002	12.30
23 October 2002	12.26
24 October 2002	12.17
25 October 2002	12.16
28 October 2002	12.09
29 October 2002	12.06
30 October 2002	12.01
31 October 2002	11.88
1 November 2002	11.85
4 November 2002	11.82
5 November 2002	11.76
6 November 2002	11.65
7 November 2002	11.57
8 November 2002	11.60
11 November 2002	11.59
12 November 2002	11.52
13 November 2002	11.51
14 November 2002	11.45
15 November 2002	11.39
18 November 2002	11.35
19 November 2002	11.30
20 November 2002	11.23

Date	Percent
21 November 2002	11.18
22 November 2002	11.20
25 November 2002	11.04
26 November 2002	11.04
27 November 2002	11.05
28 November 2002	11.05
29 November 2002	11.09
2 December 2002	10.89
3 December 2002	10.86
4 December 2002	11.78
5 December 2002	11.77
6 December 2002	11.81
9 December 2002	10.94
10 December 2002	11.04
11 December 2002	11.06
12 December 2002	11.04
13 December 2002	11.04
16 December 2002	11.00
17 December 2002	11.00
18 December 2002	10.98
19 December 2002	10.98
20 December 2002	10.98
23 December 2002	10.96
24 December 2002	10.95
25 December 2002	ND
26 December 2002	10.95
27 December 2002	10.94
30 December 2002	10.93
31 December 2002	10.78
1 January 2003	ND
2 January 2003	10.75
3 January 2003	10.74
6 January 2003	10.59
7 January 2003	10.52
8 January 2003	10.42
9 January 2003	10.41
10 January 2003	10.36
13 January 2003	10.33
14 January 2003	10.31
15 January 2003	10.33

Date	Percent
16 January 2003	10.35
17 January 2003	10.36
20 January 2003	10.35
21 January 2003	10.33
22 January 2003	10.36
23 January 2003	10.35
24 January 2003	10.34
27 January 2003	10.46
28 January 2003	10.46
29 January 2003	10.49
30 January 2003	10.46
31 January 2003	10.39
3 February 2003	10.44
4 February 2003	10.41
5 February 2003	10.41
6 February 2003	10.43
7 February 2003	10.44
10 February 2003	10.46
11 February 2003	10.44
12 February 2003	10.50
13 February 2003	10.59
14 February 2003	10.61
17 February 2003	ND
18 February 2003	10.60
19 February 2003	10.52
20 February 2003	10.46
21 February 2003	10.44
24 February 2003	10.42
25 February 2003	10.41
26 February 2003	10.40
27 February 2003	10.36
28 February 2003	10.24
3 March 2003	10.27
4 March 2003	10.24
5 March 2003	10.24
6 March 2003	10.25
7 March 2003	10.24
10 March 2003	10.20
11 March 2003	10.19
12 March 2003	10.21

Date	Percent
13 March 2003	10.21
14 March 2003	10.18
17 March 2003	10.17
18 March 2003	10.17
19 March 2003	10.14
20 March 2003	10.12
21 March 2003	10.11
24 March 2003	10.09
25 March 2003	10.07
26 March 2003	10.02
27 March 2003	10.00
28 March 2003	9.96
31 March 2003	9.83
1 April 2003	9.80
2 April 2003	9.73
3 April 2003	9.65
4 April 2003	9.64
7 April 2003	9.62
8 April 2003	9.62
9 April 2003	9.66
10 April 2003	9.67
11 April 2003	9.66
14 April 2003	9.63
15 April 2003	9.61
16 April 2003	9.58
17 April 2003	9.56
18 April 2003	ND
21 April 2003	9.50
22 April 2003	9.46
23 April 2003	9.35
24 April 2003	9.27
25 April 2003	9.24
28 April 2003	9.23
29 April 2003	9.19
30 April 2003	9.06
1 May 2003	9.01
2 May 2003	8.98
5 May 2003	8.94
6 May 2003	8.92
7 May 2003	8.95



Date	Percent
8 May 2003	8.99
9 May 2003	9.00
12 May 2003	8.97
13 May 2003	8.96
14 May 2003	8.97
15 May 2003	8.98
16 May 2003	8.98
19 May 2003	9.00
20 May 2003	9.00
21 May 2003	9.07
22 May 2003	9.09
23 May 2003	9.11
26 May 2003	ND
27 May 2003	9.14
28 May 2003	9.16
29 May 2003	9.10
30 May 2003	9.09
2 June 2003	8.99
3 June 2003	8.98
4 June 2003	8.94
5 June 2003	8.86
6 June 2003	8.80
9 June 2003	8.78
10 June 2003	8.77
11 June 2003	8.73
12 June 2003	8.70
13 June 2003	8.65
16 June 2003	8.61
17 June 2003	8.55
18 June 2003	8.55
19 June 2003	8.57
20 June 2003	8.59
23 June 2003	8.61
24 June 2003	8.64
25 June 2003	8.63
26 June 2003	8.66
27 June 2003	8.69
30 June 2003	8.69
1 July 2003	8.71
2 July 2003	8.72

Date	Percent
3 July 2003	8.72
4 July 2003	ND
7 July 2003	8.72
8 July 2003	8.70
9 July 2003	8.69
10 July 2003	8.69
11 July 2003	8.67
14 July 2003	8.66
15 July 2003	8.69
16 July 2003	8.73
17 July 2003	8.74
18 July 2003	8.75
21 July 2003	8.76
22 July 2003	8.79
23 July 2003	8.80
24 July 2003	8.81
25 July 2003	8.84
28 July 2003	8.88
29 July 2003	8.96
30 July 2003	9.04
31 July 2003	9.11
1 August 2003	9.21
4 August 2003	9.18
5 August 2003	9.26
6 August 2003	9.34
7 August 2003	9.37
8 August 2003	9.33
11 August 2003	9.34
12 August 2003	9.35
13 August 2003	9.43
14 August 2003	9.50
15 August 2003	9.49
18 August 2003	9.45
19 August 2003	9.33
20 August 2003	9.24
21 August 2003	9.18
22 August 2003	9.16
25 August 2003	9.14
26 August 2003	9.12
27 August 2003	9.09

Date	Percent
28 August 2003	9.03
29 August 2003	8.99
1 September 2003	ND
2 September 2003	8.90
3 September 2003	8.88
4 September 2003	8.85
5 September 2003	8.84
8 September 2003	8.82
9 September 2003	8.79
10 September 2003	8.76
11 September 2003	8.77
12 September 2003	8.76
15 September 2003	8.73
16 September 2003	8.72
17 September 2003	8.68
18 September 2003	8.64
19 September 2003	8.62
22 September 2003	8.64
23 September 2003	8.66
24 September 2003	8.63
25 September 2003	8.61
26 September 2003	8.61
29 September 2003	8.60
30 September 2003	8.57
1 October 2003	8.55
2 October 2003	8.53
3 October 2003	8.55
6 October 2003	8.55
7 October 2003	8.53
8 October 2003	8.51
9 October 2003	8.49
10 October 2003	8.47
13 October 2003	ND
14 October 2003	8.45
15 October 2003	8.42
16 October 2003	8.39
17 October 2003	8.38
20 October 2003	8.37
21 October 2003	8.36
22 October 2003	8.37

Date	Percent
23 October 2003	8.41
24 October 2003	8.41
27 October 2003	8.40
28 October 2003	8.39
29 October 2003	8.39
30 October 2003	8.38
31 October 2003	8.36
3 November 2003	8.35
4 November 2003	8.32
5 November 2003	8.32
6 November 2003	8.33
7 November 2003	8.34
10 November 2003	8.34
11 November 2003	ND
12 November 2003	8.34
13 November 2003	8.31
14 November 2003	8.29
17 November 2003	8.26
18 November 2003	8.27
19 November 2003	8.26
20 November 2003	8.25
21 November 2003	8.24
24 November 2003	8.24
25 November 2003	8.22
26 November 2003	8.21
27 November 2003	ND
28 November 2003	8.21
1 December 2003	8.17
2 December 2003	8.14
3 December 2003	8.10
4 December 2003	8.05
5 December 2003	8.00
8 December 2003	7.98
9 December 2003	7.98
10 December 2003	7.97
11 December 2003	7.98
12 December 2003	7.98
15 December 2003	7.97
16 December 2003	7.97
17 December 2003	7.95

Date	Percent
18 December 2003	7.94
19 December 2003	7.93
22 December 2003	7.91
23 December 2003	7.92
24 December 2003	7.91
25 December 2003	ND
26 December 2003	7.91
29 December 2003	7.90
30 December 2003	7.90
31 December 2003	7.89
1 January 2004	ND
2 January 2004	7.89
5 January 2004	7.84
6 January 2004	7.77
7 January 2004	7.71
8 January 2004	7.68
9 January 2004	7.64
12 January 2004	7.64
13 January 2004	7.63
14 January 2004	7.61
15 January 2004	7.59
16 January 2004	7.59
19 January 2004	ND
20 January 2004	7.58
21 January 2004	7.56
22 January 2004	7.54
23 January 2004	7.54
26 January 2004	7.57
27 January 2004	7.59
28 January 2004	7.64
29 January 2004	7.71
30 January 2004	7.75
2 February 2004	7.79
3 February 2004	7.83
4 February 2004	7.87
5 February 2004	7.92
6 February 2004	7.93
9 February 2004	7.86
10 February 2004	7.87
11 February 2004	7.85

Date	Percent
12 February 2004	7.82
13 February 2004	7.81
16 February 2004	ND
17 February 2004	7.80
18 February 2004	7.84
19 February 2004	7.84
20 February 2004	7.85
23 February 2004	7.88
24 February 2004	7.91
25 February 2004	7.89
26 February 2004	7.89
27 February 2004	7.87
1 March 2004	7.85
2 March 2004	7.85
3 March 2004	7.86
4 March 2004	7.84
5 March 2004	7.79
8 March 2004	7.76
9 March 2004	7.76
10 March 2004	7.76
11 March 2004	7.79
12 March 2004	7.80
15 March 2004	7.83
16 March 2004	7.84
17 March 2004	7.86
18 March 2004	7.85
19 March 2004	7.85
22 March 2004	7.85
23 March 2004	7.88
24 March 2004	7.89
25 March 2004	7.89
26 March 2004	7.89
29 March 2004	7.88
30 March 2004	7.89
31 March 2004	7.88
1 April 2004	7.88
2 April 2004	7.92
5 April 2004	7.95
6 April 2004	7.94
7 April 2004	7.92

Date	Percent
8 April 2004	7.91
9 April 2004	ND
12 April 2004	7.91
13 April 2004	7.95
14 April 2004	8.00
15 April 2004	8.01
16 April 2004	8.00
19 April 2004	8.00
20 April 2004	8.01
21 April 2004	8.04
22 April 2004	8.01
23 April 2004	8.01
26 April 2004	8.02
27 April 2004	8.01
28 April 2004	8.03
29 April 2004	8.08
30 April 2004	8.08
3 May 2004	8.12
4 May 2004	8.17
5 May 2004	8.19
6 May 2004	8.27
7 May 2004	8.38
10 May 2004	8.53
11 May 2004	8.56
12 May 2004	8.61
13 May 2004	8.70
14 May 2004	8.72
17 May 2004	8.72
18 May 2004	8.67
19 May 2004	8.62
20 May 2004	8.64
21 May 2004	8.62
24 May 2004	8.60
25 May 2004	8.57
26 May 2004	8.53
27 May 2004	8.50
28 May 2004	8.50
31 May 2004	ND
1 June 2004	8.50
2 June 2004	8.51

Date	Percent
3 June 2004	8.52
4 June 2004	8.53
7 June 2004	8.54
8 June 2004	8.52
9 June 2004	8.51
10 June 2004	8.51
11 June 2004	ND
14 June 2004	8.53
15 June 2004	8.51
16 June 2004	8.49
17 June 2004	8.48
18 June 2004	8.46
21 June 2004	8.45
22 June 2004	8.43
23 June 2004	8.43
24 June 2004	8.40
25 June 2004	8.40
28 June 2004	8.41
29 June 2004	8.42
30 June 2004	8.41
1 July 2004	8.37
2 July 2004	8.34
5 July 2004	ND
6 July 2004	8.30
7 July 2004	8.30
8 July 2004	8.27
9 July 2004	8.26
12 July 2004	8.23
13 July 2004	8.23
14 July 2004	8.21
15 July 2004	8.20
16 July 2004	8.16
19 July 2004	8.13
20 July 2004	8.11
21 July 2004	8.12
22 July 2004	8.15
23 July 2004	8.17
26 July 2004	8.19
27 July 2004	8.26
28 July 2004	8.27



Date	Percent
29 July 2004	8.25
30 July 2004	8.21
2 August 2004	8.22
3 August 2004	8.24
4 August 2004	8.22
5 August 2004	8.21
6 August 2004	8.15
9 August 2004	8.14
10 August 2004	8.15
11 August 2004	8.15
12 August 2004	8.15
13 August 2004	8.14
16 August 2004	8.15
17 August 2004	8.13
18 August 2004	8.10
19 August 2004	8.07
20 August 2004	8.06
23 August 2004	8.05
24 August 2004	8.04
25 August 2004	8.01
26 August 2004	8.00
27 August 2004	7.99
30 August 2004	7.98
31 August 2004	7.97
1 September 2004	7.96
2 September 2004	7.98
3 September 2004	7.97
6 September 2004	ND
7 September 2004	7.97
8 September 2004	7.93
9 September 2004	7.91
10 September 2004	7.89
13 September 2004	7.86
14 September 2004	7.83
15 September 2004	7.84
16 September 2004	7.82
17 September 2004	7.81
20 September 2004	7.79
21 September 2004	7.78
22 September 2004	7.76

Date	Percent
23 September 2004	7.76
24 September 2004	7.77
27 September 2004	7.77
28 September 2004	7.77
29 September 2004	7.79
30 September 2004	7.82
1 October 2004	7.83
4 October 2004	7.81
5 October 2004	7.80
6 October 2004	7.79
7 October 2004	7.78
8 October 2004	7.74
11 October 2004	7.74
12 October 2004	7.71
13 October 2004	7.70
14 October 2004	7.70
15 October 2004	7.70
18 October 2004	7.72
19 October 2004	7.73
20 October 2004	7.74
21 October 2004	7.72
22 October 2004	7.69
25 October 2004	7.67
26 October 2004	7.65
27 October 2004	7.63
28 October 2004	7.60
29 October 2004	7.55
1 November 2004	7.54
2 November 2004	7.51
3 November 2004	7.46
4 November 2004	7.43
5 November 2004	7.44
8 November 2004	7.46
9 November 2004	7.46
10 November 2004	7.49
11 November 2004	7.49
12 November 2004	7.48
15 November 2004	7.46
16 November 2004	7.50
17 November 2004	7.46

Date	Percent
18 November 2004	7.43
19 November 2004	7.44
22 November 2004	7.44
23 November 2004	7.43
24 November 2004	ND
25 November 2004	7.43
26 November 2004	7.43
29 November 2004	7.46
30 November 2004	7.49
1 December 2004	7.50
2 December 2004	7.51
3 December 2004	7.47
6 December 2004	7.45
7 December 2004	7.43
8 December 2004	7.41
9 December 2004	7.40
10 December 2004	7.40
13 December 2004	7.39
14 December 2004	7.40
15 December 2004	7.37
16 December 2004	7.38
17 December 2004	7.41
20 December 2004	7.40
21 December 2004	7.39
22 December 2004	7.39
23 December 2004	7.40
24 December 2004	ND
27 December 2004	7.40
28 December 2004	7.41
29 December 2004	7.41
30 December 2004	7.40
31 December 2004	7.40
3 January 2005	7.39
4 January 2005	7.37
5 January 2005	7.40
6 January 2005	7.41
7 January 2005	7.42
10 January 2005	7.44
11 January 2005	7.46
12 January 2005	7.47

Date	Percent
13 January 2005	7.46
14 January 2005	7.48
17 January 2005	ND
18 January 2005	7.51
19 January 2005	7.49
20 January 2005	7.51
21 January 2005	7.52
24 January 2005	7.51
25 January 2005	7.51
26 January 2005	7.51
27 January 2005	7.50
28 January 2005	7.47
31 January 2005	7.46
1 February 2005	7.44
2 February 2005	7.41
3 February 2005	7.38
4 February 2005	7.35
7 February 2005	7.32
8 February 2005	7.29
9 February 2005	7.29
10 February 2005	7.30
11 February 2005	7.29
14 February 2005	7.28
15 February 2005	7.25
16 February 2005	7.24
17 February 2005	7.26
18 February 2005	7.28
21 February 2005	ND
22 February 2005	7.30
23 February 2005	7.29
24 February 2005	7.29
25 February 2005	7.26
28 February 2005	7.26
1 March 2005	7.28
2 March 2005	7.29
3 March 2005	7.29
4 March 2005	7.27
7 March 2005	7.25
8 March 2005	7.25
9 March 2005	7.29

Date	Percent
10 March 2005	7.31
11 March 2005	7.34
14 March 2005	7.37
15 March 2005	7.38
16 March 2005	7.45
17 March 2005	7.53
18 March 2005	7.51
21 March 2005	7.58
22 March 2005	7.66
23 March 2005	7.74
24 March 2005	7.74
25 March 2005	ND
28 March 2005	7.77
29 March 2005	7.82
30 March 2005	7.86
31 March 2005	7.89
1 April 2005	7.88
4 April 2005	7.91
5 April 2005	7.87
6 April 2005	7.81
7 April 2005	7.77
8 April 2005	7.78
11 April 2005	7.80
12 April 2005	7.81
13 April 2005	7.83
14 April 2005	7.90
15 April 2005	7.96
18 April 2005	8.00
19 April 2005	7.97
20 April 2005	7.93
21 April 2005	7.92
22 April 2005	7.90
25 April 2005	7.92
26 April 2005	7.97
27 April 2005	8.02
28 April 2005	8.04
29 April 2005	8.10
2 May 2005	8.12
3 May 2005	8.15
4 May 2005	8.08

Date	Percent
5 May 2005	8.18
6 May 2005	8.23
9 May 2005	8.23
10 May 2005	8.24
11 May 2005	8.33
12 May 2005	8.32
13 May 2005	8.37
16 May 2005	8.50
17 May 2005	8.55
18 May 2005	8.49
19 May 2005	8.42
20 May 2005	8.39
23 May 2005	8.30
24 May 2005	8.27
25 May 2005	8.20
26 May 2005	8.14
27 May 2005	8.08
30 May 2005	ND
31 May 2005	8.06
1 June 2005	7.98
2 June 2005	7.87
3 June 2005	7.86
6 June 2005	7.92
7 June 2005	7.89
8 June 2005	7.91
9 June 2005	7.97
10 June 2005	7.96
13 June 2005	7.97
14 June 2005	7.95
15 June 2005	7.93
16 June 2005	7.94
17 June 2005	7.94
20 June 2005	7.96
21 June 2005	7.92
22 June 2005	7.90
23 June 2005	7.91
24 June 2005	7.92
27 June 2005	7.93
28 June 2005	7.90
29 June 2005	7.88

Date	Percent
30 June 2005	7.84
1 July 2005	7.84
4 July 2005	ND
5 July 2005	7.88
6 July 2005	7.89
7 July 2005	7.87
8 July 2005	7.85
11 July 2005	7.81
12 July 2005	7.77
13 July 2005	7.76
14 July 2005	7.73
15 July 2005	7.72
18 July 2005	7.73
19 July 2005	7.73
20 July 2005	7.75
21 July 2005	7.75
22 July 2005	7.69
25 July 2005	7.73
26 July 2005	7.73
27 July 2005	7.71
28 July 2005	7.68
29 July 2005	7.69
1 August 2005	7.70
2 August 2005	7.71
3 August 2005	7.73
4 August 2005	7.72
5 August 2005	7.78
8 August 2005	7.82
9 August 2005	7.80
10 August 2005	7.79
11 August 2005	7.78
12 August 2005	7.76
15 August 2005	7.77
16 August 2005	7.79
17 August 2005	7.80
18 August 2005	7.78
19 August 2005	7.77
22 August 2005	7.76
23 August 2005	7.75
24 August 2005	7.74

Date	Percent
25 August 2005	7.74
26 August 2005	7.74
29 August 2005	7.75
30 August 2005	7.75
31 August 2005	7.77
1 September 2005	7.78
2 September 2005	7.80
5 September 2005	ND
6 September 2005	7.80
7 September 2005	7.82
8 September 2005	7.81
9 September 2005	7.82
12 September 2005	7.82
13 September 2005	7.80
14 September 2005	7.81
15 September 2005	7.81
16 September 2005	7.84
19 September 2005	7.89
20 September 2005	7.93
21 September 2005	7.95
22 September 2005	7.98
23 September 2005	7.97
26 September 2005	7.96
27 September 2005	7.98
28 September 2005	7.99
29 September 2005	7.99
30 September 2005	8.03
3 October 2005	8.01
4 October 2005	8.07
5 October 2005	8.08
6 October 2005	8.11
7 October 2005	8.13
10 October 2005	ND
11 October 2005	8.20
12 October 2005	8.27
13 October 2005	8.34
14 October 2005	8.31
17 October 2005	8.24
18 October 2005	8.18
19 October 2005	8.19



Date	Percent
20 October 2005	8.18
21 October 2005	8.15
24 October 2005	8.15
25 October 2005	8.17
26 October 2005	8.25
27 October 2005	8.29
28 October 2005	8.32
31 October 2005	8.33
1 November 2005	8.32
2 November 2005	8.31
3 November 2005	8.29
4 November 2005	8.30
7 November 2005	8.32
8 November 2005	8.28
9 November 2005	8.31
10 November 2005	8.31
11 November 2005	ND
14 November 2005	8.37
15 November 2005	8.39
16 November 2005	8.39
17 November 2005	8.41
18 November 2005	8.44
21 November 2005	8.41
22 November 2005	8.40
23 November 2005	8.41
24 November 2005	ND
25 November 2005	8.39
28 November 2005	8.37
29 November 2005	8.34
30 November 2005	8.34
1 December 2005	8.35
2 December 2005	8.34
5 December 2005	8.38
6 December 2005	8.37
7 December 2005	8.38
8 December 2005	8.36
9 December 2005	8.35
12 December 2005	8.33
13 December 2005	8.33
14 December 2005	8.31

Date	Percent
15 December 2005	8.31
16 December 2005	8.31
19 December 2005	8.31
20 December 2005	8.33
21 December 2005	8.28
22 December 2005	8.27
23 December 2005	8.26
26 December 2005	ND
27 December 2005	8.26
28 December 2005	8.27
29 December 2005	8.29
30 December 2005	8.30
2 January 2006	ND
3 January 2006	8.27
4 January 2006	8.24
5 January 2006	8.21
6 January 2006	8.18
9 January 2006	8.15
10 January 2006	8.17
11 January 2006	8.19
12 January 2006	8.19
13 January 2006	8.22
16 January 2006	ND
17 January 2006	8.24
18 January 2006	8.24
19 January 2006	8.22
20 January 2006	8.23
23 January 2006	8.21
24 January 2006	8.19
25 January 2006	8.18
26 January 2006	8.21
27 January 2006	8.18
30 January 2006	8.17
31 January 2006	8.16
1 February 2006	8.14
2 February 2006	8.14
3 February 2006	8.14
6 February 2006	8.17
7 February 2006	8.19
8 February 2006	8.20

Date	Percent
9 February 2006	8.21
10 February 2006	8.22
13 February 2006	8.22
14 February 2006	8.23
15 February 2006	8.21
16 February 2006	8.19
17 February 2006	8.16
20 February 2006	ND
21 February 2006	8.16
22 February 2006	8.14
23 February 2006	8.14
24 February 2006	8.13
27 February 2006	8.14
28 February 2006	8.10
1 March 2006	8.13
2 March 2006	8.15
3 March 2006	8.19
6 March 2006	8.18
7 March 2006	8.20
8 March 2006	8.24
9 March 2006	8.23
10 March 2006	8.23
13 March 2006	8.23
14 March 2006	8.21
15 March 2006	8.20
16 March 2006	8.16
17 March 2006	8.19
20 March 2006	8.14
21 March 2006	8.13
22 March 2006	8.13
23 March 2006	8.13
24 March 2006	8.11
27 March 2006	8.10
28 March 2006	8.12
29 March 2006	8.15
30 March 2006	8.17
31 March 2006	8.18
3 April 2006	8.17
4 April 2006	8.19
5 April 2006	8.16

Date	Percent
6 April 2006	8.19
7 April 2006	8.22
10 April 2006	8.24
11 April 2006	8.23
12 April 2006	8.24
13 April 2006	8.27
14 April 2006	ND
17 April 2006	8.27
18 April 2006	8.25
19 April 2006	8.26
20 April 2006	8.25
21 April 2006	8.24
24 April 2006	8.23
25 April 2006	8.24
26 April 2006	8.27
27 April 2006	8.26
28 April 2006	8.24
1 May 2006	8.25
2 May 2006	8.24
3 May 2006	8.26
4 May 2006	8.24
5 May 2006	8.23
8 May 2006	8.23
9 May 2006	8.23
10 May 2006	8.22
11 May 2006	8.23
12 May 2006	8.26
15 May 2006	8.29
16 May 2006	8.30
17 May 2006	8.37
18 May 2006	8.36
19 May 2006	8.34
22 May 2006	8.39
23 May 2006	8.39
24 May 2006	8.42
25 May 2006	8.42
26 May 2006	8.39
29 May 2006	ND
30 May 2006	8.41
31 May 2006	8.43

Date	Percent
1 June 2006	8.43
2 June 2006	8.39
5 June 2006	8.42
6 June 2006	8.44
7 June 2006	8.45
8 June 2006	8.46
9 June 2006	8.46
12 June 2006	8.46
13 June 2006	8.49
14 June 2006	8.57
15 June 2006	8.60
16 June 2006	8.60
19 June 2006	8.61
20 June 2006	8.64
21 June 2006	8.71
22 June 2006	8.73
23 June 2006	8.75
26 June 2006	8.78
27 June 2006	8.77
28 June 2006	8.79
29 June 2006	8.74
30 June 2006	8.66
3 July 2006	8.68
4 July 2006	ND
5 July 2006	8.71
6 July 2006	8.71
7 July 2006	8.67
10 July 2006	8.66
11 July 2006	8.65
12 July 2006	8.66
13 July 2006	8.69
14 July 2006	8.71
17 July 2006	8.73
18 July 2006	8.74
19 July 2006	8.70
20 July 2006	8.69
21 July 2006	8.69
24 July 2006	8.71
25 July 2006	8.72
26 July 2006	8.70

Date	Percent
27 July 2006	8.68
28 July 2006	8.66
31 July 2006	8.69
1 August 2006	8.68
2 August 2006	8.65
3 August 2006	8.65
4 August 2006	8.63
7 August 2006	8.62
8 August 2006	8.63
9 August 2006	8.63
10 August 2006	8.65
11 August 2006	8.65
14 August 2006	8.66
15 August 2006	8.64
16 August 2006	8.61
17 August 2006	8.58
18 August 2006	8.59
21 August 2006	8.58
22 August 2006	8.58
23 August 2006	8.57
24 August 2006	8.57
25 August 2006	8.57
28 August 2006	8.57
29 August 2006	8.57
30 August 2006	8.56
31 August 2006	8.59
1 September 2006	8.58
4 September 2006	ND
5 September 2006	8.57
6 September 2006	8.56
7 September 2006	8.57
8 September 2006	8.55
11 September 2006	8.55
12 September 2006	8.53
13 September 2006	8.50
14 September 2006	8.49
15 September 2006	8.48
18 September 2006	8.49
19 September 2006	8.49
20 September 2006	8.48

Date	Percent
21 September 2006	8.49
22 September 2006	8.49
25 September 2006	8.48
26 September 2006	8.47
27 September 2006	8.45
28 September 2006	8.46
29 September 2006	8.45
2 October 2006	8.44
3 October 2006	8.38
4 October 2006	8.43
5 October 2006	8.41
6 October 2006	8.42
9 October 2006	ND
10 October 2006	8.43
11 October 2006	8.42
12 October 2006	8.40
13 October 2006	8.39
16 October 2006	8.39
17 October 2006	8.39
18 October 2006	8.37
19 October 2006	8.38
20 October 2006	8.38
23 October 2006	8.39
24 October 2006	8.39
25 October 2006	8.39
26 October 2006	8.37
27 October 2006	8.35
30 October 2006	8.34
31 October 2006	8.36
1 November 2006	8.34
2 November 2006	8.33
3 November 2006	8.32
6 November 2006	8.33
7 November 2006	8.30
8 November 2006	8.29
9 November 2006	8.26
10 November 2006	8.25
13 November 2006	8.24
14 November 2006	8.23
15 November 2006	8.23

Date	Percent
16 November 2006	8.21
17 November 2006	8.24
20 November 2006	8.24
21 November 2006	8.25
22 November 2006	8.27
23 November 2006	ND
24 November 2006	8.26
27 November 2006	8.27
28 November 2006	8.29
29 November 2006	8.26
30 November 2006	8.28
1 December 2006	8.27
4 December 2006	8.26
5 December 2006	8.23
6 December 2006	8.20
7 December 2006	8.19
8 December 2006	8.20
11 December 2006	8.20
12 December 2006	8.20
13 December 2006	8.22
14 December 2006	8.24
15 December 2006	8.22
18 December 2006	8.22
19 December 2006	8.21
20 December 2006	8.21
21 December 2006	8.20
22 December 2006	8.21
25 December 2006	ND
26 December 2006	8.20
27 December 2006	8.21
28 December 2006	8.21
29 December 2006	8.20
1 January 2007	ND
2 January 2007	8.27
3 January 2007	8.24
4 January 2007	8.25
5 January 2007	8.27
8 January 2007	8.26
9 January 2007	8.25
10 January 2007	8.25



Date	Percent
11 January 2007	8.25
12 January 2007	8.25
15 January 2007	ND
16 January 2007	8.23
17 January 2007	8.22
18 January 2007	8.20
19 January 2007	8.18
22 January 2007	8.17
23 January 2007	8.17
24 January 2007	8.15
25 January 2007	8.14
26 January 2007	8.16
29 January 2007	8.16
30 January 2007	8.19
31 January 2007	8.20
1 February 2007	8.17
2 February 2007	8.17
5 February 2007	8.15
6 February 2007	8.12
7 February 2007	8.08
8 February 2007	8.09
9 February 2007	8.08
12 February 2007	8.10
13 February 2007	8.09
14 February 2007	8.05
15 February 2007	8.02
16 February 2007	7.99
19 February 2007	ND
20 February 2007	7.99
21 February 2007	7.97
22 February 2007	7.96
23 February 2007	7.95
26 February 2007	7.95
27 February 2007	8.00
28 February 2007	8.04
1 March 2007	8.08
2 March 2007	8.11
5 March 2007	8.17
6 March 2007	8.14
7 March 2007	8.09

Date	Percent
8 March 2007	8.05
9 March 2007	8.05
12 March 2007	8.05
13 March 2007	8.10
14 March 2007	8.13
15 March 2007	8.11
16 March 2007	8.11
19 March 2007	8.11
20 March 2007	8.11
21 March 2007	8.09
22 March 2007	8.08
23 March 2007	8.08
26 March 2007	8.08
27 March 2007	8.09
28 March 2007	8.12
29 March 2007	8.11
30 March 2007	8.10
2 April 2007	8.10
3 April 2007	8.10
4 April 2007	8.13
5 April 2007	8.10
6 April 2007	ND
9 April 2007	8.10
10 April 2007	8.09
11 April 2007	8.08
12 April 2007	8.08
13 April 2007	8.07
16 April 2007	8.05
17 April 2007	8.02
18 April 2007	8.02
19 April 2007	8.00
20 April 2007	7.97
23 April 2007	7.96
24 April 2007	7.95
25 April 2007	7.94
26 April 2007	7.94
27 April 2007	7.95
30 April 2007	7.96
1 May 2007	7.97
2 May 2007	7.96

Date	Percent
3 May 2007	7.96
4 May 2007	7.95
7 May 2007	7.94
8 May 2007	7.94
9 May 2007	7.94
10 May 2007	7.93
11 May 2007	7.93
14 May 2007	7.93
15 May 2007	7.92
16 May 2007	7.92
17 May 2007	7.92
18 May 2007	7.93
21 May 2007	7.91
22 May 2007	7.91
23 May 2007	7.92
24 May 2007	7.92
25 May 2007	7.93
28 May 2007	ND
29 May 2007	7.93
30 May 2007	7.95
31 May 2007	7.93
1 June 2007	7.94
4 June 2007	7.97
5 June 2007	7.96
6 June 2007	8.01
7 June 2007	8.10
8 June 2007	8.15
11 June 2007	8.15
12 June 2007	8.23
13 June 2007	8.23
14 June 2007	8.23
15 June 2007	8.21
18 June 2007	8.19
19 June 2007	8.22
20 June 2007	8.23
21 June 2007	8.30
22 June 2007	8.32
25 June 2007	8.37
26 June 2007	8.38
27 June 2007	8.44

Date	Percent
28 June 2007	8.43
29 June 2007	8.43
2 July 2007	8.47
3 July 2007	8.47
4 July 2007	ND
5 July 2007	8.49
6 July 2007	8.50
9 July 2007	8.50
10 July 2007	8.57
11 July 2007	8.62
12 July 2007	8.60
13 July 2007	8.56
16 July 2007	8.53
17 July 2007	8.56
18 July 2007	8.64
19 July 2007	8.63
20 July 2007	8.70
23 July 2007	8.79
24 July 2007	8.93
25 July 2007	8.97
26 July 2007	9.22
27 July 2007	9.31
30 July 2007	9.30
31 July 2007	9.20
1 August 2007	9.26
2 August 2007	9.19
3 August 2007	9.16
6 August 2007	9.21
7 August 2007	9.15
8 August 2007	9.02
9 August 2007	9.03
10 August 2007	9.08
13 August 2007	9.04
14 August 2007	9.04
15 August 2007	9.09
16 August 2007	9.19
17 August 2007	9.16
20 August 2007	9.13
21 August 2007	9.09
22 August 2007	9.05

Date	Percent
23 August 2007	9.01
24 August 2007	9.01
27 August 2007	8.99
28 August 2007	9.00
29 August 2007	9.02
30 August 2007	9.01
31 August 2007	9.02
3 September 2007	ND
4 September 2007	9.01
5 September 2007	9.00
6 September 2007	8.97
7 September 2007	8.99
10 September 2007	8.99
11 September 2007	8.98
12 September 2007	8.98
13 September 2007	8.98
14 September 2007	8.97
17 September 2007	8.95
18 September 2007	8.90
19 September 2007	8.79
20 September 2007	8.82
21 September 2007	8.75
24 September 2007	8.71
25 September 2007	8.73
26 September 2007	8.71
27 September 2007	8.70
28 September 2007	8.71
1 October 2007	8.71
2 October 2007	8.69
3 October 2007	8.64
4 October 2007	8.66
5 October 2007	8.65
8 October 2007	ND
9 October 2007	8.60
10 October 2007	8.58
11 October 2007	8.54
12 October 2007	8.53
15 October 2007	8.53
16 October 2007	8.58
17 October 2007	8.59

Date	Percent
18 October 2007	8.63
19 October 2007	8.68
22 October 2007	8.71
23 October 2007	8.67
24 October 2007	8.68
25 October 2007	8.68
26 October 2007	8.69
29 October 2007	8.68
30 October 2007	8.67
31 October 2007	8.75
1 November 2007	8.79
2 November 2007	8.82
5 November 2007	8.84
6 November 2007	8.84
7 November 2007	8.87
8 November 2007	8.92
9 November 2007	8.96
12 November 2007	ND
13 November 2007	9.00
14 November 2007	8.99
15 November 2007	9.05
16 November 2007	9.11
19 November 2007	9.20
20 November 2007	9.25
21 November 2007	9.33
22 November 2007	ND
23 November 2007	9.34
26 November 2007	9.31
27 November 2007	9.36
28 November 2007	9.30
29 November 2007	9.25
30 November 2007	9.27
3 December 2007	9.27
4 December 2007	9.30
5 December 2007	9.27
6 December 2007	9.27
7 December 2007	9.26
10 December 2007	9.23
11 December 2007	9.18
12 December 2007	9.22

Date	Percent
13 December 2007	9.26
14 December 2007	9.26
17 December 2007	9.27
18 December 2007	9.25
19 December 2007	9.28
20 December 2007	9.29
21 December 2007	9.30
24 December 2007	9.31
25 December 2007	ND
26 December 2007	9.31
27 December 2007	9.29
28 December 2007	9.28
31 December 2007	9.43
1 January 2008	ND
2 January 2008	9.43
3 January 2008	9.49
4 January 2008	9.57
7 January 2008	9.60
8 January 2008	9.63
9 January 2008	9.76
10 January 2008	9.76
11 January 2008	9.74
14 January 2008	9.74
15 January 2008	9.75
16 January 2008	9.83
17 January 2008	9.91
18 January 2008	9.97
21 January 2008	ND
22 January 2008	10.05
23 January 2008	10.07
24 January 2008	9.98
25 January 2008	9.91
28 January 2008	9.90
29 January 2008	9.85
30 January 2008	9.84
31 January 2008	9.80
1 February 2008	9.77
4 February 2008	9.78
5 February 2008	9.83
6 February 2008	9.87

Date	Percent
7 February 2008	9.95
8 February 2008	10.03
11 February 2008	10.12
12 February 2008	10.16
13 February 2008	10.13
14 February 2008	10.13
15 February 2008	10.15
18 February 2008	ND
19 February 2008	10.17
20 February 2008	10.22
21 February 2008	10.18
22 February 2008	10.16
25 February 2008	10.12
26 February 2008	10.03
27 February 2008	10.02
28 February 2008	10.02
29 February 2008	10.13
3 March 2008	10.16
4 March 2008	10.16
5 March 2008	10.19
6 March 2008	10.21
7 March 2008	10.25
10 March 2008	10.26
11 March 2008	10.30
12 March 2008	10.32
13 March 2008	10.40
14 March 2008	10.42
17 March 2008	10.54
18 March 2008	10.46
19 March 2008	10.38
20 March 2008	10.41
21 March 2008	ND
24 March 2008	10.32
25 March 2008	10.26
26 March 2008	10.27
27 March 2008	10.26
28 March 2008	10.25
31 March 2008	10.36
1 April 2008	10.31
2 April 2008	10.29



Date	Percent
3 April 2008	10.32
4 April 2008	10.18
7 April 2008	10.08
8 April 2008	10.08
9 April 2008	10.09
10 April 2008	10.11
11 April 2008	10.10
14 April 2008	10.12
15 April 2008	10.10
16 April 2008	10.04
17 April 2008	10.07
18 April 2008	9.94
21 April 2008	9.93
22 April 2008	9.90
23 April 2008	9.87
24 April 2008	9.86
25 April 2008	9.83
28 April 2008	9.79
29 April 2008	9.80
30 April 2008	9.72
1 May 2008	9.63
2 May 2008	9.62
5 May 2008	9.62
6 May 2008	9.68
7 May 2008	9.68
8 May 2008	9.71
9 May 2008	9.73
12 May 2008	9.75
13 May 2008	9.76
14 May 2008	9.74
15 May 2008	9.68
16 May 2008	9.67
19 May 2008	9.67
20 May 2008	9.67
21 May 2008	9.70
22 May 2008	9.76
23 May 2008	9.78
26 May 2008	ND
27 May 2008	9.80
28 May 2008	9.82

Date	Percent
29 May 2008	9.85
30 May 2008	9.85
2 June 2008	9.79
3 June 2008	9.85
4 June 2008	9.86
5 June 2008	9.78
6 June 2008	9.78
9 June 2008	9.80
10 June 2008	9.85
11 June 2008	9.87
12 June 2008	9.89
13 June 2008	9.89
16 June 2008	9.92
17 June 2008	9.91
18 June 2008	9.90
19 June 2008	9.95
20 June 2008	10.00
23 June 2008	10.04
24 June 2008	10.13
25 June 2008	10.14
26 June 2008	10.24
27 June 2008	10.25
30 June 2008	10.22
1 July 2008	10.29
2 July 2008	10.31
3 July 2008	10.39
4 July 2008	ND
7 July 2008	10.37
8 July 2008	10.43
9 July 2008	10.39
10 July 2008	10.42
11 July 2008	10.52
14 July 2008	10.50
15 July 2008	10.55
16 July 2008	10.58
17 July 2008	10.47
18 July 2008	10.42
21 July 2008	10.34
22 July 2008	10.45
23 July 2008	10.40

Date	Percent
24 July 2008	10.41
25 July 2008	10.44
28 July 2008	10.46
29 July 2008	10.46
30 July 2008	10.46
31 July 2008	10.53
1 August 2008	10.54
4 August 2008	10.57
5 August 2008	10.56
6 August 2008	10.57
7 August 2008	10.56
8 August 2008	10.58
11 August 2008	10.56
12 August 2008	10.53
13 August 2008	10.51
14 August 2008	10.52
15 August 2008	10.49
18 August 2008	10.51
19 August 2008	10.55
20 August 2008	10.57
21 August 2008	10.59
22 August 2008	10.60
25 August 2008	10.60
26 August 2008	10.60
27 August 2008	10.59
28 August 2008	10.58
29 August 2008	10.56
1 September 2008	ND
2 September 2008	10.71
3 September 2008	10.59
4 September 2008	10.60
5 September 2008	10.61
8 September 2008	10.59
9 September 2008	10.57
10 September 2008	10.62
11 September 2008	10.63
12 September 2008	10.66
15 September 2008	10.86
16 September 2008	11.00
17 September 2008	11.12

Date	Percent
18 September 2008	11.23
19 September 2008	11.14
22 September 2008	11.17
23 September 2008	11.30
24 September 2008	11.46
25 September 2008	11.68
26 September 2008	11.14
29 September 2008	11.35
30 September 2008	11.75
1 October 2008	12.04
2 October 2008	13.83
3 October 2008	12.50
6 October 2008	12.24
7 October 2008	12.53
8 October 2008	13.15
9 October 2008	13.35
10 October 2008	14.68
13 October 2008	ND
14 October 2008	16.04
15 October 2008	17.05
16 October 2008	17.83
17 October 2008	14.87
20 October 2008	15.30
21 October 2008	14.94
22 October 2008	15.20
23 October 2008	15.32
24 October 2008	15.91
27 October 2008	15.45
28 October 2008	16.27
29 October 2008	16.38
30 October 2008	16.22
31 October 2008	15.70
3 November 2008	15.26
4 November 2008	16.73
5 November 2008	14.95
6 November 2008	15.15
7 November 2008	15.66
10 November 2008	15.96
11 November 2008	ND
12 November 2008	15.95

Date	Percent
13 November 2008	16.24
14 November 2008	16.31
17 November 2008	15.84
18 November 2008	16.61
19 November 2008	17.85
20 November 2008	17.41
21 November 2008	17.56
24 November 2008	18.36
25 November 2008	17.90
26 November 2008	17.10
27 November 2008	ND
28 November 2008	17.76
1 December 2008	17.14
2 December 2008	17.21
3 December 2008	16.69
4 December 2008	17.89
5 December 2008	17.98
8 December 2008	17.59
9 December 2008	18.03
10 December 2008	18.33
11 December 2008	17.34
12 December 2008	19.66
15 December 2008*	18.30
16 December 2008*	17.50
17 December 2008	17.87
18 December 2008	17.58
19 December 2008	17.44
22 December 2008	17.10
23 December 2008	16.87
24 December 2008	16.30
25 December 2008	ND
26 December 2008	16.11
29 December 2008	16.02
30 December 2008	17.71
31 December 2008	17.67
1 January 2009	ND
2 January 2009	17.41
5 January 2009	15.30
6 January 2009	15.38
7 January 2009	14.54

Date	Percent
8 January 2009	14.89
9 January 2009	15.76
12 January 2009	15.62
13 January 2009	15.12
14 January 2009	15.69
15 January 2009	14.52
16 January 2009	14.17
19 January 2009	ND
20 January 2009	15.84
21 January 2009	15.92
22 January 2009	15.95
23 January 2009	15.94
26 January 2009	15.87

\* Dec. FOMC [Return to table](#)

Note: Yield for 10-year bonds. Issuance shown at a monthly rate; January is month-to-date.

#### Issuance

	(billions)
2008:Q3	\$0.7
2008:Q4	\$0.2
2009:Jan.	\$2.1

## Exhibit 6 Business Investment and Finance (continued)

### *Top-left panel* *Change in C&I Loans*

Period	Billions of dollars, monthly rate
2007	20.91
2008:H1	13.89
2008:Q3	20.63
2008:Q4	-4.82

### *Top-right panel* *Commercial Banks Tightening Standards and Spreads on C&I Loans*

Quarterly  
Net percentage of respondents

Period	Standards	Spreads
1996:Q1	6.95	-30.65
1996:Q2	-0.90	-36.10
1996:Q3	-3.70	-28.75

Period	Standards	Spreads
1996:Q4	-7.80	-34.55
1997:Q1	-5.45	-33.25
1997:Q2	-6.95	-32.45
1997:Q3	-5.70	-38.50
1997:Q4	-7.00	-40.40
1998:Q1	1.80	-25.40
1998:Q2	-7.10	-34.00
1998:Q3	0.00	-14.30
1998:Q4	36.40	47.30
1999:Q1	7.40	31.40
1999:Q2	10.00	7.10
1999:Q3	5.40	21.50
1999:Q4	9.10	23.60
2000:Q1	10.90	25.00
2000:Q2	24.60	35.20
2000:Q3	33.90	35.80
2000:Q4	43.80	54.40
2001:Q1	59.70	57.10
2001:Q2	50.90	44.40
2001:Q3	40.40	50.80
2001:Q4	50.90	58.90
2002:Q1	45.40	40.00
2002:Q2	25.00	23.70
2002:Q3	21.40	41.10
2002:Q4	20.00	29.10
2003:Q1	22.00	27.10
2003:Q2	8.90	14.60
2003:Q3	3.50	-12.30
2003:Q4	0.00	-13.80
2004:Q1	-17.90	-26.80
2004:Q2	-23.20	-39.30
2004:Q3	-20.00	-30.80
2004:Q4	-21.10	-50.00
2005:Q1	-23.60	-45.50
2005:Q2	-24.10	-70.40
2005:Q3	-16.70	-46.30
2005:Q4	-8.80	-45.60
2006:Q1	-10.70	-42.50
2006:Q2	-12.30	-59.70
2006:Q3	-8.90	-41.80

Period	Standards	Spreads
2006:Q4	0.00	-29.60
2007:Q1	0.00	-44.60
2007:Q2	-3.70	-52.80
2007:Q3	7.50	-32.10
2007:Q4	19.20	34.60
2008:Q1	32.20	43.60
2008:Q2	55.40	71.00
2008:Q3	57.60	80.80
2008:Q4	83.60	98.20
January 2009	64.20	92.50

*Middle-left panel*  
*Vacancy Rates and Rents on Commercial Properties*

**Quarterly**

Period	Rents (Percent change from year earlier)	Vacancy rates (Percent)
1992:Q1	ND	13.53
1992:Q2	ND	13.47
1992:Q3	ND	13.23
1992:Q4	-3.03	13.13
1993:Q1	-1.90	12.90
1993:Q2	-0.36	12.60
1993:Q3	0.56	12.40
1993:Q4	1.09	12.00
1994:Q1	1.48	11.83
1994:Q2	1.77	11.60
1994:Q3	2.54	11.27
1994:Q4	3.06	11.07
1995:Q1	3.30	10.83
1995:Q2	3.72	10.63
1995:Q3	4.44	10.43
1995:Q4	4.83	10.30
1996:Q1	5.30	10.27
1996:Q2	5.01	10.13
1996:Q3	4.68	10.03
1996:Q4	5.02	9.73
1997:Q1	4.63	9.50
1997:Q2	5.31	9.30
1997:Q3	5.65	8.93
1997:Q4	5.88	8.80
1998:Q1	6.58	8.67



Period	Rents (Percent change from year earlier)	Vacancy rates (Percent)
1998:Q2	6.60	8.60
1998:Q3	6.07	8.50
1998:Q4	5.81	8.43
1999:Q1	5.43	8.63
1999:Q2	4.92	8.67
1999:Q3	5.53	8.67
1999:Q4	6.44	8.53
2000:Q1	7.28	8.27
2000:Q2	8.68	7.87
2000:Q3	7.67	7.87
2000:Q4	6.90	8.00
2001:Q1	5.42	8.67
2001:Q2	2.96	9.57
2001:Q3	0.95	10.40
2001:Q4	-1.12	11.20
2002:Q1	-2.44	11.83
2002:Q2	-3.39	12.13
2002:Q3	-2.88	12.37
2002:Q4	-3.01	12.57
2003:Q1	-3.07	12.70
2003:Q2	-2.82	12.80
2003:Q3	-2.83	12.67
2003:Q4	-2.46	12.60
2004:Q1	-2.05	12.40
2004:Q2	-1.24	12.10
2004:Q3	-0.53	11.80
2004:Q4	0.11	11.50
2005:Q1	1.46	11.27
2005:Q2	2.32	10.87
2005:Q3	2.86	10.57
2005:Q4	3.74	10.30
2006:Q1	4.22	10.23
2006:Q2	4.63	10.13
2006:Q3	5.26	10.00
2006:Q4	5.89	9.93
2007:Q1	6.19	10.03
2007:Q2	5.84	10.10
2007:Q3	6.34	10.10
2007:Q4	5.55	10.27
2008:Q1	4.29	10.57

Period	Rents (Percent change from year earlier)	Vacancy rates (Percent)
2008:Q2	3.27	10.93
2008:Q3	1.41	11.30
2008:Q4*	ND	12.00

\* Preliminary [Return to table](#)

Note: Average of series for office, industrial, and retail properties.

Source: Torto Wheaton.

### *Middle-right panel* *Prices of Commercial Properties*

#### **Quarterly**

Index, 1996:Q4 = 100

Period	Index
1994:Q1	97.52
1994:Q2	97.48
1994:Q3	99.75
1994:Q4	97.52
1995:Q1	98.04
1995:Q2	98.83
1995:Q3	100.10
1995:Q4	100.80
1996:Q1	99.25
1996:Q2	101.28
1996:Q3	102.64
1996:Q4	104.98
1997:Q1	107.97
1997:Q2	112.44
1997:Q3	118.90
1997:Q4	126.05
1998:Q1	126.85
1998:Q2	130.22
1998:Q3	128.86
1998:Q4	129.73
1999:Q1	132.05
1999:Q2	130.44
1999:Q3	132.10
1999:Q4	132.51
2000:Q1	130.83
2000:Q2	132.63
2000:Q3	135.32
2000:Q4	133.39
2001:Q1	134.57

Period	Index
2001:Q2	136.32
2001:Q3	135.82
2001:Q4	132.40
2002:Q1	132.55
2002:Q2	132.72
2002:Q3	138.37
2002:Q4	142.23
2003:Q1	140.30
2003:Q2	144.68
2003:Q3	145.41
2003:Q4	148.88
2004:Q1	151.58
2004:Q2	159.29
2004:Q3	162.13
2004:Q4	166.46
2005:Q1	165.10
2005:Q2	196.97
2005:Q3	204.60
2005:Q4	210.48
2006:Q1	222.32
2006:Q2	225.86
2006:Q3	230.86
2006:Q4	244.37
2007:Q1	250.06
2007:Q2	261.98
2007:Q3	258.76
2007:Q4	244.54
2008:Q1	247.69
2008:Q2	235.66
2008:Q3	232.82
<i>Forecast</i>	
2008:Q4	213.49
2009:Q1	202.28
2009:Q2	196.92
2009:Q3	193.08
2009:Q4	189.41
2010:Q1	186.95
2010:Q2	185.27
2010:Q3	184.34
2010:Q4	184.64

Note: Index based on sales of properties in NCREIF portfolio.

*Bottom-left panel*  
*Delinquency Rates on Commercial Mortgages*

Percent

Period	At life insurance companies	At commercial banks*
1996:Q1	2.35	3.35
1996:Q2	2.59	3.20
1996:Q3	2.51	3.09
1996:Q4	1.79	2.86
1997:Q1	1.63	2.63
1997:Q2	1.56	2.39
1997:Q3	1.33	2.27
1997:Q4	0.90	2.23
1998:Q1	0.85	2.14
1998:Q2	0.80	2.04
1998:Q3	0.57	1.97
1998:Q4	0.48	2.01
1999:Q1	0.47	1.88
1999:Q2	0.30	1.83
1999:Q3	0.31	1.57
1999:Q4	0.25	1.46
2000:Q1	0.36	1.51
2000:Q2	0.30	1.44
2000:Q3	0.27	1.48
2000:Q4	0.28	1.52
2001:Q1	0.31	1.60
2001:Q2	0.24	1.72
2001:Q3	0.19	1.92
2001:Q4	0.12	1.93
2002:Q1	0.22	1.78
2002:Q2	0.27	1.76
2002:Q3	0.23	1.69
2002:Q4	0.28	1.61
2003:Q1	0.29	1.67
2003:Q2	0.24	1.61
2003:Q3	0.18	1.48
2003:Q4	0.12	1.40
2004:Q1	0.14	1.25
2004:Q2	0.14	1.26
2004:Q3	0.14	1.19
2004:Q4	0.08	1.10

Period	At life insurance companies	At commercial banks*
2005:Q1	0.07	1.12
2005:Q2	0.17	1.06
2005:Q3	0.15	1.08
2005:Q4	0.05	1.03
2006:Q1	0.04	1.01
2006:Q2	0.04	1.03
2006:Q3	0.04	1.14
2006:Q4	0.02	1.31
2007:Q1	0.03	1.42
2007:Q2	0.01	1.65
2007:Q3	0.03	1.99
2007:Q4	0.01	2.73
2008:Q1	0.01	3.46
2008:Q2	0.03	4.22
2008:Q3	0.06	4.72

\* Excluding farmland. [Return to table](#)

Percent

Period	CMBS
January 1999	0.40
February 1999	0.41
March 1999	0.32
April 1999	0.31
May 1999	0.41
June 1999	0.42
July 1999	0.46
August 1999	0.45
September 1999	0.45
October 1999	0.42
November 1999	0.49
December 1999	0.49
January 2000	0.52
February 2000	0.56
March 2000	0.59
April 2000	0.58
May 2000	0.63
June 2000	0.55
July 2000	0.58
August 2000	0.58
September 2000	0.64
October 2000	0.58

Period	CMBS
November 2000	0.53
December 2000	0.67
January 2001	0.73
February 2001	0.81
March 2001	0.91
April 2001	0.83
May 2001	0.87
June 2001	0.82
July 2001	0.82
August 2001	0.86
September 2001	0.90
October 2001	0.98
November 2001	1.26
December 2001	1.25
January 2002	1.36
February 2002	1.42
March 2002	1.48
April 2002	1.48
May 2002	1.44
June 2002	1.55
July 2002	1.55
August 2002	1.55
September 2002	1.54
October 2002	1.46
November 2002	1.49
December 2002	1.49
January 2003	1.62
February 2003	1.65
March 2003	1.64
April 2003	1.65
May 2003	1.70
June 2003	1.72
July 2003	1.76
August 2003	1.77
September 2003	1.78
October 2003	1.93
November 2003	1.88
December 2003	1.85
January 2004	1.86
February 2004	1.84

Period	CMBS
March 2004	1.76
April 2004	1.63
May 2004	1.62
June 2004	1.58
July 2004	1.45
August 2004	1.36
September 2004	1.36
October 2004	1.33
November 2004	1.32
December 2004	1.32
January 2005	1.26
February 2005	1.22
March 2005	1.12
April 2005	1.09
May 2005	1.02
June 2005	0.96
July 2005	0.96
August 2005	0.89
September 2005	0.87
October 2005	1.00
November 2005	0.92
December 2005	0.87
January 2006	0.74
February 2006	0.68
March 2006	0.62
April 2006	0.62
May 2006	0.60
June 2006	0.61
July 2006	0.55
August 2006	0.49
September 2006	0.50
October 2006	0.46
November 2006	0.42
December 2006	0.43
January 2007	0.37
February 2007	0.35
March 2007	0.32
April 2007	0.33
May 2007	0.39
June 2007	0.31

Period	CMBS
July 2007	0.29
August 2007	0.31
September 2007	0.33
October 2007	0.39
November 2007	0.32
December 2007	0.36
January 2008	0.40
February 2008	0.38
March 2008	0.38
April 2008	0.47
May 2008	0.47
June 2008	0.44
July 2008	0.49
August 2008	0.51
September 2008	0.52
October 2008	0.69
November 2008	0.86
December 2008	1.10

Source: Citigroup; Call Report; ACLI.

*Bottom-right panel*  
*Implications of Shutdown in the CMBS Market*

Should add to the pressure on banks' balance sheets and thereby Indirectly damp structures spending:

- Market will not be able to help refinance construction loans coming due.
- Loans currently within CMBS coming due will need financing from alternative sources.

## Exhibit 7 Business Cycle Dynamics

*Top-left panel*  
*Real GDP: Cyclical Comparison*

Index, Real GDP peak = 100

Quarters	1973:Q4	1981:Q3	2008:Q2
Peak	100.00	100.00	100.00
1	99.13	98.75	99.87
2	99.42	97.13	98.62
3	98.46	97.66	97.22
4	98.07	97.29	96.90
5	96.90	97.37	97.33
6	97.61	98.57	97.84



Quarters	1973:Q4	1981:Q3	2008:Q2
7	99.26	100.80	98.39
8	100.56	102.79	98.97
9	102.82	104.89	99.63
10	103.59	106.94	100.40
11	104.09	108.78	101.72

*Top-right panel*  
*Recession and Recovery*

- Contraction in real GDP is in line with big postwar recessions.
- Projected recovery is more sluggish.

*Middle-left panel*  
*Financial Crises and Economic Downturns*

- Downturns linked to major financial crises tend to be severe.
- Average stepdown in real GDP growth after five major postwar financial crises was about 5 percentage points.
- For U.S., our forecast implies a stepdown of 3½ percentage points.

*Middle-right panel*  
*Economic Growth Before and After Onset\**

Percent change, annual rate

	Five major crises	U.S. current episode
Four years before	3.6	3.0
Worst two years	-1.5	-0.6

\* As identified by Reinhart and Rogoff; includes Spain (1977), Norway (1987), Finland (1991), Sweden (1991), and Japan (1992). Onset of U.S. crisis dated to 2007. [Return to text](#)

*Alternative Simulation: More Financial Stress*

Note: Shading denotes 70% confidence intervals.

**Bottom-left panel**  
**Real GDP**

Four-quarter percent change

Period	Baseline	More financial stress	Confidence interval
2007:Q1	1.25	ND	ND
2007:Q2	1.77	ND	ND
2007:Q3	2.75	ND	ND
2007:Q4	2.33	ND	ND
2008:Q1	2.54	ND	ND
2008:Q2	2.05	ND	ND
2008:Q3	0.75	ND	ND
2008:Q4	-0.48	-0.48	-0.48 - -0.48
2009:Q1	-2.10	-2.28	-2.62 - -1.62

Period	Baseline	More financial stress	Confidence interval
2009:Q2	-3.10	-3.62	-3.76 - -2.41
2009:Q3	-2.55	-3.58	-3.42 - -1.67
2009:Q4	-0.79	-2.44	-1.87 - 0.23
2010:Q1	1.20	-0.89	0.05 - 2.29
2010:Q2	2.13	-0.19	0.87 - 3.20
2010:Q3	2.36	0.11	1.09 - 3.49
2010:Q4	2.61	0.62	1.28 - 3.77
2011:Q1	3.39	1.69	2.00 - 4.56
2011:Q2	4.06	2.71	2.64 - 5.27
2011:Q3	4.59	3.58	3.14 - 5.79
2011:Q4	4.87	4.13	3.37 - 6.10
2012:Q1	4.73	4.25	3.21 - 5.98
2012:Q2	4.76	4.48	3.19 - 6.05
2012:Q3	4.91	4.78	3.36 - 6.22
2012:Q4	5.29	5.23	3.70 - 6.59
2013:Q1	5.52	5.49	3.88 - 6.87
2013:Q2	5.55	5.56	3.95 - 6.84
2013:Q3	5.37	5.45	3.79 - 6.71
2013:Q4	4.97	5.21	3.48 - 6.37

## Bottom-center panel Unemployment Rate

Percent

Period	Baseline	More financial stress	Confidence interval
2007:Q1	4.49	ND	ND
2007:Q2	4.52	ND	ND
2007:Q3	4.67	ND	ND
2007:Q4	4.78	ND	ND
2008:Q1	4.95	ND	ND
2008:Q2	5.38	ND	ND
2008:Q3	6.05	ND	ND
2008:Q4	6.86	6.86	6.86 - 6.86
2009:Q1	7.70	7.73	7.54 - 7.86
2009:Q2	8.16	8.28	7.91 - 8.40
2009:Q3	8.33	8.59	8.02 - 8.65
2009:Q4	8.42	8.87	8.06 - 8.80
2010:Q1	8.46	9.12	8.06 - 8.89
2010:Q2	8.41	9.28	7.99 - 8.90
2010:Q3	8.21	9.27	7.76 - 8.75
2010:Q4	8.10	9.32	7.62 - 8.67

Period	Baseline	More financial stress	Confidence interval
2011:Q1	7.55	8.90	7.06 - 8.15
2011:Q2	7.27	8.71	6.77 - 7.91
2011:Q3	6.99	8.49	6.49 - 7.67
2011:Q4	6.74	8.27	6.23 - 7.46
2012:Q1	6.37	7.90	5.85 - 7.13
2012:Q2	6.10	7.61	5.58 - 6.89
2012:Q3	5.81	7.28	5.29 - 6.63
2012:Q4	5.50	6.94	4.96 - 6.34
2013:Q1	5.18	6.58	4.63 - 6.06
2013:Q2	4.88	6.23	4.31 - 5.78
2013:Q3	4.62	5.90	4.05 - 5.54
2013:Q4	4.41	5.61	3.86 - 5.33

## Bottom-right panel Core PCE Prices

Four-quarter percent change

Period	Baseline	More financial stress	Confidence interval
2007:Q1	2.35	ND	ND
2007:Q2	2.07	ND	ND
2007:Q3	2.01	ND	ND
2007:Q4	2.20	ND	ND
2008:Q1	2.18	ND	ND
2008:Q2	2.26	ND	ND
2008:Q3	2.34	ND	ND
2008:Q4	1.85	1.85	1.85 - 1.85
2009:Q1	1.48	1.48	1.34 - 1.63
2009:Q2	1.33	1.32	1.11 - 1.54
2009:Q3	0.96	0.93	0.67 - 1.24
2009:Q4	1.02	0.94	0.64 - 1.38
2010:Q1	1.03	0.86	0.58 - 1.43
2010:Q2	0.84	0.57	0.33 - 1.28
2010:Q3	0.79	0.40	0.24 - 1.28
2010:Q4	0.78	0.27	0.19 - 1.28
2011:Q1	0.75	0.13	0.12 - 1.28
2011:Q2	0.72	0.01	0.06 - 1.26
2011:Q3	0.68	-0.09	-0.01 - 1.23
2011:Q4	0.65	-0.15	-0.08 - 1.22
2012:Q1	0.62	-0.18	-0.14 - 1.23
2012:Q2	0.61	-0.19	-0.18 - 1.22
2012:Q3	0.60	-0.22	-0.21 - 1.21
2012:Q4	0.60	-0.25	-0.25 - 1.23

Period	Baseline	More financial stress	Confidence interval
2013:Q1	0.62	-0.29	-0.27 - 1.25
2013:Q2	0.64	-0.32	-0.27 - 1.29
2013:Q3	0.67	-0.33	-0.24 - 1.32
2013:Q4	0.71	-0.31	-0.20 - 1.37

## Exhibit 8 Labor Productivity and Inflation

### *Top panels* *Labor Productivity*

**Left panel**  
Chained 2000 dollars per hour

Period	Actual	Trend
1972:Q1	24.12	24.15
1972:Q2	24.60	24.31
1972:Q3	24.74	24.48
1972:Q4	24.94	24.64
1973:Q1	25.51	24.80
1973:Q2	25.53	24.97
1973:Q3	25.30	25.13
1973:Q4	25.14	25.30
1974:Q1	25.11	25.38
1974:Q2	25.05	25.46
1974:Q3	24.78	25.54
1974:Q4	25.03	25.62
1975:Q1	25.22	25.70
1975:Q2	25.63	25.78
1975:Q3	25.91	25.86
1975:Q4	25.91	25.94
1976:Q1	26.29	26.02
1976:Q2	26.54	26.11
1976:Q3	26.57	26.19
1976:Q4	26.65	26.27
1977:Q1	26.79	26.35
1977:Q2	26.92	26.44
1977:Q3	27.20	26.52
1977:Q4	26.83	26.60
1978:Q1	26.84	26.70
1978:Q2	27.38	26.80
1978:Q3	27.37	26.89
1978:Q4	27.53	26.99

<b>Period</b>	<b>Actual</b>	<b>Trend</b>
1979:Q1	27.27	27.09
1979:Q2	27.20	27.18
1979:Q3	27.16	27.28
1979:Q4	27.13	27.38
1980:Q1	27.24	27.48
1980:Q2	26.93	27.58
1980:Q3	27.04	27.68
1980:Q4	27.33	27.78
1981:Q1	27.75	27.88
1981:Q2	27.39	27.98
1981:Q3	27.63	28.08
1981:Q4	27.28	28.18
1982:Q1	27.10	28.28
1982:Q2	27.15	28.38
1982:Q3	27.20	28.48
1982:Q4	27.43	28.59
1983:Q1	27.78	28.69
1983:Q2	28.43	28.79
1983:Q3	28.70	28.90
1983:Q4	28.83	29.00
1984:Q1	28.80	29.11
1984:Q2	28.98	29.21
1984:Q3	29.10	29.32
1984:Q4	29.13	29.42
1985:Q1	29.17	29.53
1985:Q2	29.24	29.63
1985:Q3	29.62	29.74
1985:Q4	29.76	29.85
1986:Q1	30.14	29.96
1986:Q2	30.37	30.06
1986:Q3	30.50	30.17
1986:Q4	30.42	30.28
1987:Q1	30.27	30.39
1987:Q2	30.50	30.50
1987:Q3	30.50	30.61
1987:Q4	30.78	30.72
1988:Q1	30.85	30.92
1988:Q2	30.95	31.03
1988:Q3	31.04	31.15
1988:Q4	31.22	31.26

<b>Period</b>	<b>Actual</b>	<b>Trend</b>
1989:Q1	31.10	31.37
1989:Q2	31.18	31.48
1989:Q3	31.33	31.60
1989:Q4	31.38	31.71
1990:Q1	31.67	31.83
1990:Q2	31.88	31.94
1990:Q3	32.00	32.05
1990:Q4	31.76	32.17
1991:Q1	31.84	32.29
1991:Q2	32.30	32.40
1991:Q3	32.53	32.52
1991:Q4	32.73	32.64
1992:Q1	33.27	32.75
1992:Q2	33.50	32.87
1992:Q3	33.82	32.99
1992:Q4	34.10	33.11
1993:Q1	33.83	33.23
1993:Q2	33.64	33.35
1993:Q3	33.77	33.47
1993:Q4	34.02	33.59
1994:Q1	34.25	33.71
1994:Q2	34.21	33.83
1994:Q3	33.99	33.95
1994:Q4	34.33	34.08
1995:Q1	34.22	34.20
1995:Q2	34.27	34.32
1995:Q3	34.31	34.49
1995:Q4	34.60	34.65
1996:Q1	34.93	34.83
1996:Q2	35.29	35.01
1996:Q3	35.39	35.18
1996:Q4	35.44	35.36
1997:Q1	35.32	35.57
1997:Q2	35.75	35.79
1997:Q3	36.06	36.00
1997:Q4	36.20	36.21
1998:Q1	36.49	36.45
1998:Q2	36.60	36.68
1998:Q3	37.01	36.92
1998:Q4	37.20	37.16

Period	Actual	Trend
1999:Q1	37.53	37.42
1999:Q2	37.62	37.68
1999:Q3	37.88	37.94
1999:Q4	38.53	38.21
2000:Q1	38.36	38.47
2000:Q2	39.04	38.73
2000:Q3	38.97	38.99
2000:Q4	39.34	39.25
2001:Q1	39.30	39.59
2001:Q2	39.83	39.94
2001:Q3	40.02	40.28
2001:Q4	40.60	40.63
2002:Q1	41.32	40.94
2002:Q2	41.38	41.24
2002:Q3	41.83	41.54
2002:Q4	41.79	41.85

Shaded bars indicate periods of business recession as defined by the National Bureau of Economic Research (NBER): November 1973-March 1975, January 1980-July 1980, July 1981-November 1982, July 1990-March 1991, March 2001-November 2001.

**Right panel**

Chained 2000 dollars per hour

Period	Actual	Trend
2003:Q1	42.16	42.15
2003:Q2	42.74	42.45
2003:Q3	43.80	42.75
2003:Q4	43.77	43.06
2004:Q1	43.87	43.30
2004:Q2	44.35	43.54
2004:Q3	44.47	43.79
2004:Q4	44.53	44.03
2005:Q1	44.89	44.24
2005:Q2	44.92	44.46
2005:Q3	45.33	44.67
2005:Q4	45.20	44.88
2006:Q1	45.49	45.10
2006:Q2	45.69	45.32
2006:Q3	45.45	45.54
2006:Q4	45.47	45.76
2007:Q1	45.47	46.00
2007:Q2	45.93	46.23
2007:Q3	46.58	46.47
2007:Q4	46.68	46.71

Period	Actual	Trend
2008:Q1	46.98	46.93
2008:Q2	47.40	47.16
2008:Q3	47.58	47.38
<i>Forecast</i>		
2008:Q4	47.78	47.61
2009:Q1	47.38	47.81
2009:Q2	47.45	48.01
2009:Q3	47.85	48.21
2009:Q4	48.29	48.41
2010:Q1	48.59	48.61
2010:Q2	48.82	48.82
2010:Q3	49.02	49.02
2010:Q4	49.26	49.23

A shaded bar indicates the NBER Peak in December 2007.

*Middle-left panel*  
*Productivity Dynamics*

- In some earlier recessions labor productivity was procyclical.
- Procyclicality not observed during the 2001 recession.
- In the current episode, labor productivity expected to exhibit some procyclicality, as the deep recession leads to some labor hoarding.

*Middle-right panel*  
*Unemployment Rate*

Percent

Period	Unemployment Rate	Dec. GB	NAIRU
2005:Q1	5.28	5.27	4.85
2005:Q2	5.12	5.11	4.83
2005:Q3	4.97	4.98	4.85
2005:Q4	4.94	4.94	4.83
2006:Q1	4.71	4.71	4.82
2006:Q2	4.68	4.67	4.83
2006:Q3	4.65	4.66	4.81
2006:Q4	4.43	4.44	4.82
2007:Q1	4.50	4.50	4.82
2007:Q2	4.53	4.51	4.80
2007:Q3	4.67	4.68	4.78
2007:Q4	4.78	4.80	4.78
2008:Q1	4.94	4.94	4.77
2008:Q2	5.37	5.32	4.75
2008:Q3	6.05	5.95	4.75



Period	Unemployment Rate	Dec. GB	NAIRU
<i>Forecast</i>			
2008:Q4	6.86	6.74	4.75
2009:Q1	7.70	7.52	4.76
2009:Q2	8.16	7.83	4.76
2009:Q3	8.33	7.98	4.76
2009:Q4	8.42	8.08	4.76
2010:Q1	8.46	8.28	4.76
2010:Q2	8.41	8.29	4.76
2010:Q3	8.21	8.20	4.76
2010:Q4	8.10	8.17	4.76

*Bottom-left panel*  
*PCE Energy Prices*

Period	Four-quarter percent change
2005:Q1	13.06
2005:Q2	9.03
2005:Q3	23.72
2005:Q4	23.10
2006:Q1	20.40
2006:Q2	21.71
2006:Q3	9.81
2006:Q4	-3.98
2007:Q1	0.47
2007:Q2	4.05
2007:Q3	1.23
2007:Q4	19.08
2008:Q1	20.05
2008:Q2	19.69
2008:Q3	27.47
<i>Forecast</i>	
2008:Q4	-9.77
2009:Q1	-25.74
2009:Q2	-28.63
2009:Q3	-31.84
2009:Q4	-8.81
2010:Q1	7.88
2010:Q2	7.12
2010:Q3	5.86
2010:Q4	5.21

*Bottom-right panel*  
*PCE Price Projections*

(Percent change, Q4/Q4)

	2008	2009	2010
1. PCE price index	1.7	0.6	1.1
2. <i>Dec. GB</i>	(1.9)	(0.7)	(1.0)
3. Core PCE	1.9	1.0	0.8
4. <i>Dec. GB</i>	(2.0)	(1.1)	(0.8)

**Exhibit 9**  
**An Unconventional Policy: Large-Scale Asset Purchases**

*Top-left panel*  
*Unemployment Rate*

Percent

Period	Baseline	Unconstrained	Asset purchase (LSAP)
2008:Q1	4.95	ND	ND
2008:Q2	5.38	ND	ND
2008:Q3	6.05	ND	ND
2008:Q4	6.86	ND	ND
<i>Forecast</i>			
2009:Q1	7.70	7.70	7.70
2009:Q2	8.16	8.14	8.14
2009:Q3	8.33	8.26	8.27
2009:Q4	8.42	8.25	8.30
2010:Q1	8.46	8.16	8.28
2010:Q2	8.41	7.97	8.18
2010:Q3	8.21	7.61	7.90
2010:Q4	8.10	7.35	7.72
2011:Q1	7.55	6.67	7.11
2011:Q2	7.27	6.29	6.76
2011:Q3	6.99	5.94	6.41
2011:Q4	6.74	5.65	6.08
2012:Q1	6.37	5.27	5.62
2012:Q2	6.10	5.04	5.27
2012:Q3	5.81	4.82	4.92
2012:Q4	5.50	4.62	4.57

*Top-right panel*  
*Core PCE Prices*

Four-quarter percent change

Period	Baseline	Unconstrained	Asset purchase (LSAP)
2008:Q1	2.18	ND	ND
2008:Q2	2.26	ND	ND
2008:Q3	2.34	ND	ND
2008:Q4	1.85	1.85	1.85
<i>Forecast</i>			
2009:Q1	1.48	1.50	1.52
2009:Q2	1.33	1.41	1.39
2009:Q3	0.96	1.14	1.06
2009:Q4	1.02	1.31	1.14
2010:Q1	1.03	1.44	1.14
2010:Q2	0.84	1.35	0.97
2010:Q3	0.79	1.38	0.94
2010:Q4	0.78	1.43	0.95
2011:Q1	0.75	1.45	0.95
2011:Q2	0.72	1.43	0.94
2011:Q3	0.68	1.40	0.93
2011:Q4	0.65	1.35	0.93
2012:Q1	0.62	1.31	0.94
2012:Q2	0.61	1.26	0.95
2012:Q3	0.60	1.22	0.94
2012:Q4	0.60	1.18	0.93

### *Middle-left panel*

#### *Assumptions Behind a Successful LSAP Program*

- Imperfect substitutability of long- and short-term debt.
- Sufficient substitutability among long-term fixed-income securities.
- Usual linkages to equity and foreign exchange markets.

### *Middle-right panel*

#### *Simulation Assumptions*

##### **The Program:**

- \$500 billion in MBS debt plus \$500 billion in Treasury securities.
- On top of existing programs.
- Announced immediately, carried out over next year and a half.

##### **Financial Effects:**

- Reduces mortgage rates: **125 b.p.**
- Reduces Treasury rates: **80 b.p.**
- Reduces Baa rate: **75 b.p.**

*Bottom panel*  
*Caveats, Financial and Macroeconomic*

**Financial:**

- Direct effects on interest rates are uncertain
- Current dysfunction in some financial markets could limit indirect effects
- Could be economies--or diseconomies--of scale in the size of the program
- LSAPS introduce tricky "exit issues" on how to unwind the program

**Macroeconomic:**

- The model may understate--or overstate--the macroeconomic outcomes
- Heavy reliance on mortgage rates and housing to drive economic recovery

**Exhibit 10**  
**Global Financial Markets**

*Top-left panel*  
*Equity Prices*

**Weekly**  
 Index, Jun. 3, 2008 = 100

Period	United Kingdom	Euro area	Japan	Emerging markets
3 June 2008	100.00	100.00	100.00	100.00
10 June 2008	96.22	95.51	98.68	96.67
17 June 2008	96.84	95.07	100.98	93.81
24 June 2008	92.89	90.30	97.47	91.05
1 July 2008	90.32	87.11	94.75	90.01
8 July 2008	89.19	86.05	91.72	ND
15 July 2008	85.07	82.08	89.76	86.36
22 July 2008	88.72	87.05	92.79	86.23
29 July 2008	87.76	86.41	92.61	84.82
5 August 2008	90.14	87.77	90.89	83.49
12 August 2008	91.57	89.76	93.63	82.02
19 August 2008	87.95	85.89	90.54	79.49
26 August 2008	90.45	86.52	89.93	78.68
2 September 2008	93.13	89.62	88.74	77.39
9 September 2008	89.66	85.45	87.27	74.73
16 September 2008	83.12	81.03	81.71	68.34
23 September 2008	84.77	81.75	85.09	70.75
30 September 2008	80.69	78.21	79.24	64.17
7 October 2008	75.82	72.64	71.47	55.57
14 October 2008	72.36	70.40	66.49	52.63
21 October 2008	69.17	66.07	65.49	48.90
28 October 2008	63.87	59.56	53.64	37.62

Period	United Kingdom	Euro area	Japan	Emerging markets
4 November 2008	75.52	70.03	64.15	48.38
11 November 2008	69.37	63.41	62.00	48.27
18 November 2008	68.23	60.66	58.61	43.06
25 November 2008	67.58	60.27	58.58	40.20
2 December 2008	66.91	59.59	55.34	42.51
9 December 2008	71.01	62.16	59.09	44.47
16 December 2008	70.08	61.46	60.30	46.59
23 December 2008	69.36	60.10	61.40	46.97
30 December 2008	71.54	61.66	62.35	46.16
6 January 2009	75.62	65.16	63.91	49.59
13 January 2009	71.74	61.26	59.21	45.81
20 January 2009	66.78	56.15	56.76	44.20
27 January 2009	68.42	56.82	56.73	42.71

The December 15-16, 2008 FOMC meeting is marked with a vertical line.

### *Top-right panel* *Bank Equity Prices*

**Weekly**  
Index, Jun. 3, 2008 = 100

Period	United Kingdom	Euro area	Japan	Emerging markets
3 June 2008	100.00	100.00	100.00	100.00
10 June 2008	94.00	93.26	98.07	96.04
17 June 2008	95.12	93.98	97.86	93.67
24 June 2008	89.05	87.92	91.86	90.46
1 July 2008	83.33	82.55	90.88	88.65
8 July 2008	82.35	81.07	88.04	86.05
15 July 2008	76.94	76.81	85.28	87.06
22 July 2008	88.12	84.64	88.37	90.53
29 July 2008	88.91	84.75	87.20	91.01
5 August 2008	95.84	88.09	86.07	90.97
12 August 2008	97.51	89.72	85.06	90.74
19 August 2008	88.05	82.91	80.83	86.11
26 August 2008	89.70	81.87	79.76	85.01
2 September 2008	96.72	87.52	77.17	84.27
9 September 2008	98.15	87.32	78.91	83.96
16 September 2008	84.87	76.87	75.33	75.88
23 September 2008	89.19	80.52	80.90	76.98
30 September 2008	84.86	75.23	77.09	70.38
7 October 2008	76.55	74.32	69.22	61.81
14 October 2008	69.48	67.45	69.96	58.14
21 October 2008	66.65	60.67	71.92	52.12

Period	United Kingdom	Euro area	Japan	Emerging markets
28 October 2008	53.73	45.64	56.18	40.31
4 November 2008	64.50	60.63	66.60	51.68
11 November 2008	56.66	51.71	66.22	52.33
18 November 2008	52.38	45.08	61.95	46.57
25 November 2008	55.08	44.52	62.22	43.08
2 December 2008	55.44	44.86	58.80	46.61
9 December 2008	60.00	47.75	59.81	49.75
16 December 2008	54.23	45.78	62.25	50.56
23 December 2008	48.80	43.41	65.99	51.47
30 December 2008	51.31	44.67	66.92	49.97
6 January 2009	53.52	47.77	66.43	53.69
13 January 2009	52.10	44.55	61.50	48.37
20 January 2009	33.82	35.19	61.14	45.72
27 January 2009	38.75	37.28	62.52	43.23

*Middle-left panel*  
*3-Month LIBOR-OIS Spreads*

Daily  
Basis points

Date	Dollar	Euro	Sterling
2 June 2008	67.38	78.66	80.36
3 June 2008	67.26	78.83	80.01
4 June 2008	65.64	79.04	79.71
5 June 2008	66.44	78.39	80.46
6 June 2008	67.86	77.50	79.10
9 June 2008	63.63	76.73	78.53
10 June 2008	68.93	75.54	80.05
11 June 2008	70.61	ND	ND
12 June 2008	62.78	74.25	81.70
13 June 2008	67.88	73.84	78.68
16 June 2008	65.30	73.01	80.12
17 June 2008	70.83	72.28	82.60
18 June 2008	71.20	69.88	81.04
19 June 2008	70.73	69.94	75.70
20 June 2008	70.74	69.34	76.20
23 June 2008	70.84	69.26	78.19
24 June 2008	71.39	69.95	78.15
25 June 2008	72.81	69.30	78.49
26 June 2008	73.36	68.74	80.98
27 June 2008	72.43	68.53	79.80
30 June 2008	70.76	67.04	78.63

Date	Dollar	Euro	Sterling
1 July 2008	71.85	65.54	77.80
2 July 2008	71.43	64.09	78.09
3 July 2008	73.23	62.41	78.05
4 July 2008	73.09	64.49	77.73
7 July 2008	73.43	63.94	77.28
8 July 2008	73.15	64.56	76.39
9 July 2008	73.64	64.31	73.60
10 July 2008	72.76	63.99	73.66
11 July 2008	73.41	64.04	73.28
14 July 2008	74.46	64.15	73.63
15 July 2008	76.19	64.41	74.39
16 July 2008	74.75	64.21	73.18
17 July 2008	74.63	64.31	71.00
18 July 2008	72.96	63.91	70.60
21 July 2008	74.99	62.01	69.04
22 July 2008	73.43	61.85	68.89
23 July 2008	72.45	61.04	65.50
24 July 2008	73.50	61.29	67.48
25 July 2008	72.46	62.56	68.01
28 July 2008	74.43	62.25	66.01
29 July 2008	72.48	62.39	65.04
30 July 2008	73.91	62.11	66.24
31 July 2008	73.68	62.00	65.51
1 August 2008	72.99	61.61	64.40
4 August 2008	74.26	62.15	65.18
5 August 2008	75.04	62.24	65.50
6 August 2008	75.50	61.94	67.85
7 August 2008	76.10	62.48	67.63
8 August 2008	76.48	64.16	70.35
11 August 2008	75.93	63.19	69.23
12 August 2008	76.29	63.14	69.18
13 August 2008	76.34	63.16	72.46
14 August 2008	77.09	62.98	74.56
15 August 2008	77.43	63.31	75.32
18 August 2008	77.75	63.08	76.55
19 August 2008	78.03	63.39	76.51
20 August 2008	78.19	63.31	75.86
21 August 2008	77.66	62.89	75.90
22 August 2008	76.65	62.99	75.38
25 August 2008	ND	63.11	ND

Date	Dollar	Euro	Sterling
26 August 2008	77.89	63.25	75.09
27 August 2008	77.05	63.50	76.04
28 August 2008	77.20	63.94	75.49
29 August 2008	78.21	63.84	76.26
1 September 2008	77.95	63.49	79.78
2 September 2008	78.76	62.69	79.94
3 September 2008	79.63	62.91	80.24
4 September 2008	78.75	62.93	80.48
5 September 2008	80.64	63.30	79.44
8 September 2008	81.14	63.10	78.75
9 September 2008	82.81	62.65	77.69
10 September 2008	84.73	62.71	76.84
11 September 2008	84.08	62.69	76.35
12 September 2008	86.58	63.14	75.48
15 September 2008	105.38	69.66	81.85
16 September 2008	101.33	72.93	90.13
17 September 2008	132.35	72.23	94.13
18 September 2008	138.78	78.95	117.75
19 September 2008	127.50	74.58	116.90
22 September 2008	129.05	76.65	117.50
23 September 2008	136.53	79.55	126.25
24 September 2008	166.53	83.40	149.70
25 September 2008	196.58	90.83	153.03
26 September 2008	207.59	95.08	148.40
29 September 2008	232.20	112.45	153.03
30 September 2008	231.90	124.98	159.40
1 October 2008	251.05	116.45	164.90
2 October 2008	270.25	122.10	164.80
3 October 2008	288.73	136.15	172.30
6 October 2008	287.83	142.40	172.60
7 October 2008	288.80	153.38	193.08
8 October 2008	324.73	162.88	199.08



Date	Dollar	Euro	Sterling
9 October 2008	354.20	174.88	206.78
10 October 2008	364.43	185.93	218.75
13 October 2008	353.65	181.98	215.65
14 October 2008	344.50	167.90	203.88
15 October 2008	345.30	166.55	199.90
16 October 2008	339.50	173.58	203.65
17 October 2008	329.98	166.50	208.90
20 October 2008	290.33	163.28	206.98
21 October 2008	278.08	162.48	206.60
22 October 2008	253.43	158.90	217.63
23 October 2008	254.35	170.00	216.70
24 October 2008	260.83	181.45	234.65
27 October 2008	262.60	188.51	231.98
28 October 2008	261.65	181.90	231.50
29 October 2008	264.15	182.35	227.43
30 October 2008	254.20	180.78	226.18
31 October 2008	238.73	184.38	226.88
3 November 2008	222.78	178.85	228.13
4 November 2008	212.73	179.93	225.20
5 November 2008	192.48	176.43	232.70
6 November 2008	183.30	179.83	232.18
7 November 2008	175.80	170.15	244.63
10 November 2008	174.00	161.03	191.88
11 November 2008	171.70	159.83	188.35
12 November 2008	165.90	166.68	192.12
13 November 2008	159.83	165.33	206.65
14 November 2008	173.18	164.08	210.78
17 November 2008	175.53	162.70	211.60
18 November 2008	176.00	165.78	216.78
19 November 2008	172.05	165.60	218.25
20 November 2008	174.46	168.60	222.88
21 November 2008	169.90	171.28	228.51
24 November 2008	168.38	171.93	223.15
25 November 2008	177.68	165.05	222.83
26 November 2008	177.23	164.23	227.98
27 November 2008	178.30	163.83	218.48
28 November 2008	178.19	166.63	222.50
1 December 2008	182.80	165.83	230.78
2 December 2008	184.25	162.20	241.93
3 December 2008	185.08	162.05	253.83

Date	Dollar	Euro	Sterling
4 December 2008	187.15	173.80	254.48
5 December 2008	190.16	152.30	197.35
8 December 2008	189.69	144.65	195.20
9 December 2008	191.68	133.60	189.38
10 December 2008	184.33	132.85	185.61
11 December 2008	173.43	132.28	178.33
12 December 2008	162.03	130.68	175.36
15 December 2008	154.08	124.45	171.30
16 December 2008	167.75	120.65	167.15
17 December 2008	138.15	122.10	176.15
18 December 2008	133.45	122.96	180.35
19 December 2008	129.15	127.28	171.86
22 December 2008	125.88	127.09	170.10
23 December 2008	124.38	126.73	170.05
24 December 2008	126.25	125.79	169.55
25 December 2008	ND	ND	ND
26 December 2008	ND	ND	ND
29 December 2008	127.58	122.49	167.00
30 December 2008	125.50	117.60	164.75
31 December 2008	121.15	115.13	164.80
1 January 2009	ND	ND	ND
2 January 2009	122.45	109.63	163.90
5 January 2009	122.63	106.58	162.35
6 January 2009	123.33	103.30	159.60
7 January 2009	121.15	107.26	158.98
8 January 2009	116.73	ND	ND
9 January 2009	107.75	110.98	149.18
12 January 2009	98.50	110.51	135.35
13 January 2009	92.14	109.40	136.00
14 January 2009	90.95	107.18	132.03
15 January 2009	89.31	108.25	132.93
16 January 2009	95.35	102.70	133.14
19 January 2009	94.65	102.35	127.00
20 January 2009	93.20	102.93	130.48
21 January 2009	92.50	105.75	142.50
22 January 2009	93.54	106.51	141.63
23 January 2009	91.49	102.70	142.11
26 January 2009	94.18	ND	ND
27 January 2009	94.89	91.35	138.09

*Middle-right panel*  
*Outstanding Central Bank Swap Draws*

**Weekly**  
 Billions of dollars

Period	3-month	Other	Sum
13 June 2008	ND	62.00	62.00
20 June 2008	ND	62.00	62.00
27 June 2008	ND	62.00	62.00
4 July 2008	ND	62.00	62.00
11 July 2008	ND	62.00	62.00
18 July 2008	ND	62.00	62.00
25 July 2008	ND	62.00	62.00
1 August 2008	ND	62.00	62.00
8 August 2008	ND	62.00	62.00
15 August 2008	12.00	55.00	67.00
22 August 2008	12.00	55.00	67.00
29 August 2008	12.00	50.00	62.00
5 September 2008	12.00	50.00	62.00
12 September 2008	24.00	38.00	62.00
19 September 2008	24.00	108.80	132.80
26 September 2008	24.00	191.52	215.52
3 October 2008	24.00	243.19	267.19
10 October 2008	78.00	318.48	396.48
17 October 2008	88.00	393.53	481.53
24 October 2008	98.00	406.41	504.41
31 October 2008	116.88	416.68	533.56
7 November 2008	240.03	330.14	570.17
14 November 2008	240.03	323.41	563.44
21 November 2008	240.03	240.46	480.49
28 November 2008	245.03	261.79	506.82
5 December 2008	355.90	226.42	582.32
12 December 2008	358.90	207.15	566.05
19 December 2008	358.90	193.15	552.05
26 December 2008	358.90	193.15	552.05
2 January 2009	358.72	185.75	544.47
9 January 2009	347.41	172.86	520.27
16 January 2009	330.41	138.29	468.70
23 January 2009	320.74	144.58	465.32

*Bottom-left panel*  
*U.S. Dollar Exchange Rates*

**Daily**

Index, Jun. 3, 2008 = 100

Date	Major currencies index	OITP index*
2 June 2008	100.00	100.00
3 June 2008	100.52	99.93
4 June 2008	100.78	100.26
5 June 2008	100.86	100.19
6 June 2008	100.20	100.26
9 June 2008	100.47	100.24
10 June 2008	101.46	100.41
11 June 2008	100.89	100.42
12 June 2008	101.77	100.42
13 June 2008	102.03	100.48
16 June 2008	101.52	100.22
17 June 2008	101.39	99.90
18 June 2008	101.37	99.88
19 June 2008	101.11	99.93
20 June 2008	100.81	99.86
23 June 2008	101.28	100.05
24 June 2008	100.86	99.95
25 June 2008	101.03	99.98
26 June 2008	100.28	99.94
27 June 2008	100.02	100.09
30 June 2008	100.25	100.11
1 July 2008	100.19	100.35
2 July 2008	99.70	100.06
3 July 2008	100.53	100.08
4 July 2008	ND	ND
7 July 2008	100.81	99.99
8 July 2008	100.86	99.91
9 July 2008	100.24	99.58
10 July 2008	100.15	99.58
11 July 2008	99.58	99.52
14 July 2008	99.43	99.46
15 July 2008	98.94	99.37
16 July 2008	99.15	99.24
17 July 2008	99.30	99.18
18 July 2008	99.61	99.18
21 July 2008	99.45	99.24
22 July 2008	99.92	99.13
23 July 2008	100.27	98.96
24 July 2008	100.57	98.92

Date	Major currencies index	OITP index*
25 July 2008	100.69	98.80
28 July 2008	100.59	99.05
29 July 2008	101.33	99.04
30 July 2008	101.35	99.05
31 July 2008	101.34	99.14
1 August 2008	101.33	99.08
4 August 2008	101.82	99.10
5 August 2008	102.36	99.13
6 August 2008	102.90	99.20
7 August 2008	103.21	99.48
8 August 2008	104.78	100.10
11 August 2008	105.04	100.15
12 August 2008	105.13	100.34
13 August 2008	105.20	100.46
14 August 2008	105.36	100.45
15 August 2008	105.92	100.68
18 August 2008	105.71	100.59
19 August 2008	105.63	100.79
20 August 2008	105.91	100.60
21 August 2008	104.49	100.32
22 August 2008	105.12	100.41
25 August 2008	104.97	100.75
26 August 2008	105.70	100.80
27 August 2008	105.65	100.72
28 August 2008	105.77	101.01
29 August 2008	106.05	101.18
1 September 2008	ND	ND
2 September 2008	106.93	101.98
3 September 2008	106.66	102.27
4 September 2008	107.10	102.47
5 September 2008	107.25	102.64
8 September 2008	108.13	102.36
9 September 2008	107.74	102.59
10 September 2008	108.60	102.88
11 September 2008	108.86	103.38
12 September 2008	107.47	102.61
15 September 2008	107.33	103.38
16 September 2008	107.59	103.77
17 September 2008	107.51	103.87
18 September 2008	106.51	104.16

Date	Major currencies index	OITP index*
19 September 2008	106.10	103.18
22 September 2008	104.64	102.74
23 September 2008	104.34	103.04
24 September 2008	104.64	103.48
25 September 2008	104.76	103.37
26 September 2008	104.88	103.77
29 September 2008	105.67	104.43
30 September 2008	107.56	104.51
1 October 2008	107.65	104.77
2 October 2008	108.76	105.44
3 October 2008	109.06	105.53
6 October 2008	110.20	107.61
7 October 2008	109.90	108.70
8 October 2008	110.21	111.49
9 October 2008	111.14	109.56
10 October 2008	112.93	110.74
13 October 2008	ND	ND
14 October 2008	111.63	108.41
15 October 2008	112.53	109.50
16 October 2008	113.38	111.21
17 October 2008	112.92	110.32
20 October 2008	114.04	110.04
21 October 2008	115.40	111.23
22 October 2008	117.21	113.10
23 October 2008	117.05	113.00
24 October 2008	117.73	113.57
27 October 2008	119.32	113.12
28 October 2008	119.63	113.14
29 October 2008	116.14	111.98
30 October 2008	115.97	110.48
31 October 2008	116.67	110.52
3 November 2008	115.91	110.54
4 November 2008	113.91	109.72
5 November 2008	113.80	109.93
6 November 2008	115.54	111.19
7 November 2008	115.59	110.82
10 November 2008	116.04	110.74
11 November 2008	ND	ND
12 November 2008	117.81	112.19
13 November 2008	118.28	113.00

Date	Major currencies index	OITP index*
14 November 2008	117.34	112.31
17 November 2008	117.31	112.67
18 November 2008	117.59	113.08
19 November 2008	118.21	113.46
20 November 2008	119.87	114.60
21 November 2008	119.96	115.32
24 November 2008	116.78	114.28
25 November 2008	115.80	113.75
26 November 2008	116.99	113.42
27 November 2008	ND	ND
28 November 2008	117.40	113.83
1 December 2008	117.64	114.61
2 December 2008	117.37	114.51
3 December 2008	118.03	114.69
4 December 2008	117.22	114.82
5 December 2008	119.28	115.62
8 December 2008	116.88	114.36
9 December 2008	117.01	114.17
10 December 2008	116.62	113.60
11 December 2008	114.29	112.15
12 December 2008	114.90	113.21
15 December 2008	113.16	112.47
16 December 2008	112.19	112.15
17 December 2008	109.27	111.58
18 December 2008	109.80	111.04
19 December 2008	112.13	111.26
22 December 2008	111.80	111.77
23 December 2008	111.84	112.01
24 December 2008	111.82	111.91
25 December 2008	ND	ND
26 December 2008	111.73	112.08
29 December 2008	110.90	112.19
30 December 2008	111.70	112.24
31 December 2008	112.19	112.40
1 January 2009	ND	ND
2 January 2009	111.80	112.70
5 January 2009	112.86	112.34
6 January 2009	113.05	111.97
7 January 2009	111.59	111.94
8 January 2009	111.48	112.52

Date	Major currencies index	OITP index*
9 January 2009	112.03	113.05
12 January 2009	113.02	113.46
13 January 2009	114.49	113.57
14 January 2009	114.80	114.12
15 January 2009	115.88	114.63
16 January 2009	115.16	113.83
19 January 2009	ND	ND
20 January 2009	116.91	114.21
21 January 2009	117.23	114.30
22 January 2009	116.70	114.33
23 January 2009	116.80	114.73
26 January 2009	114.89	114.40
27 January 2009	114.86	114.88

\* Other important trading partners. [Return to table](#)

*Bottom-right panel*  
*Broad Real Dollar*

**Monthly**  
Index, Feb. 2002 = 100

Period	Index
January 2006	86.22
February 2006	86.24
March 2006	86.90
April 2006	86.91
May 2006	85.47
June 2006	86.64
July 2006	86.54
August 2006	85.94
September 2006	85.59
October 2006	85.14
November 2006	84.00
December 2006	83.26
January 2007	84.19
February 2007	83.83
March 2007	84.11
April 2007	83.59
May 2007	83.27
June 2007	83.08
July 2007	81.68
August 2007	81.71
September 2007	80.56



Period	Index
October 2007	78.64
November 2007	77.48
December 2007	77.92
January 2008	77.42
February 2008	76.25
March 2008	75.33
April 2008	75.42
May 2008	76.07
June 2008	76.61
July 2008	76.10
August 2008	77.78
September 2008	79.41
October 2008	83.71
November 2008	84.20
December 2008	82.76
January 2009	83.27
<i>Forecast</i>	
February 2009	84.35
March 2009	84.54
April 2009	84.78
May 2009	84.98
June 2009	84.92
July 2009	84.82
August 2009	84.72
September 2009	84.62
October 2009	84.52
November 2009	84.41
December 2009	84.23
January 2010	84.03
February 2010	83.85
March 2010	83.66
April 2010	83.46
May 2010	83.26
June 2010	83.06
July 2010	82.86
August 2010	82.64
September 2010	82.42
October 2010	82.19
November 2010	81.97
December 2010	81.74

Dec. GB  
Index, Feb. 2002 = 100

Period	Index
2008:Q4	83.93
<i>Forecast</i>	
2009:Q1	84.16
2009:Q2	84.29
2009:Q3	84.10
2009:Q4	83.73
2010:Q1	83.18
2010:Q2	82.58
2010:Q3	81.93
2010:Q4	81.24

## Exhibit 11 Foreign Growth Outlook

*Top panel*  
*Real GDP\**

Percent change, annual rate\*\*

	2007	2008		2009 <sup>P</sup>			2010 <sup>P</sup>
		Q1-Q3	Q4 <sup>e</sup>	Q1	Q2	H2	
<b>1. Total</b>	<b>4.2</b>	<b>1.4</b>	<b>-3.8</b>	<b>-2.8</b>	<b>-0.8</b>	<b>1.5</b>	<b>2.8</b>
2. <i>December Greenbook</i>	4.2	1.4	-1.6	-1.2	0.1	1.5	2.8
<b>3. Advanced Foreign Economies</b>	<b>2.6</b>	<b>0.2</b>	<b>-2.8</b>	<b>-3.4</b>	<b>-1.9</b>	<b>0.6</b>	<b>1.9</b>
4. Japan	2.0	-1.1	-5.2	-3.7	-1.5	0.0	1.1
5. Euro area	2.1	0.4	-2.0	-2.0	-1.0	0.7	1.9
6. United Kingdom***	3.0	-0.4	-5.9	-4.0	-2.2	0.3	1.7
7. Canada	2.8	0.4	-2.4	-4.4	-2.8	0.7	2.1
<b>8. Emerging Market Economies</b>	<b>6.4</b>	<b>3.0</b>	<b>-5.0</b>	<b>-1.9</b>	<b>0.8</b>	<b>2.6</b>	<b>4.1</b>
9. Emerging Asia	7.8	4.0	-6.5	-0.8	1.8	4.3	5.7
10. China	11.4	9.1	0.3	4.0	6.5	7.5	8.8
11. Latin America	4.8	1.8	-4.1	-3.5	-0.4	0.9	2.5
12. Mexico	4.2	0.9	-5.0	-4.0	-1.0	0.4	2.2

\* GDP aggregates weighted by shares of U.S. merchandise exports. [Return to text](#)

\*\* Change from final quarter of preceding period to final quarter of period indicated. [Return to table](#)

\*\*\* Updated since January Greenbook. [Return to table](#)

*Middle-left panel*  
*Global PMIs*

Diffusion index

Period	Manufacturing output	New export orders
January 2007	53.80	53.15
February 2007	55.51	54.57
March 2007	54.82	54.45
April 2007	55.84	54.59
May 2007	55.52	55.44
June 2007	57.22	54.88
July 2007	54.20	53.86
August 2007	54.75	54.63
September 2007	54.35	53.43
October 2007	52.62	53.73
November 2007	53.24	54.60
December 2007	52.57	52.27
January 2008	54.37	54.20
February 2008	52.36	52.40
March 2008	50.85	52.13
April 2008	51.06	51.56
May 2008	51.24	52.02
June 2008	49.81	51.96
July 2008	49.39	50.17
August 2008	48.54	50.96
September 2008	43.25	47.37
October 2008	39.06	40.39
November 2008	33.13	35.01
December 2008	28.76	31.03

Source: Haver Analytics.

### *Middle-right panel* *Japan*

12-month percent change

Period	Real household spending	Real exports
January 2007	0.51	11.40
February 2007	1.33	7.29
March 2007	0.10	8.56
April 2007	1.02	7.70
May 2007	0.20	6.08
June 2007	0.10	8.40
July 2007	0.00	7.36
August 2007	1.65	12.35
September 2007	3.26	10.99

Period	Real household spending	Real exports
October 2007	0.51	11.06
November 2007	-0.61	10.34
December 2007	2.15	11.56
January 2008	3.55	12.69
February 2008	0.00	9.04
March 2008	-1.52	12.20
April 2008	-2.73	7.92
May 2008	-3.25	6.66
June 2008	-1.83	6.08
July 2008	-0.31	7.27
August 2008	-3.97	0.63
September 2008	-2.34	2.90
October 2008	-3.96	-1.04
November 2008	-0.51	-15.91
December 2008	ND	-24.41

*Bottom-left panel*  
*Euro Area*

12-month percent change

Period	Retail sales volume	Industrial production
January 2007	0.91	3.45
February 2007	1.38	4.16
March 2007	2.80	4.22
April 2007	1.81	2.99
May 2007	0.14	2.80
June 2007	1.23	2.87
July 2007	1.36	3.84
August 2007	0.62	3.68
September 2007	1.69	3.40
October 2007	0.83	4.42
November 2007	-0.39	3.60
December 2007	-1.07	2.01
January 2008	0.68	3.34
February 2008	-0.02	2.92
March 2008	-2.06	1.35
April 2008	-2.07	3.71
May 2008	-0.19	-0.25
June 2008	-2.05	-0.48
July 2008	-1.82	-1.36
August 2008	-1.68	-1.23

Period	Retail sales volume	Industrial production
September 2008	-1.36	-2.83
October 2008	-2.23	-5.43
November 2008	-1.28	-7.21

*Bottom-right panel*  
*China*

12-month percent change

Period	Retail sales volume	Industrial production
January 2007	10.75	12.6
February 2007	14.68	12.6
March 2007	12.52	17.6
April 2007	13.06	17.4
May 2007	13.18	18.1
June 2007	12.39	19.4
July 2007	11.49	18.0
August 2007	11.31	17.5
September 2007	11.54	18.9
October 2007	12.14	17.9
November 2007	12.08	17.3
December 2007	13.84	17.4
January 2008	14.14	15.4
February 2008	10.19	15.4
March 2008	12.71	17.8
April 2008	12.88	15.7
May 2008	13.12	16.0
June 2008	14.85	16.0
July 2008	15.45	14.7
August 2008	16.78	12.8
September 2008	16.99	11.4
October 2008	16.66	8.2
November 2008	17.63	5.4
December 2008	ND	5.7

**Exhibit 12**  
**U.S. Trade**

*Top-left panel*  
*Nominal Trade*

**Monthly**  
Billions of dollars

Period	Non-oil imports	Oil imports	Exports

Period	Non-oil imports	Oil imports	Exports
January 2002	101.36	6.92	78.32
February 2002	104.58	6.39	78.43
March 2002	103.35	7.04	79.23
April 2002	106.04	8.98	80.94
May 2002	106.84	8.77	81.22
June 2002	109.49	8.26	82.26
July 2002	108.45	8.60	82.58
August 2002	110.24	9.10	82.90
September 2002	110.43	9.02	82.41
October 2002	107.22	10.09	82.04
November 2002	112.71	10.06	83.16
December 2002	114.25	10.26	81.24
January 2003	111.89	11.19	81.93
February 2003	110.39	11.87	82.57
March 2003	113.68	12.46	82.34
April 2003	112.41	11.02	80.99
May 2003	113.15	9.89	81.91
June 2003	113.87	10.58	84.31
July 2003	115.35	11.23	84.98
August 2003	113.06	10.78	83.87
September 2003	116.94	10.78	85.94
October 2003	119.19	10.39	88.23
November 2003	119.62	10.78	90.44
December 2003	122.05	12.10	90.24
January 2004	121.59	12.84	89.71
February 2004	124.29	13.39	93.58
March 2004	128.62	13.96	96.25
April 2004	129.74	12.98	95.50
May 2004	131.62	13.58	97.15
June 2004	134.15	15.08	94.71
July 2004	133.57	14.05	96.43
August 2004	134.33	15.55	96.90
September 2004	134.58	14.88	98.26
October 2004	137.49	17.22	99.95
November 2004	138.53	19.71	99.75
December 2004	139.35	17.21	102.37
January 2005	141.05	17.02	102.52
February 2005	142.70	18.16	103.27
March 2005	138.74	18.37	104.25
April 2005	144.11	19.54	106.86

Period	Non-oil imports	Oil imports	Exports
May 2005	143.99	18.20	106.18
June 2005	144.46	19.79	106.32
July 2005	143.96	20.43	106.83
August 2005	143.81	22.23	108.17
September 2005	147.25	24.03	106.38
October 2005	150.68	25.45	109.06
November 2005	149.35	24.84	110.70
December 2005	153.35	23.81	113.21
January 2006	155.56	25.20	115.22
February 2006	152.91	25.41	116.03
March 2006	156.49	22.69	117.93
April 2006	156.51	24.07	117.88
May 2006	157.50	27.60	119.93
June 2006	159.19	26.76	121.96
July 2006	159.16	28.11	120.31
August 2006	161.26	28.70	123.24
September 2006	161.40	26.48	124.09
October 2006	161.23	22.13	125.64
November 2006	162.17	21.95	127.27
December 2006	164.49	23.33	127.51
January 2007	162.05	24.67	128.32
February 2007	164.45	21.35	126.99
March 2007	167.68	24.77	130.13
April 2007	165.57	25.21	130.52
May 2007	166.75	26.37	133.69
June 2007	168.32	26.55	135.74
July 2007	170.06	27.24	139.98
August 2007	169.79	27.65	142.11
September 2007	170.12	28.13	142.78
October 2007	170.46	29.98	144.11
November 2007	171.15	33.94	145.21
December 2007	168.61	35.12	146.14
January 2008	168.84	39.26	149.39
February 2008	176.10	37.88	152.55
March 2008	171.64	35.03	149.71
April 2008	177.06	39.55	155.24
May 2008	178.36	38.84	157.18
June 2008	176.54	45.23	163.08
July 2008	178.48	50.99	168.35
August 2008	180.59	43.88	165.61

Period	Non-oil imports	Oil imports	Exports
September 2008	175.08	36.57	155.09
October 2008	170.99	37.24	151.54
November 2008	159.60	23.64	142.80
2009:Q1 <sup>P</sup>	153.10	17.40	140.90

*Top-right panel*  
*Trade Balance*

**Monthly**

Billions of dollars

Period	Ex. oil imports	Total
January 2002	-23.04	-29.96
February 2002	-26.16	-32.55
March 2002	-24.13	-31.17
April 2002	-25.10	-34.08
May 2002	-25.62	-34.39
June 2002	-27.23	-35.49
July 2002	-25.87	-34.47
August 2002	-27.34	-36.43
September 2002	-28.02	-37.03
October 2002	-25.18	-35.27
November 2002	-29.56	-39.62
December 2002	-33.01	-43.27
January 2003	-29.96	-41.15
February 2003	-27.82	-39.69
March 2003	-31.34	-43.81
April 2003	-31.42	-42.43
May 2003	-31.23	-41.12
June 2003	-29.55	-40.13
July 2003	-30.36	-41.59
August 2003	-29.19	-39.97
September 2003	-31.01	-41.79
October 2003	-30.96	-41.36
November 2003	-29.17	-39.96
December 2003	-31.82	-43.91
January 2004	-31.88	-44.72
February 2004	-30.71	-44.11
March 2004	-32.37	-46.33
April 2004	-34.23	-47.22
May 2004	-34.46	-48.04
June 2004	-39.44	-54.52
July 2004	-37.14	-51.19



Period	Ex. oil imports	Total
August 2004	-37.43	-52.97
September 2004	-36.32	-51.20
October 2004	-37.53	-54.76
November 2004	-38.77	-58.49
December 2004	-36.98	-54.19
January 2005	-38.53	-55.55
February 2005	-39.43	-57.58
March 2005	-34.49	-52.86
April 2005	-37.25	-56.79
May 2005	-37.81	-56.00
June 2005	-38.14	-57.93
July 2005	-37.14	-57.57
August 2005	-35.65	-57.87
September 2005	-40.87	-64.90
October 2005	-41.62	-67.07
November 2005	-38.64	-63.48
December 2005	-40.13	-63.95
January 2006	-40.33	-65.54
February 2006	-36.89	-62.30
March 2006	-38.56	-61.25
April 2006	-38.62	-62.69
May 2006	-37.57	-65.17
June 2006	-37.23	-63.99
July 2006	-38.85	-66.96
August 2006	-38.02	-66.72
September 2006	-37.31	-63.79
October 2006	-35.59	-57.73
November 2006	-34.90	-56.85
December 2006	-36.98	-60.31
January 2007	-33.74	-58.41
February 2007	-37.46	-58.81
March 2007	-37.55	-62.32
April 2007	-35.05	-60.26
May 2007	-33.06	-59.43
June 2007	-32.57	-59.13
July 2007	-30.08	-57.32
August 2007	-27.68	-55.33
September 2007	-27.34	-55.46
October 2007	-26.36	-56.33
November 2007	-25.93	-59.87

Period	Ex. oil imports	Total
December 2007	-22.46	-57.58
January 2008	-19.45	-58.71
February 2008	-23.55	-61.43
March 2008	-21.94	-56.96
April 2008	-21.83	-61.37
May 2008	-21.18	-60.02
June 2008	-13.46	-58.69
July 2008	-10.13	-61.12
August 2008	-14.98	-58.86
September 2008	-19.99	-56.56
October 2008	-19.45	-56.69
November 2008	-16.80	-40.44
2009:Q1 <sup>P</sup>	-12.20	-29.70

*Middle-left panel*  
*Automotive Trade*

**Monthly**  
Billions of dollars

Period	Exports	Imports
January 2002	6.13	15.72
February 2002	6.28	16.44
March 2002	6.34	16.22
April 2002	6.71	16.94
May 2002	6.72	16.79
June 2002	6.83	17.13
July 2002	6.73	16.87
August 2002	6.79	17.71
September 2002	6.64	17.65
October 2002	6.65	17.09
November 2002	6.55	17.56
December 2002	6.56	17.62
January 2003	6.58	17.09
February 2003	6.63	16.90
March 2003	6.73	17.36
April 2003	6.74	17.20
May 2003	6.95	17.60
June 2003	6.80	18.13
July 2003	6.67	17.80
August 2003	6.20	15.93
September 2003	6.72	17.53
October 2003	6.92	17.96

Period	Exports	Imports
November 2003	6.80	18.21
December 2003	6.90	18.43
January 2004	6.68	17.74
February 2004	7.02	18.51
March 2004	7.26	19.03
April 2004	7.28	19.13
May 2004	7.40	19.29
June 2004	7.24	18.98
July 2004	7.54	19.33
August 2004	7.71	18.64
September 2004	7.78	19.58
October 2004	7.79	19.58
November 2004	7.69	19.20
December 2004	7.83	19.16
January 2005	8.12	19.57
February 2005	7.88	19.55
March 2005	7.74	18.80
April 2005	8.02	19.22
May 2005	7.92	19.90
June 2005	7.94	19.51
July 2005	8.02	19.76
August 2005	8.22	20.15
September 2005	8.46	20.12
October 2005	8.55	20.85
November 2005	8.66	20.68
December 2005	8.88	21.32
January 2006	8.91	22.06
February 2006	8.95	21.38
March 2006	8.52	21.01
April 2006	8.61	21.38
May 2006	8.59	21.27
June 2006	8.97	21.86
July 2006	9.11	20.82
August 2006	9.20	21.07
September 2006	8.79	21.04
October 2006	8.77	20.79
November 2006	9.03	21.07
December 2006	9.54	22.87
January 2007	9.20	21.13
February 2007	9.36	21.19

Period	Exports	Imports
March 2007	9.84	21.87
April 2007	9.84	21.34
May 2007	9.86	20.73
June 2007	9.95	21.42
July 2007	10.85	22.23
August 2007	10.28	21.93
September 2007	10.43	22.08
October 2007	10.50	22.17
November 2007	10.84	22.10
December 2007	10.10	20.72
January 2008	10.33	21.23
February 2008	10.83	22.79
March 2008	9.44	20.30
April 2008	10.03	21.47
May 2008	10.22	20.47
June 2008	10.80	20.53
July 2008	12.16	20.44
August 2008	10.47	19.28
September 2008	10.33	18.47
October 2008	10.10	17.60
November 2008	9.01	16.42
2009:Q1 <sup>P</sup>	8.90	16.00

*Middle-right panel*  
*Aircraft Exports*

**Monthly**

Billions of dollars

Period	Exports
January 2002	4.14
February 2002	3.89
March 2002	4.33
April 2002	4.28
May 2002	4.01
June 2002	4.32
July 2002	4.69
August 2002	4.38
September 2002	4.35
October 2002	4.38
November 2002	4.04
December 2002	3.61
January 2003	3.48

Period	Exports
February 2003	4.51
March 2003	3.50
April 2003	3.57
May 2003	3.47
June 2003	3.86
July 2003	3.95
August 2003	3.60
September 2003	3.86
October 2003	3.89
November 2003	4.91
December 2003	4.12
January 2004	3.93
February 2004	4.21
March 2004	4.15
April 2004	3.97
May 2004	4.39
June 2004	3.56
July 2004	4.21
August 2004	4.31
September 2004	4.27
October 2004	4.32
November 2004	4.12
December 2004	4.55
January 2005	4.44
February 2005	4.32
March 2005	4.88
April 2005	6.04
May 2005	4.90
June 2005	5.28
July 2005	5.30
August 2005	5.79
September 2005	3.56
October 2005	5.25
November 2005	5.76
December 2005	5.26
January 2006	5.89
February 2006	6.29
March 2006	5.95
April 2006	6.02
May 2006	6.08

Period	Exports
June 2006	6.07
July 2006	5.64
August 2006	6.04
September 2006	6.64
October 2006	6.54
November 2006	7.36
December 2006	6.67
January 2007	7.40
February 2007	6.74
March 2007	6.15
April 2007	6.11
May 2007	6.99
June 2007	6.97
July 2007	7.79
August 2007	7.55
September 2007	7.53
October 2007	8.08
November 2007	7.80
December 2007	8.18
January 2008	8.00
February 2008	8.14
March 2008	6.68
April 2008	7.60
May 2008	7.63
June 2008	7.60
July 2008	7.84
August 2008	9.24
September 2008	5.84
October 2008	5.11
November 2008	5.26
2009:Q1 <sup>P</sup>	8.30

*Bottom panel*  
*Trade in Real Goods and Services*

	2007	2008		2009 <sup>P</sup>			2010 <sup>P</sup>
		Q1-Q3	Q4 <sup>e</sup>	Q1	Q2	H2	
<b>Growth Rates (percent, annual rate*)</b>							
1. Exports	8.9	6.7	-19.9	-5.1	-2.7	-0.1	2.4
2. Imports	1.1	-3.9	-15.4	-11.7	-1.9	5.8	5.4
<b>Contribution to Real GDP Growth (percentage points, annual rate*)</b>							

	2007	2008		2009 <sup>P</sup>			2010 <sup>P</sup>
		Q1-Q3	Q4 <sup>e</sup>	Q1	Q2	H2	
3. Net Exports	0.8	1.6	-0.1	1.2	-0.1	-0.8	-0.5
4. <i>December Greenbook</i>	0.8	1.6	0.4	0.9	0.1	-0.5	-0.4

\* Change from final quarter of preceding period to final quarter of period indicated. [Return to table](#)

## Exhibit 13 Cyclical Comparisons

Note: Gray shading represents U.S. recessions as dated by the NBER: November 1973-March 1975, January 1980-July 1980, July 1981-November 1982, July 1990-March 1991, March 2001-November 2001. A gray vertical line indicates the NBER Peak in December 2007. Blue shading represents the forecast period.

### *Top panel Real GDP*

A line chart shows United States and Foreign real GDP on an annual basis from 1972 through 2008, and a forecast through 2010. Data are percent change, Q4/Q4. Foreign real GDP is weighted by shares of U.S. merchandise exports. The United States curve begins near 7 percent, and fluctuates widely between about -2 and 8 until 1985. The curve then fluctuates within a more narrow range, between about 0 and 5, until 2008, when it dips into negative territory to about -0.5 percent. The forecast shows the curve decreasing toward -1 in 2009, and then increasing to about 2.5 by the end of the period. The Foreign curve begins at about 6.5 percent, reaches a low point of nearly -1 in 1982, and fluctuates between about 2 and 6 for most of the remainder of the period. The curve decreases almost to zero in 2008, dips slightly below zero in 2009, and then increases to nearly 3 by the end of the period.

### *Middle panel Contribution of Trade to U.S. GDP Growth*

A bar and line chart shows Exports, Imports, and Net exports on an annual basis from 1972 through 2008, and a forecast through 2010. Data are percentage points, Q4/Q4. Exports remains positive for most of the period, fluctuating between about 0 and 1.5, with apparent notable exceptions being 1982 and 2001, during which exports decreased to less than -1. Exports are also shown to be slightly negative at about -0.1 in 2008. The forecast for exports is about -0.25 in 2009 and about 0.25 in 2010. Imports remains negative for most of the period, fluctuating between about 0 and -2. Imports are at about -0.5 in 1981 but about +0.3 in 1982, and are at about 1 in 2001 and again in 2008. The forecast for imports is about 0.1 in 2009 and about -0.8 in 2010. Net exports begins at about zero in 1972, fluctuates between about -2 and 1.5 through 1985, and then fluctuates within a more narrow range between about -1 and 1 for the remainder of the period. The net exports curve is about 1 in 2008, and is forecast to decrease to about -0.5 by 2010.

### *Bottom panel Broad Real Dollar*

Index, historical average  
= 100

Period	Index
1973:Q2	101.54
1973:Q3	98.25
1973:Q4	99.59
1974:Q1	100.24
1974:Q2	96.50
1974:Q3	97.75

Period	Index
1974:Q4	97.56
1975:Q1	95.54
1975:Q2	94.86
1975:Q3	97.16
1975:Q4	97.74
1976:Q1	96.55
1976:Q2	95.87
1976:Q3	95.49
1976:Q4	96.07
1977:Q1	95.87
1977:Q2	95.06
1977:Q3	94.04
1977:Q4	92.32
1978:Q1	90.34
1978:Q2	90.34
1978:Q3	87.09
1978:Q4	86.79
1979:Q1	88.40
1979:Q2	90.25
1979:Q3	89.28
1979:Q4	91.07
1980:Q1	92.78
1980:Q2	93.04
1980:Q3	90.39
1980:Q4	91.96
1981:Q1	94.26
1981:Q2	99.02
1981:Q3	103.56
1981:Q4	100.82
1982:Q1	104.15
1982:Q2	107.65
1982:Q3	113.06
1982:Q4	112.26
1983:Q1	110.42
1983:Q2	112.97
1983:Q3	115.63
1983:Q4	115.97
1984:Q1	117.12
1984:Q2	118.65
1984:Q3	123.83



Period	Index
1984:Q4	126.67
1985:Q1	131.87
1985:Q2	129.58
1985:Q3	125.69
1985:Q4	120.34
1986:Q1	115.99
1986:Q2	111.18
1986:Q3	108.19
1986:Q4	108.43
1987:Q1	104.89
1987:Q2	101.93
1987:Q3	102.50
1987:Q4	97.76
1988:Q1	95.23
1988:Q2	94.17
1988:Q3	97.20
1988:Q4	93.57
1989:Q1	95.10
1989:Q2	97.90
1989:Q3	97.72
1989:Q4	96.57
1990:Q1	95.48
1990:Q2	96.09
1990:Q3	92.48
1990:Q4	89.76
1991:Q1	90.67
1991:Q2	93.82
1991:Q3	93.21
1991:Q4	90.22
1992:Q1	90.69
1992:Q2	90.60
1992:Q3	87.79
1992:Q4	91.26
1993:Q1	92.79
1993:Q2	90.58
1993:Q3	90.72
1993:Q4	91.31
1994:Q1	93.31
1994:Q2	92.39
1994:Q3	89.93

Period	Index
1994:Q4	89.03
1995:Q1	90.95
1995:Q2	86.60
1995:Q3	87.67
1995:Q4	89.27
1996:Q1	90.52
1996:Q2	90.76
1996:Q3	90.51
1996:Q4	91.02
1997:Q1	93.49
1997:Q2	94.04
1997:Q3	95.43
1997:Q4	99.14
1998:Q1	103.34
1998:Q2	103.21
1998:Q3	105.73
1998:Q4	101.62
1999:Q1	102.50
1999:Q2	103.51
1999:Q3	103.17
1999:Q4	102.10
2000:Q1	103.27
2000:Q2	105.85
2000:Q3	107.13
2000:Q4	109.92
2001:Q1	110.97
2001:Q2	113.22
2001:Q3	112.82
2001:Q4	113.23
2002:Q1	114.88
2002:Q2	113.09
2002:Q3	111.08
2002:Q4	111.90
2003:Q1	109.70
2003:Q2	105.62
2003:Q3	105.89
2003:Q4	102.48
2004:Q1	100.75
2004:Q2	103.09
2004:Q3	102.22

Period	Index
2004:Q4	98.84
2005:Q1	97.85
2005:Q2	99.10
2005:Q3	100.16
2005:Q4	101.28
2006:Q1	99.75
2006:Q2	98.53
2006:Q3	98.45
2006:Q4	97.01
2007:Q1	96.96
2007:Q2	95.03
2007:Q3	93.08
2007:Q4	89.99
2008:Q1	88.11
2008:Q2	86.60
2008:Q3	88.88
<i>Forecast</i>	
2008:Q4	96.24
2009:Q1	97.20
2009:Q2	97.73
2009:Q3	97.53
2009:Q4	97.14
2010:Q1	96.52
2010:Q2	95.85
2010:Q3	95.13
2010:Q4	94.36

## Exhibit 14 Commodity Prices

*Top-left panel*  
*Recent Price Developments*

Daily

Date	WTI oil (Dollars per barrel)	CRB nonfuel (Index, Jan. 3, 2007 = 100)
3 January 2007	58.33	100.00
4 January 2007	55.41	99.80
5 January 2007	56.32	99.78
8 January 2007	56.10	99.04
9 January 2007	55.65	98.62
10 January 2007	54.03	99.00

Date	WTI oil (Dollars per barrel)	CRB nonfuel (Index, Jan. 3, 2007 = 100)
11 January 2007	51.89	99.85
12 January 2007	53.00	100.68
15 January 2007	ND	ND
16 January 2007	51.22	100.49
17 January 2007	52.25	100.64
18 January 2007	50.49	100.48
19 January 2007	50.49	100.73
22 January 2007	51.14	100.84
23 January 2007	53.90	101.77
24 January 2007	54.73	101.47
25 January 2007	53.59	101.87
26 January 2007	55.43	101.53
29 January 2007	54.02	100.85
30 January 2007	56.98	101.14
31 January 2007	58.15	101.10
1 February 2007	57.31	100.83
2 February 2007	59.03	100.85
5 February 2007	58.75	100.80
6 February 2007	58.89	100.68
7 February 2007	57.72	100.87
8 February 2007	59.72	101.05
9 February 2007	59.90	101.65
12 February 2007	57.82	101.84
13 February 2007	59.06	101.84
14 February 2007	58.00	102.06
15 February 2007	58.00	102.99
16 February 2007	59.41	103.18
19 February 2007	ND	ND
20 February 2007	58.08	102.94
21 February 2007	59.53	103.48
22 February 2007	59.56	103.96
23 February 2007	60.53	104.10
26 February 2007	61.40	104.43
27 February 2007	61.47	103.81
28 February 2007	61.80	103.93
1 March 2007	62.01	104.13
2 March 2007	61.65	103.69
5 March 2007	60.08	104.14
6 March 2007	60.70	104.69
7 March 2007	61.83	105.33

Date	WTI oil (Dollars per barrel)	CRB nonfuel (Index, Jan. 3, 2007 = 100)
8 March 2007	61.65	105.67
9 March 2007	60.06	105.44
12 March 2007	58.92	105.49
13 March 2007	57.94	105.40
14 March 2007	58.17	105.05
15 March 2007	57.56	105.83
16 March 2007	57.12	106.01
19 March 2007	56.60	106.02
20 March 2007	56.74	106.33
21 March 2007	57.37	107.14
22 March 2007	60.65	107.34
23 March 2007	61.49	107.79
26 March 2007	62.92	107.82
27 March 2007	62.94	107.78
28 March 2007	64.09	107.69
29 March 2007	66.04	107.77
30 March 2007	65.88	107.50
2 April 2007	65.95	106.80
3 April 2007	64.65	106.81
4 April 2007	64.39	107.36
5 April 2007	64.29	107.91
6 April 2007	ND	ND
9 April 2007	61.52	107.89
10 April 2007	61.90	108.59
11 April 2007	62.02	108.67
12 April 2007	63.86	108.48
13 April 2007	63.64	109.15
16 April 2007	63.85	109.15
17 April 2007	63.11	109.40
18 April 2007	63.14	109.37
19 April 2007	61.84	109.23
20 April 2007	63.39	109.55
23 April 2007	65.35	109.48
24 April 2007	63.91	109.63
25 April 2007	65.12	109.94
26 April 2007	65.07	109.50
27 April 2007	66.47	109.54
30 April 2007	65.71	109.61
1 May 2007	64.41	110.55
2 May 2007	63.68	111.07

Date	WTI oil (Dollars per barrel)	CRB nonfuel (Index, Jan. 3, 2007 = 100)
3 May 2007	63.20	111.60
4 May 2007	61.94	111.75
7 May 2007	61.48	111.65
8 May 2007	62.27	111.52
9 May 2007	61.56	111.72
10 May 2007	61.82	111.62
11 May 2007	62.38	112.07
14 May 2007	62.47	112.04
15 May 2007	63.18	112.52
16 May 2007	62.56	112.59
17 May 2007	64.87	112.12
18 May 2007	64.95	112.10
21 May 2007	66.28	113.04
22 May 2007	64.98	112.65
23 May 2007	65.08	112.47
24 May 2007	63.59	112.50
25 May 2007	64.76	112.96
28 May 2007	ND	ND
29 May 2007	63.16	112.42
30 May 2007	63.50	112.80
31 May 2007	64.02	113.32
1 June 2007	65.09	113.31
4 June 2007	66.22	114.12
5 June 2007	65.62	114.43
6 June 2007	65.97	114.06
7 June 2007	66.93	114.33
8 June 2007	64.76	113.67
11 June 2007	65.97	114.49
12 June 2007	65.36	114.22
13 June 2007	66.27	114.59
14 June 2007	67.66	114.99
15 June 2007	68.00	115.64
18 June 2007	69.10	116.05
19 June 2007	69.11	115.30
20 June 2007	68.20	115.34
21 June 2007	67.93	115.22
22 June 2007	68.90	114.33
25 June 2007	68.94	114.41
26 June 2007	67.78	114.36
27 June 2007	68.98	113.54

Date	WTI oil (Dollars per barrel)	CRB nonfuel (Index, Jan. 3, 2007 = 100)
28 June 2007	69.57	113.64
29 June 2007	70.69	114.40
2 July 2007	71.10	114.66
3 July 2007	71.42	114.58
4 July 2007	ND	ND
5 July 2007	71.82	115.21
6 July 2007	72.82	115.36
9 July 2007	72.20	115.79
10 July 2007	72.20	115.53
11 July 2007	72.57	116.18
12 July 2007	72.51	116.36
13 July 2007	73.94	116.43
16 July 2007	74.16	115.73
17 July 2007	74.03	115.61
18 July 2007	75.06	116.17
19 July 2007	75.93	116.30
20 July 2007	75.58	116.53
23 July 2007	74.70	116.42
24 July 2007	73.52	116.75
25 July 2007	75.99	116.41
26 July 2007	74.96	115.99
27 July 2007	77.03	115.66
30 July 2007	76.84	116.29
31 July 2007	78.22	116.34
1 August 2007	76.54	115.87
2 August 2007	76.87	115.90
3 August 2007	75.49	116.95
6 August 2007	72.07	116.78
7 August 2007	72.43	117.04
8 August 2007	72.18	117.15
9 August 2007	71.60	116.17
10 August 2007	71.47	115.17
13 August 2007	71.62	115.39
14 August 2007	72.39	114.85
15 August 2007	73.34	113.91
16 August 2007	71.01	112.45
17 August 2007	71.99	112.30
20 August 2007	71.13	112.84
21 August 2007	69.48	112.72
22 August 2007	69.32	113.24

Date	WTI oil (Dollars per barrel)	CRB nonfuel (Index, Jan. 3, 2007 = 100)
23 August 2007	70.04	114.01
24 August 2007	71.39	113.93
27 August 2007	71.98	113.59
28 August 2007	71.74	113.37
29 August 2007	73.52	113.42
30 August 2007	73.37	113.78
31 August 2007	74.05	114.33
3 September 2007	ND	ND
4 September 2007	75.08	114.24
5 September 2007	75.74	114.04
6 September 2007	76.31	114.06
7 September 2007	76.71	114.34
10 September 2007	77.50	114.56
11 September 2007	78.24	114.94
12 September 2007	79.92	115.39
13 September 2007	80.10	115.14
14 September 2007	79.11	115.27
17 September 2007	80.57	115.64
18 September 2007	81.52	116.05
19 September 2007	81.94	116.51
20 September 2007	83.33	116.90
21 September 2007	83.36	117.17
24 September 2007	82.67	117.50
25 September 2007	81.64	117.19
26 September 2007	80.31	117.60
27 September 2007	82.89	118.08
28 September 2007	81.67	117.87
1 October 2007	80.25	118.34
2 October 2007	80.06	117.28
3 October 2007	79.98	117.38
4 October 2007	81.45	117.32
5 October 2007	81.23	116.79
8 October 2007	79.03	115.97
9 October 2007	80.27	115.77
10 October 2007	81.31	116.44
11 October 2007	83.09	116.59
12 October 2007	83.70	116.57
15 October 2007	86.14	117.46
16 October 2007	87.62	117.14
17 October 2007	87.41	116.72



Date	WTI oil (Dollars per barrel)	CRB nonfuel (Index, Jan. 3, 2007 = 100)
18 October 2007	89.48	117.71
19 October 2007	88.61	117.81
22 October 2007	87.57	117.36
23 October 2007	86.48	117.57
24 October 2007	89.36	116.96
25 October 2007	92.97	117.25
26 October 2007	91.87	117.78
29 October 2007	93.53	118.21
30 October 2007	90.39	117.63
31 October 2007	94.54	118.24
1 November 2007	93.49	118.32
2 November 2007	95.94	117.71
5 November 2007	93.99	117.78
6 November 2007	93.99	118.44
7 November 2007	96.38	118.02
8 November 2007	95.47	117.87
9 November 2007	96.33	117.74
12 November 2007	94.63	117.39
13 November 2007	91.18	117.22
14 November 2007	94.10	117.90
15 November 2007	93.44	117.36
16 November 2007	95.10	117.55
19 November 2007	95.75	117.47
20 November 2007	98.83	117.52
21 November 2007	97.79	117.23
22 November 2007	ND	ND
23 November 2007	98.18	117.88
26 November 2007	97.71	117.77
27 November 2007	94.43	117.46
28 November 2007	90.63	117.83
29 November 2007	91.02	118.54
30 November 2007	88.72	118.35
3 December 2007	89.32	118.05
4 December 2007	88.33	117.31
5 December 2007	87.50	117.15
6 December 2007	90.24	117.32
7 December 2007	88.29	117.98
10 December 2007	87.87	118.21
11 December 2007	90.03	118.23
12 December 2007	94.40	118.86

Date	WTI oil (Dollars per barrel)	CRB nonfuel (Index, Jan. 3, 2007 = 100)
13 December 2007	92.26	118.41
14 December 2007	91.28	118.33
17 December 2007	90.64	117.63
18 December 2007	90.50	117.75
19 December 2007	91.05	118.29
20 December 2007	90.97	118.29
21 December 2007	93.32	118.68
24 December 2007	93.32	118.44
25 December 2007	ND	ND
26 December 2007	95.98	118.72
27 December 2007	96.63	118.76
28 December 2007	96.01	118.39
31 December 2007	96.01	117.98
1 January 2008	ND	ND
2 January 2008	99.63	118.74
3 January 2008	99.19	119.20
4 January 2008	97.92	119.78
7 January 2008	95.10	119.28
8 January 2008	96.34	119.33
9 January 2008	95.68	119.37
10 January 2008	93.72	118.95
11 January 2008	92.70	119.31
14 January 2008	94.21	119.91
15 January 2008	91.91	119.38
16 January 2008	90.85	119.27
17 January 2008	90.14	119.60
18 January 2008	90.58	119.73
21 January 2008	ND	ND
22 January 2008	89.86	119.35
23 January 2008	87.32	118.64
24 January 2008	89.41	119.39
25 January 2008	90.71	119.83
28 January 2008	90.99	120.16
29 January 2008	91.65	120.99
30 January 2008	92.34	120.83
31 January 2008	91.76	121.64
1 February 2008	88.97	122.51
4 February 2008	90.02	122.84
5 February 2008	88.42	122.58
6 February 2008	87.15	123.14

Date	WTI oil (Dollars per barrel)	CRB nonfuel (Index, Jan. 3, 2007 = 100)
7 February 2008	88.12	123.25
8 February 2008	91.78	123.53
11 February 2008	93.60	124.32
12 February 2008	92.79	124.42
13 February 2008	92.79	124.89
14 February 2008	95.47	126.39
15 February 2008	95.51	126.42
18 February 2008	ND	ND
19 February 2008	100.01	127.58
20 February 2008	100.75	127.64
21 February 2008	98.39	128.49
22 February 2008	98.91	129.05
25 February 2008	99.41	130.23
26 February 2008	100.89	131.17
27 February 2008	99.65	131.71
28 February 2008	102.60	133.12
29 February 2008	101.85	133.76
3 March 2008	102.46	134.31
4 March 2008	99.52	134.04
5 March 2008	104.52	133.74
6 March 2008	105.48	133.09
7 March 2008	105.16	131.57
10 March 2008	107.90	130.78
11 March 2008	108.76	132.10
12 March 2008	109.93	132.32
13 March 2008	110.33	132.67
14 March 2008	110.21	133.06
17 March 2008	105.68	131.50
18 March 2008	109.42	131.32
19 March 2008	104.49	129.79
20 March 2008	104.49	127.82
21 March 2008	ND	ND
24 March 2008	101.07	128.43
25 March 2008	100.98	129.61
26 March 2008	105.90	129.83
27 March 2008	107.59	129.94
28 March 2008	105.63	129.54
31 March 2008	101.59	128.51
1 April 2008	100.98	124.16
2 April 2008	104.84	124.32

Date	WTI oil (Dollars per barrel)	CRB nonfuel (Index, Jan. 3, 2007 = 100)
3 April 2008	103.84	124.76
4 April 2008	106.23	125.20
7 April 2008	105.03	125.35
8 April 2008	108.50	125.22
9 April 2008	110.87	126.49
10 April 2008	110.12	127.56
11 April 2008	110.15	127.38
14 April 2008	111.76	127.77
15 April 2008	113.79	128.37
16 April 2008	114.93	128.90
17 April 2008	114.86	129.23
18 April 2008	116.69	128.95
21 April 2008	117.48	128.51
22 April 2008	119.38	129.47
23 April 2008	120.44	129.56
24 April 2008	117.16	129.54
25 April 2008	121.57	129.88
28 April 2008	118.75	130.33
29 April 2008	115.63	129.92
30 April 2008	113.46	129.93
1 May 2008	112.52	128.73
2 May 2008	116.32	128.90
5 May 2008	119.97	129.04
6 May 2008	121.85	129.82
7 May 2008	123.53	130.25
8 May 2008	123.70	130.60
9 May 2008	125.97	131.24
12 May 2008	124.24	131.44
13 May 2008	125.80	131.61
14 May 2008	124.23	131.09
15 May 2008	124.12	129.34
16 May 2008	126.30	129.83
19 May 2008	127.06	129.18
20 May 2008	129.08	128.17
21 May 2008	132.78	128.77
22 May 2008	130.22	128.16
23 May 2008	131.60	128.01
26 May 2008	ND	ND
27 May 2008	128.85	127.80
28 May 2008	131.04	126.92

Date	WTI oil (Dollars per barrel)	CRB nonfuel (Index, Jan. 3, 2007 = 100)
29 May 2008	126.63	126.01
30 May 2008	127.36	126.09
2 June 2008	127.76	126.15
3 June 2008	124.31	125.84
4 June 2008	122.30	125.73
5 June 2008	127.79	126.36
6 June 2008	138.55	127.36
9 June 2008	134.35	127.15
10 June 2008	131.31	126.53
11 June 2008	136.38	127.68
12 June 2008	136.74	127.70
13 June 2008	134.87	128.53
16 June 2008	134.62	128.84
17 June 2008	134.01	128.72
18 June 2008	136.68	129.51
19 June 2008	131.93	129.34
20 June 2008	134.63	129.92
23 June 2008	136.00	130.12
24 June 2008	136.40	130.24
25 June 2008	134.00	130.42
26 June 2008	139.65	132.08
27 June 2008	140.21	132.23
30 June 2008	140.00	131.81
1 July 2008	140.97	132.33
2 July 2008	143.57	133.01
3 July 2008	145.28	132.07
4 July 2008	ND	ND
7 July 2008	141.38	129.15
8 July 2008	136.04	129.18
9 July 2008	136.06	129.18
10 July 2008	141.66	129.87
11 July 2008*	145.66	130.64
14 July 2008	145.18	129.94
15 July 2008	138.74	129.63
16 July 2008	134.60	129.60
17 July 2008	129.29	129.17
18 July 2008	128.88	128.73
21 July 2008	131.04	127.98
22 July 2008	127.95	127.59
23 July 2008	123.69	126.70

Date	WTI oil (Dollars per barrel)	CRB nonfuel (Index, Jan. 3, 2007 = 100)
24 July 2008	124.74	126.75
25 July 2008	123.26	126.83
28 July 2008	124.74	126.73
29 July 2008	122.19	126.96
30 July 2008	126.77	126.91
31 July 2008	124.08	127.14
1 August 2008	123.26	126.58
4 August 2008	121.41	124.04
5 August 2008	119.17	123.76
6 August 2008	118.58	123.51
7 August 2008	120.02	124.62
8 August 2008	115.20	123.28
11 August 2008	114.45	122.40
12 August 2008	113.02	122.14
13 August 2008	116.00	123.09
14 August 2008	115.00	123.01
15 August 2008	113.77	121.79
18 August 2008	112.88	122.52
19 August 2008	114.53	122.91
20 August 2008	114.98	123.02
21 August 2008	120.93	124.74
22 August 2008	114.70	124.28
25 August 2008	115.27	124.03
26 August 2008	116.77	123.17
27 August 2008	118.65	123.29
28 August 2008	116.09	121.66
29 August 2008	115.96	121.31
1 September 2008	ND	ND
2 September 2008	110.21	120.03
3 September 2008	109.35	120.21
4 September 2008	107.89	120.51
5 September 2008	106.23	118.80
8 September 2008	106.34	118.76
9 September 2008	103.26	118.29
10 September 2008	102.58	118.00
11 September 2008	100.87	118.10
12 September 2008	101.18	118.64
15 September 2008	95.71	117.15
16 September 2008	91.15	115.21
17 September 2008	97.16	115.70

Date	WTI oil (Dollars per barrel)	CRB nonfuel (Index, Jan. 3, 2007 = 100)
18 September 2008	97.88	114.96
19 September 2008	104.55	116.21
22 September 2008	120.92	117.69
23 September 2008	107.86	117.23
24 September 2008	106.73	116.89
25 September 2008	108.02	117.04
26 September 2008	106.90	116.65
29 September 2008	96.38	114.87
30 September 2008	100.64	114.10
1 October 2008	98.53	113.85
2 October 2008	93.97	112.03
3 October 2008	93.89	111.38
6 October 2008	87.82	109.32
7 October 2008	90.06	108.34
8 October 2008	88.95	107.15
9 October 2008	86.60	106.16
10 October 2008	77.70	102.80
13 October 2008	81.19	104.41
14 October 2008	78.63	104.16
15 October 2008	74.55	102.34
16 October 2008	69.85	101.05
17 October 2008	71.85	101.58
20 October 2008	74.64	99.90
21 October 2008	70.89	98.68
22 October 2008	65.96	97.33
23 October 2008	66.74	96.75
24 October 2008	63.05	95.40
27 October 2008	63.22	95.87
28 October 2008	62.73	96.68
29 October 2008	68.70	98.90
30 October 2008	65.96	96.17
31 October 2008	67.81	94.72
3 November 2008	63.91	94.86
4 November 2008	70.53	96.38
5 November 2008	65.30	94.68
6 November 2008	60.77	93.72
7 November 2008	61.04	93.35
10 November 2008	62.41	93.83
11 November 2008	59.33	92.71
12 November 2008	56.16	92.22

Date	WTI oil (Dollars per barrel)	CRB nonfuel (Index, Jan. 3, 2007 = 100)
13 November 2008	58.24	92.52
14 November 2008	57.04	92.97
17 November 2008	54.95	92.17
18 November 2008	54.39	91.75
19 November 2008	53.62	89.54
20 November 2008	49.62	87.48
21 November 2008	49.13	87.31
24 November 2008	53.30	88.32
25 November 2008	49.77	87.89
26 November 2008	54.44	88.89
27 November 2008	ND	ND
28 November 2008	54.44	89.20
1 December 2008	49.28	87.45
2 December 2008	46.96	86.53
3 December 2008	46.79	86.09
4 December 2008	43.67	83.69
5 December 2008	40.81	82.56
8 December 2008	43.71	83.59
9 December 2008	42.07	83.02
10 December 2008	43.52	83.60
11 December 2008	47.98	83.94
12 December 2008	46.28	83.22
15 December 2008	44.51	83.91
16 December 2008	43.60	84.54
17 December 2008	40.06	85.44
18 December 2008	36.22	85.52
19 December 2008	33.87	85.09
22 December 2008	30.81	86.34
23 December 2008	33.98	85.38
24 December 2008	32.35	85.37
25 December 2008	ND	ND
26 December 2008	32.35	85.43
29 December 2008	40.02	85.55
30 December 2008	39.03	86.32
31 December 2008	44.60	87.13
1 January 2009	ND	ND
2 January 2009	46.34	88.05
5 January 2009	48.81	88.33
6 January 2009	48.58	90.20
7 January 2009	42.63	89.69



Date	WTI oil (Dollars per barrel)	CRB nonfuel (Index, Jan. 3, 2007 = 100)
8 January 2009	41.70	89.27
9 January 2009	40.83	90.49
12 January 2009	37.59	89.28
13 January 2009	37.78	89.17
14 January 2009	37.28	89.00
15 January 2009	35.40	88.98
16 January 2009	36.51	89.89
19 January 2009	ND	ND
20 January 2009	38.74	89.04
21 January 2009	42.25	88.92
22 January 2009	42.27	89.05
23 January 2009	45.47	89.54
26 January 2009	45.73	89.84

\* Peak oil price [Return to table](#)

*Top-right panel*  
*Financial Investors' Net Oil Futures Positions*

Thousands of contracts

Period	Noncommercial traders	Index investors
8 January 2008	97.09	ND
15 January 2008	88.86	ND
22 January 2008	32.39	ND
29 January 2008	21.34	ND
5 February 2008	20.83	ND
12 February 2008	31.57	ND
19 February 2008	55.20	ND
26 February 2008	85.67	ND
4 March 2008	102.06	ND
11 March 2008	115.15	ND
18 March 2008	83.12	ND
25 March 2008	44.96	ND
31 March 2008	ND	398.00
1 April 2008	37.70	ND
8 April 2008	57.17	ND
15 April 2008	63.53	ND
22 April 2008	79.85	ND
29 April 2008	70.30	ND
6 May 2008	72.04	ND
13 May 2008	76.11	ND
20 May 2008	54.15	ND

Period	Noncommercial traders	Index investors
27 May 2008	39.02	ND
3 June 2008	30.87	ND
10 June 2008	22.28	ND
17 June 2008	5.73	ND
24 June 2008	20.60	ND
30 June 2008	ND	363.00
1 July 2008	26.51	ND
8 July 2008	14.15	ND
15 July 2008*	22.38	ND
22 July 2008	-3.64	ND
29 July 2008	-0.66	ND
5 August 2008	-5.55	ND
12 August 2008	-9.13	ND
19 August 2008	11.66	ND
26 August 2008	20.17	ND
2 September 2008	14.33	ND
9 September 2008	6.34	ND
16 September 2008	19.38	ND
23 September 2008	41.73	ND
30 September 2008	40.09	ND
7 October 2008	3.69	ND
14 October 2008	-1.90	ND
21 October 2008	0.48	ND
28 October 2008	-8.41	ND
4 November 2008	-10.54	ND
11 November 2008	-52.98	ND
18 November 2008	10.99	ND
25 November 2008	2.79	ND
2 December 2008	2.25	ND
9 December 2008	10.81	ND
16 December 2008	64.12	ND
22 December 2008	72.57	ND
30 December 2008	64.55	ND

\* Peak oil price on 11 July 2008 [Return to table](#)

Other approximate values: Noncommercial traders, 3 December 2007: 34.4. 10 December 2007: 38.1. 17 December 2007: 29.3. 24 December 2007: 48.6. 31 December 2007: 87.8. 6 January 2009: 76.2. 13 January 2009: 53.7. Index investors, 31 December 2007: 408.

Source: CFTC.

*Middle-left panel*  
*U.S. Crude Oil Inventories*

**Weekly**  
Millions of barrels

<b>Period</b>	<b>Deviation from historical average</b>
5 January 2007	14.65
12 January 2007	20.76
19 January 2007	20.90
26 January 2007	22.94
2 February 2007	21.57
9 February 2007	19.39
16 February 2007	21.50
23 February 2007	21.33
2 March 2007	14.65
9 March 2007	13.40
16 March 2007	14.89
23 March 2007	11.60
30 March 2007	13.47
6 April 2007	12.44
13 April 2007	9.85
20 April 2007	10.33
27 April 2007	9.91
4 May 2007	14.80
11 May 2007	15.99
18 May 2007	18.08
25 May 2007	16.24
1 June 2007	16.61
8 June 2007	17.76
15 June 2007	25.72
22 June 2007	28.35
29 June 2007	32.56
6 July 2007	32.92
13 July 2007	34.43
20 July 2007	35.28
27 July 2007	30.73
3 August 2007	28.43
10 August 2007	24.95
17 August 2007	28.53
24 August 2007	26.73
31 August 2007	24.45
7 September 2007	18.37
14 September 2007	15.43
21 September 2007	18.21
28 September 2007	20.28

Period	Deviation from historical average
5 October 2007	17.26
12 October 2007	16.79
19 October 2007	9.24
26 October 2007	3.09
2 November 2007	0.91
9 November 2007	4.63
16 November 2007	4.46
23 November 2007	4.91
30 November 2007	-2.11
7 December 2007	-1.07
14 December 2007	-6.90
21 December 2007	-8.45
28 December 2007	-10.75
4 January 2008	-17.11
11 January 2008	-13.50
18 January 2008	-11.85
25 January 2008	-8.95
1 February 2008	-2.67
8 February 2008	-3.14
15 February 2008	-0.47
22 February 2008	1.23
29 February 2008	-3.36
7 March 2008	0.38
14 March 2008	-1.92
21 March 2008	-4.27
28 March 2008	0.61
4 April 2008	-4.49
11 April 2008	-8.44
18 April 2008	-7.61
25 April 2008	-5.36
2 May 2008	-0.81
9 May 2008	-0.51
16 May 2008	-5.70
23 May 2008	-14.47
30 May 2008	-19.15
6 June 2008	-22.78
13 June 2008	-22.96
20 June 2008	-21.09
27 June 2008	-22.01
4 July 2008	-26.28

Period	Deviation from historical average
11 July 2008*	-21.37
18 July 2008	-20.98
25 July 2008	-19.11
1 August 2008	-15.58
8 August 2008	-14.21
15 August 2008	-3.13
22 August 2008	-1.62
29 August 2008	-1.83
5 September 2008	-6.51
12 September 2008	-11.91
19 September 2008	-12.49
26 September 2008	-7.28
3 October 2008	0.41
10 October 2008	3.77
17 October 2008	4.69
24 October 2008	2.93
31 October 2008	0.72
7 November 2008	1.64
14 November 2008	4.14
21 November 2008	12.33
28 November 2008	12.77
5 December 2008	14.67
12 December 2008	16.95
19 December 2008	15.61
26 December 2008	17.91
2 January 2009	25.66

\* Peak oil price on 11 July 2008 [Return to table](#)

Other approximate values: 9 January 2009: 26.2. 16 January 2009: 31.6.

### *Middle-right panel* *Oil Demand*

Four-quarter percent change

Period	World	Advanced economies	Emerging economies
2007:Q1	0.40	-2.01	3.21
2007:Q2	1.48	-0.73	3.95
2007:Q3	1.06	-0.96	3.36
2007:Q4	1.46	-0.60	3.80
2008:Q1	0.80	-1.78	3.67
2008:Q2	0.75	-2.17	3.87
2008:Q3*	-0.58	-5.12	4.37

Period	World	Advanced economies	Emerging economies
2008:Q4	-2.19	-4.72	0.55

\* Peak oil price on 11 July 2008 [Return to table](#)

### *Bottom-left panel*

#### *Oil Production*

Millions of barrels per day

Period	OPEC*	Non-OPEC
January 2007	28.39	49.84
February 2007	27.93	50.24
March 2007	28.03	49.99
April 2007	27.96	50.13
May 2007	27.80	49.77
June 2007	27.87	49.39
July 2007	28.15	49.72
August 2007	28.05	49.08
September 2007	28.51	48.89
October 2007	28.93	49.83
November 2007	28.56	49.75
December 2007	28.80	49.61
January 2008	29.35	49.76
February 2008	29.35	49.90
March 2008	28.82	49.88
April 2008	28.62	49.75
May 2008	28.71	49.82
June 2008	29.41	49.53
July 2008**	29.39	50.02
August 2008	29.16	48.79
September 2008	29.04	47.89
October 2008	29.00	49.16
November 2008	28.01	49.79
December 2008	27.67	50.13
January 2009 target	24.85	ND

\* Excluding Indonesia and Iraq. [Return to table](#)

\*\* Peak oil price on 11 July 2008 [Return to table](#)

### *Bottom-right panel*

#### *Commodity Price Outlook*

Period	Oil import price (Dollars per barrel)	Nonfuel index (Jan. 2007 = 100)
January 2007	53.11	100.00

Period	Oil import price (Dollars per barrel)	Nonfuel index (Jan. 2007 = 100)
February 2007	52.60	102.22
March 2007	56.21	104.38
April 2007	60.95	109.60
May 2007	64.13	110.86
June 2007	65.36	109.33
July 2007	69.08	108.66
August 2007	70.24	103.49
September 2007	70.45	105.13
October 2007	74.66	106.45
November 2007	81.96	105.75
December 2007	84.01	104.60
January 2008	85.41	111.12
February 2008	85.66	118.32
March 2008	91.56	122.57
April 2008	98.88	121.87
May 2008	108.45	120.23
June 2008	118.63	121.21
July 2008	124.68	121.87
August 2008	118.64	114.62
September 2008	107.12	108.65
October 2008	91.54	92.22
November 2008	64.99	84.42
December 2008	47.35	77.65
January 2009	45.78	79.66
<i>Forecast</i>		
February 2009	45.51	79.37
March 2009	45.37	79.58
April 2009	44.26	79.78
May 2009	44.42	80.04
June 2009	44.99	80.25
July 2009	46.10	80.48
August 2009	46.94	81.06
September 2009	47.51	80.77
October 2009	48.07	81.42
November 2009	48.62	81.54
December 2009	49.14	81.79
January 2010	49.82	82.03
February 2010	50.49	82.24
March 2010	51.11	82.45
April 2010	51.68	82.61

Period	Oil import price (Dollars per barrel)	Nonfuel index (Jan. 2007 = 100)
May 2010	52.21	82.74
June 2010	52.69	82.84
July 2010	53.14	82.95
August 2010	53.59	83.05
September 2010	54.03	83.15
October 2010	54.45	83.26
November 2010	54.83	83.37
December 2010	55.19	83.51

## Exhibit 15 (Last Exhibit) Prices

### *Top-left panel* *Consumer Price Indexes*

Four-quarter percent change

Period	Canada	United Kingdom	Euro area	Japan
2007:Q1	1.90	2.88	1.90	-0.10
2007:Q2	2.14	2.54	1.87	-0.07
2007:Q3	2.10	1.80	1.89	-0.13
2007:Q4	2.44	2.09	2.90	0.53
2008:Q1	1.78	2.39	3.36	0.97
2008:Q2	2.27	3.36	3.62	1.36
2008:Q3	3.37	4.79	3.84	2.16
<i>Forecast</i>				
2008:Q4	2.08	3.86	2.29	1.19
2009:Q1	1.15	2.56	1.07	-0.05
2009:Q2	-0.28	1.40	0.99	-0.93
2009:Q3	-1.28	0.13	0.73	-1.94
2009:Q4	-0.07	0.58	1.50	-1.47
2010:Q1	0.81	2.38	2.25	-0.62
2010:Q2	1.31	2.44	1.95	-0.31
2010:Q3	1.50	2.50	1.92	-0.30
2010:Q4	1.50	2.37	1.90	-0.30

### *Top-right panel* *Consumer Price Indexes*

Four-quarter percent change

Period	Emerging Asia	Latin America
2007:Q1	2.69	4.16
2007:Q2	3.06	4.16



Period	Emerging Asia	Latin America
2007:Q3	4.61	4.26
2007:Q4	5.36	4.27
2008:Q1	6.52	4.47
2008:Q2	7.09	5.50
2008:Q3	6.06	6.10
<i>Forecast</i>		
2008:Q4	3.59	6.60
2009:Q1	1.20	6.38
2009:Q2	-0.10	5.43
2009:Q3	-0.58	4.50
2009:Q4	0.76	3.69
2010:Q1	1.73	3.38
2010:Q2	2.00	3.34
2010:Q3	2.20	3.31
2010:Q4	2.35	3.29

*Middle-left panel*  
*CPI Excluding Food and Energy\**

12-month percent change

Period	Canada	United Kingdom	Euro area	Japan
January 2006	1.27	0.90	1.27	-0.63
February 2006	1.23	1.04	1.33	-0.52
March 2006	1.40	0.93	1.35	-0.56
April 2006	1.59	0.96	1.55	-0.61
May 2006	1.72	0.75	1.37	-0.55
June 2006	1.45	0.94	1.48	-0.39
July 2006	1.29	0.58	1.49	-0.37
August 2006	1.30	0.84	1.42	-0.38
September 2006	1.51	1.18	1.43	-0.49
October 2006	1.70	1.20	1.50	-0.43
November 2006	1.46	1.35	1.50	-0.20
December 2006	1.43	1.53	1.55	-0.26
January 2007	1.63	1.37	1.69	-0.24
February 2007	1.72	1.52	1.88	-0.29
March 2007	1.68	1.71	1.82	-0.38
April 2007	1.93	1.54	1.85	-0.25
May 2007	1.81	1.67	1.88	-0.28
June 2007	2.01	1.65	1.82	-0.43
July 2007	2.35	1.37	1.76	-0.43
August 2007	2.21	1.36	1.85	-0.24

Period	Canada	United Kingdom	Euro area	Japan
September 2007	2.12	1.04	1.78	-0.28
October 2007	1.89	1.14	1.69	-0.22
November 2007	1.75	1.01	1.76	-0.15
December 2007	1.71	0.96	1.73	-0.16
January 2008	1.22	0.90	1.60	-0.06
February 2008	1.20	0.80	1.63	-0.08
March 2008	0.98	0.75	1.86	0.05
April 2008	0.98	1.01	1.52	-0.20
May 2008	1.09	1.14	1.61	-0.18
June 2008	1.18	1.22	1.68	-0.05
July 2008	1.06	1.48	1.59	0.05
August 2008	1.13	1.61	1.78	-0.04
September 2008	0.95	1.82	1.79	0.08
October 2008	0.75	1.45	1.87	0.02
November 2008	1.39	1.57	1.87	-0.10
December 2008	1.27	0.62	1.83	ND

\* Staff estimates. [Return to text](#)

*Middle-right panel*  
*CPI Excluding Food\**

12-month percent change

Period	Emerging Asia	Latin America
January 2006	3.00	5.92
February 2006	2.95	5.84
March 2006	2.93	5.84
April 2006	2.88	5.70
May 2006	3.14	5.51
June 2006	3.01	5.35
July 2006	2.95	5.36
August 2006	2.95	5.35
September 2006	2.84	5.17
October 2006	2.43	4.78
November 2006	2.32	4.54
December 2006	2.29	4.59
January 2007	1.98	4.51
February 2007	2.20	4.55
March 2007	2.17	4.24
April 2007	1.99	4.06
May 2007	1.87	4.31
June 2007	1.86	4.45

Period	Emerging Asia	Latin America
July 2007	1.68	4.16
August 2007	1.55	4.09
September 2007	1.64	3.98
October 2007	1.97	4.23
November 2007	2.40	4.52
December 2007	2.39	4.60
January 2008	2.75	4.30
February 2008	2.79	4.39
March 2008	3.21	4.67
April 2008	3.35	4.71
May 2008	3.62	4.84
June 2008	4.67	5.00
July 2008	5.05	5.42
August 2008	4.75	5.81
September 2008	4.46	6.17
October 2008	3.98	6.33
November 2008	2.71	6.15
December 2008	ND	5.93

\* Staff estimates. [Return to text](#)

*Bottom-left panel*  
*Policy Rates*

Percent

Period	Canada	United Kingdom	Euro area	Japan
2 January 2007	4.25	5.00	3.50	ND
4 January 2007	4.25	5.00	3.50	0.25
11 January 2007	4.25	5.25	3.50	0.25
21 February 2007	4.25	5.25	3.50	0.50
8 March 2007	4.25	5.25	3.75	0.50
10 May 2007	4.25	5.50	3.75	0.50
6 June 2007	4.25	5.50	4.00	0.50
5 July 2007	4.25	5.75	4.00	0.50
10 July 2007	4.50	5.75	4.00	0.50
4 December 2007	4.25	5.75	4.00	0.50
6 December 2007	4.25	5.50	4.00	0.50
22 January 2008	4.00	5.50	4.00	0.50
7 February 2008	4.00	5.25	4.00	0.50
4 March 2008	3.50	5.25	4.00	0.50
10 April 2008	3.50	5.00	4.00	0.50
22 April 2008	3.00	5.00	4.00	0.50

Period	Canada	United Kingdom	Euro area	Japan
3 July 2008	3.00	5.00	4.25	0.50
8 October 2008	2.50	4.50	3.75	0.50
21 October 2008	2.25	4.50	3.75	0.50
31 October 2008	2.25	4.50	3.75	0.30
6 November 2008	2.25	3.00	3.25	0.30
4 December 2008	2.25	2.00	2.50	0.30
9 December 2008	1.50	2.00	2.50	0.30
19 December 2008	1.50	2.00	2.50	0.10
8 January 2009	1.50	1.50	2.50	0.10
15 January 2009	1.50	1.50	2.00	0.10
20 January 2009	1.00	1.50	2.00	0.10
<i>Forecast</i>				
16 February 2009	0.50	0.75	1.25	0.10
1 April 2009	0.50	0.75	1.00	0.10
24 February 2010	0.50	0.75	1.25	0.10
25 May 2010	0.50	1.00	1.50	0.10
24 August 2010	0.50	1.25	1.75	0.10
16 November 2010	0.75	1.50	2.00	0.10
31 December 2010	0.75	1.50	2.00	0.10

*Bottom-right panel*  
*Policy Rates*

Percent

Period	Brazil	Mexico	China	Korea
1 January 2007	ND	7.00	6.12	ND
2 January 2007	ND	7.00	6.12	4.50
3 January 2007	13.25	7.00	6.12	4.50
24 January 2007	13.00	7.00	6.12	4.50
1 March 2007	13.00	7.00	6.39	4.50
7 March 2007	12.75	7.00	6.39	4.50
19 April 2007	12.50	7.00	6.39	4.50
27 April 2007	12.50	7.25	6.39	4.50
1 May 2007	12.50	7.25	6.57	4.50
6 June 2007	12.00	7.25	6.57	4.50
2 July 2007	12.00	7.25	6.84	4.50
12 July 2007	12.00	7.25	6.84	4.75
19 July 2007	11.50	7.25	6.84	4.75
1 August 2007	11.50	7.25	7.02	4.75
9 August 2007	11.50	7.25	7.02	5.00
3 September 2007	11.50	7.25	7.29	5.00

Period	Brazil	Mexico	China	Korea
6 September 2007	11.25	7.25	7.29	5.00
26 October 2007	11.25	7.50	7.29	5.00
3 December 2007	11.25	7.50	7.47	5.00
17 April 2008	11.75	7.50	7.47	5.00
5 June 2008	12.25	7.50	7.47	5.00
20 June 2008	12.25	7.75	7.47	5.00
18 July 2008	12.25	8.00	7.47	5.00
24 July 2008	13.00	8.00	7.47	5.00
7 August 2008	13.00	8.00	7.47	5.25
15 August 2008	13.00	8.25	7.47	5.25
1 September 2008	13.00	8.25	7.20	5.25
11 September 2008	13.75	8.25	7.20	5.25
1 October 2008	13.75	8.25	6.66	5.25
9 October 2008	13.75	8.25	6.66	5.00
27 October 2008	13.75	8.25	6.66	4.25
3 November 2008	13.75	8.25	5.58	4.25
7 November 2008	13.75	8.25	5.58	4.00
1 December 2008	13.75	8.25	5.31	4.00
11 December 2008	13.75	8.25	5.31	3.00
1 January 2009	13.75	8.25	4.77	3.00
9 January 2009	13.75	8.25	4.77	2.50
16 January 2009	13.75	7.75	4.77	2.50
19 January 2009	13.75	7.50	4.77	2.50
21 January 2009	12.75	7.50	4.77	2.50
<i>Forecast</i>				
16 February 2009	12.50	7.50	4.77	2.50
1 April 2009	11.50	6.75	4.23	1.50
24 August 2009	11.25	6.25	4.23	1.50
24 November 2009	11.00	6.25	4.23	1.50
25 May 2010	11.00	6.25	4.50	1.50
24 August 2010	11.00	6.25	4.77	1.75
16 November 2010	11.00	6.25	5.04	1.75
31 December 2010	11.00	6.25	5.04	1.75

## Appendix 3: Materials used by Mr. Madigan

Material for Briefing on **FOMC Participants' Economic Projections**

Brian Madigan

January 27, 2009

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

# Exhibit 1: Economic Projections of FOMC Participants for 2009 to 2011 and over the Longer Run

Central tendencies and ranges of economic projections for years 2009 through 2011 and over the longer run. Actual values for years 2004 through 2008.

## Change in real GDP Percent

	2004	2005	2006	2007	2008	2009	2010	2011	Longer Run
<b>Actual</b>	3.1	2.7	2.4	2.3	-0.2	-	-	-	-
<b>Upper End of Range</b>	-	-	-	-	-	0.2	4.5	5.5	3.0
<b>Upper End of Central Tendency</b>	-	-	-	-	-	-0.5	3.3	5.0	2.7
<b>Lower End of Central Tendency</b>	-	-	-	-	-	-1.3	2.5	3.8	2.5
<b>Lower End of Range</b>	-	-	-	-	-	-2.5	1.5	2.3	2.4

## Unemployment rate Percent

	2004	2005	2006	2007	2008	2009	2010	2011	Longer Run
<b>Actual</b>	5.4	4.9	4.4	4.8	6.9	-	-	-	-
<b>Upper End of Range</b>	-	-	-	-	-	9.2	9.2	8.0	5.5
<b>Upper End of Central Tendency</b>	-	-	-	-	-	8.8	8.3	7.5	5.0
<b>Lower End of Central Tendency</b>	-	-	-	-	-	8.5	8.0	6.7	4.8
<b>Lower End of Range</b>	-	-	-	-	-	8.0	7.0	5.5	4.5

## PCE inflation Percent

	2004	2005	2006	2007	2008	2009	2010	2011	Longer Run
<b>Actual</b>	3.1	3.3	1.9	3.5	1.7	-	-	-	-
<b>Upper End of Range</b>	-	-	-	-	-	1.5	1.8	2.1	2.0
<b>Upper End of Central Tendency</b>	-	-	-	-	-	1.0	1.5	1.7	2.0
<b>Lower End of Central Tendency</b>	-	-	-	-	-	0.3	1.0	0.9	1.7
<b>Lower End of Range</b>	-	-	-	-	-	-0.5	0.7	0.2	1.5

## Core PCE inflation Percent

	2004	2005	2006	2007	2008	2009	2010	2011
<b>Actual</b>	2.2	2.2	2.3	2.2	1.8	-	-	-
<b>Upper End of Range</b>	-	-	-	-	-	1.5	1.7	1.8
<b>Upper End of Central Tendency</b>	-	-	-	-	-	1.1	1.5	1.5
<b>Lower End of Central Tendency</b>	-	-	-	-	-	0.9	0.8	0.7
<b>Lower End of Range</b>	-	-	-	-	-	0.6	0.4	0.0

## Exhibit 2: Economic Projections of FOMC Participants for 2009 to 2011 and over the Longer Run

### Real GDP Growth

	2009	2010	2011	Longer-Run
<b>Central Tendency</b>	-1.3 to -0.5	2.5 to 3.3	3.8 to 5.0	2.5 to 2.7
<i>October projections</i>	-0.2 to 1.1	2.3 to 3.2	2.8 to 3.6	2.5 to 2.7
<b>Range</b>	-2.5 to 0.2	1.5 to 4.5	2.3 to 5.5	2.4 to 3.0
<i>October projections</i>	-1.0 to 1.8	1.0 to 4.5	2.0 to 5.0	2.0 to 2.9
<b>Memo: Greenbook</b>	-0.8	2.6	4.9	2.7
<i>October Greenbook</i>	-0.1	2.3	4.5	2.7

### Unemployment Rate

	2009	2010	2011	Longer-Run
<b>Central Tendency</b>	8.5 to 8.8	8.0 to 8.3	6.7 to 7.5	4.8 to 5.0
<i>October projections</i>	7.1 to 7.6	6.5 to 7.3	5.5 to 6.6	4.8 to 5.0
<b>Range</b>	8.0 to 9.2	7.0 to 9.2	5.5 to 8.0	4.5 to 5.5
<i>October projections</i>	6.6 to 8.0	5.5 to 8.0	4.9 to 7.3	4.5 to 5.8
<b>Memo: Greenbook</b>	8.4	8.1	6.7	4.8
<i>October Greenbook</i>	7.2	7.2	6.4	4.8

### PCE Inflation

	2009	2010	2011	Longer-Run
<b>Central Tendency</b>	0.3 to 1.0	1.0 to 1.5	0.9 to 1.7	1.7 to 2.0
<i>October projections</i>	1.3 to 2.0	1.4 to 1.8	1.4 to 1.7	1.7 to 1.8
<b>Range</b>	-0.5 to 1.5	0.7 to 1.8	0.2 to 2.1	1.5 to 2.0
<i>October projections</i>	1.0 to 2.2	1.1 to 1.9	0.8 to 1.8	1.5 to 2.0
<b>Memo: Greenbook</b>	0.6	1.1	0.8	-----
<i>October Greenbook</i>	1.4	1.4	1.1	-----

### Core PCE Inflation

	2009	2010	2011
<b>Central Tendency</b>	0.9 to 1.1	0.8 to 1.5	0.7 to 1.5
<i>October projections</i>	1.5 to 2.0	1.3 to 1.8	1.3 to 1.7
<b>Range</b>	0.6 to 1.5	0.4 to 1.7	0.0 to 1.8
<i>October projections</i>	1.3 to 2.1	1.1 to 1.9	0.8 to 1.8
<b>Memo: Greenbook</b>	1.0	0.8	0.6
<i>October Greenbook</i>	1.5	1.3	1.1





Percent range	2009		2010		2011		Longer Run	
	January projections	October projections	January projections	October projections	January projections	October projections	January projections	October projections
-0.2 - -0.1	0	2	0	0	0	0	0	0
0.0 - 0.1	1	2	0	0	0	0	0	0
0.2 - 0.3	1	1	0	0	0	0	0	0
0.4 - 0.5	0	2	0	0	0	0	0	0
0.6 - 0.7	0	1	0	0	0	0	0	0
0.8 - 0.9	0	0	0	0	0	0	0	0
1.0 - 1.1	0	3	0	0	0	0	0	0
1.2 - 1.3	0	0	0	0	0	0	0	0
1.4 - 1.5	0	1	2	2	0	0	0	0
1.6 - 1.7	0	0	0	0	0	0	0	0
1.8 - 1.9	0	2	0	1	0	0	0	0
2.0 - 2.1	0	0	1	0	0	1	0	1
2.2 - 2.3	0	0	0	1	1	0	0	0
2.4 - 2.5	0	0	1	4	0	1	10	9
2.6 - 2.7	0	0	1	1	1	1	4	4
2.8 - 2.9	0	0	1	0	0	2	1	3
3.0 - 3.1	0	0	5	4	0	2	1	0
3.2 - 3.3	0	0	2	1	0	1	0	0
3.4 - 3.5	0	0	1	1	1	4	0	0
3.6 - 3.7	0	0	0	0	0	2	0	0
3.8 - 3.9	0	0	0	0	2	1	0	0
4.0 - 4.1	0	0	1	1	1	0	0	0
4.2 - 4.3	0	0	0	0	2	0	0	0
4.4 - 4.5	0	0	1	1	2	0	0	0
4.6 - 4.7	0	0	0	0	0	0	0	0
4.8 - 4.9	0	0	0	0	1	1	0	0
5.0 - 5.1	0	0	0	0	4	1	0	0
5.2 - 5.3	0	0	0	0	0	0	0	0
5.4 - 5.5	0	0	0	0	1	0	0	0

NOTE: Definitions of variables are in the general note to table 1.

## Exhibit 5: Unemployment Projections of FOMC Participants for 2009 to 2011 and over the Longer Run

Histograms, four panels.

Number of participants

Percent range	2009		2010		2011		Longer Run	
	January projections	October projections	January projections	October projections	January projections	October projections	January projections	October projections
4.4 - 4.5	0	0	0	0	0	0	1	1
4.6 - 4.7	0	0	0	0	0	0	1	1
4.8 - 4.9	0	0	0	0	0	1	3	5
5.0 - 5.1	0	0	0	0	0	2	8	8
5.2 - 5.3	0	0	0	0	0	0	0	0
5.4 - 5.5	0	0	0	1	1	1	3	1
5.6 - 5.7	0	0	0	0	0	0	0	0
5.8 - 5.9	0	0	0	1	0	1	0	1
6.0 - 6.1	0	0	0	0	0	3	0	0
6.2 - 6.3	0	0	0	0	0	2	0	0
6.4 - 6.5	0	0	0	3	2	2	0	0
6.6 - 6.7	0	1	0	1	1	3	0	0
6.8 - 6.9	0	0	0	4	2	0	0	0
7.0 - 7.1	0	3	1	2	2	1	0	0
7.2 - 7.3	0	4	0	2	3	1	0	0
7.4 - 7.5	0	5	1	1	3	0	0	0
7.6 - 7.7	0	2	0	0	1	0	0	0
7.8 - 7.9	0	1	0	1	0	0	0	0
8.0 - 8.1	2	1	4	1	1	0	0	0
8.2 - 8.3	0	0	7	0	0	0	0	0
8.4 - 8.5	5	0	1	0	0	0	0	0
8.6 - 8.7	5	0	0	0	0	0	0	0
8.8 - 8.9	1	0	0	0	0	0	0	0
9.0 - 9.1	2	0	1	0	0	0	0	0
9.2 - 9.3	1	0	1	0	0	0	0	0

NOTE: Definitions of variables are in the general note to table 1.

## Exhibit 6: PCE Inflation Projections of FOMC Participants for 2009 to 2011 and over the Longer Run

Histograms, four panels.

Number of participants

Percent range	2009		2010		2011		Longer Run	
	January projections	October projections	January projections	October projections	January projections	October projections	January projections	October projections
-0.5 - -0.4	1	0	0	0	0	0	0	0
-0.3 - -0.2	0	0	0	0	0	0	0	0
-0.1 - 0.0	1	0	0	0	0	0	0	0

Percent range	2009		2010		2011		Longer Run	
	January projections	October projections	January projections	October projections	January projections	October projections	January projections	October projections
0.1 - 0.2	1	0	0	0	1	0	0	0
0.3 - 0.4	1	0	0	0	0	0	0	0
0.5 - 0.6	3	0	0	0	0	0	0	0
0.7 - 0.8	4	0	1	0	2	1	0	0
0.9 - 1.0	3	1	4	0	2	0	0	0
1.1 - 1.2	1	2	4	1	1	1	0	0
1.3 - 1.4	0	3	1	3	1	3	0	0
1.5 - 1.6	1	2	3	6	5	7	3	3
1.7 - 1.8	0	5	3	5	3	5	2	11
1.9 - 2.0	0	1	0	2	0	0	11	3
2.1 - 2.2	0	3	0	0	1	0	0	0

NOTE: Definitions of variables are in the general note to table 1.

## Exhibit 7: Core PCE Inflation Projections of FOMC Participants for 2009 to 2011

Histograms, three panels.

Number of participants

Percent range	2009		2010		2011	
	January projections	October projections	January projections	October projections	January projections	October projections
-0.1 - 0.0	0	0	0	0	1	0
0.1 - 0.2	0	0	0	0	0	0
0.3 - 0.4	0	0	1	0	0	0
0.5 - 0.6	1	0	0	0	1	0
0.7 - 0.8	0	0	4	0	2	1
0.9 - 1.0	11	0	3	0	2	0
1.1 - 1.2	2	0	2	1	1	2
1.3 - 1.4	1	2	2	5	3	3
1.5 - 1.6	1	4	3	6	4	7
1.7 - 1.8	0	4	1	4	2	4
1.9 - 2.0	0	6	0	1	0	0
2.1 - 2.2	0	1	0	0	0	0

NOTE: Definitions of variables are in the general note to table 1.

## Appendix 4: Materials used by Mr. Madigan

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

## Exhibit 1 Unconventional Policy Tools

### Policy communications

- About the federal funds rate
  - Quantitative expectations
  - Qualitative expectations
  - Conditional expectations
- About other policy tools
  - Amounts and time frame
- About inflation outlook and objectives
  - Explicit numerical inflation objective
  - Longer-term projections
  - Express concern about undesirably low inflation

### Credit policies

- Supporting or substituting for dysfunctional markets

### Transactions under open market authority

- Swap arrangements
- MBS purchases
- Treasury purchases

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

## Alternative A

The Federal Open Market Committee decided today to keep its target range for the federal funds rate at 0 to 1/4 percent. The Committee continues to anticipate that economic conditions are likely to warrant exceptionally low levels of the federal funds rate for some time.

Information received since the Committee met in December suggests that the economy has weakened somewhat more than anticipated. Industrial production, housing starts, and employment have declined steeply, as consumers and businesses have cut back spending. Furthermore, global demand appears to be slowing significantly. Conditions in some financial markets have improved, in part reflecting government efforts to provide liquidity and strengthen financial institutions; nevertheless, credit conditions for households and firms remain extremely tight. The Committee anticipates that a gradual recovery in economic activity will begin later this year, but the downside risks to that outlook are ~~sizable~~ **significant**.

In light of the declines in the prices of energy and other commodities in recent months and the prospects for an extended period of economic slack, the Committee expects that inflation pressures will remain subdued. Moreover, the Committee sees some risk that inflation could persist for a time below rates that best foster economic growth and price stability in the longer term.

The Federal Reserve will employ all available tools to promote the resumption of sustainable economic growth and to preserve price stability. The focus of the Committee's policy is to support the functioning of financial

markets and stimulate the economy through open market operations and other measures that are likely to keep the size of the Federal Reserve's balance sheet at a high level.

[Alt. 1: To provide further support to activity in housing markets, the Committee decided to expand its purchases of agency mortgage-backed securities to \$750 billion this year from its previously announced total of \$500 billion. The Committee anticipates completing these purchases by the end of the third quarter. The Committee also is prepared to purchase longer-term Treasury securities as needed to improve overall financial conditions.]

[Alt. 2: To help improve overall financial conditions, the Committee decided to purchase up to \$250 billion of longer-term Treasury securities this year. The Federal Reserve continues to purchase large quantities of agency debt and mortgage-backed securities to provide support to the mortgage and housing markets, and it stands ready to expand such purchases as conditions warrant.]

Next month, the Federal Reserve will implement the Term Asset-Backed Securities Loan Facility to facilitate the extension of credit to households and small businesses. The Committee will continue to monitor carefully the size and composition of the Federal Reserve's balance sheet in light of evolving financial market developments and to assess whether expansions of or modifications to lending facilities would serve to further support credit markets and economic activity **and help to preserve price stability**.

## Alternative B

The Federal Open Market Committee decided today to keep its target range for the federal funds rate at 0 to 1/4 percent. The Committee continues to anticipate that economic conditions are likely to warrant exceptionally low levels of the federal funds rate for some time.

Information received since the Committee met in December suggests that the outlook for the economy remains weak. Industrial production, housing starts, and employment have continued to decline steeply, as consumers and businesses have cut back spending. Furthermore, global demand appears to be slowing significantly. Conditions in some financial markets have improved, in part reflecting government efforts to provide liquidity and strengthen financial institutions; nevertheless, credit conditions for households and firms remain extremely tight. The Committee anticipates that a gradual recovery in economic activity will begin later this year, but the downside risks to that outlook are significant.

In light of the declines in the prices of energy and other commodities in recent months and the prospects for considerable economic slack, the Committee expects that inflation pressures will remain subdued in coming quarters.

The Federal Reserve will employ all available tools to promote the resumption of sustainable economic growth and to preserve price stability. The focus of the Committee's policy is to support the functioning of financial markets and stimulate the economy through open market operations and other measures that are likely to keep the size of the Federal Reserve's balance sheet at a high level. The Federal Reserve continues to purchase large quantities of agency debt and mortgage-backed securities to provide support to the mortgage and housing markets, and it stands ready to expand **the quantity of such purchases and the duration of the purchase program** as conditions warrant. The Committee also is prepared to purchase longer-term Treasury securities ~~as needed to improve~~ **if evolving circumstances indicate that such transactions would be particularly effective in improving** conditions in private credit markets. Next month, the Federal Reserve will implement the Term Asset-Backed Securities Loan Facility to facilitate the extension of credit to households and small businesses. The Committee will continue to monitor carefully the size and composition of the Federal Reserve's balance sheet in light of evolving financial market developments and to assess whether expansions of or modifications to lending facilities would serve to further support credit markets and economic activity **and help to preserve price stability**.

## Alternative C

The Federal Open Market Committee decided today to keep its target range for the federal funds rate at 0 to 1/4 percent. The Committee continues to anticipate that economic conditions are likely to warrant exceptionally low levels of the federal funds rate for some time.

Information received since the Committee met in December suggests that the outlook for the economy remains weak. Industrial production, housing starts, and employment have continued to decline steeply, as consumers and businesses have cut back spending. Conditions in some financial markets have improved, in part reflecting government efforts to provide liquidity and strengthen financial institutions; nevertheless, credit conditions for households and firms remain tight. The Committee anticipates that a recovery in economic activity will begin later this year, supported in part by additional fiscal measures and the monetary and liquidity policies already in place.

The declines in the prices of energy and other commodities in recent months have significantly reduced overall price inflation. With economic slack likely to persist, the Committee expects that both overall and core consumer price inflation will remain low.

The Federal Reserve will employ all available tools to promote the resumption of sustainable economic growth and to preserve price stability. The focus of the Committee's policy is to support the functioning of financial markets and stimulate the economy through open market operations and other measures that are likely to keep the size of the Federal Reserve's balance sheet at a high level. The Federal Reserve continues to purchase large quantities of agency debt and mortgage-backed securities to provide support to the mortgage and housing markets. Next month, the Federal Reserve will implement the Term Asset-Backed Securities Loan Facility to facilitate the extension of credit to households and small businesses. The Committee will continue to monitor carefully the size and composition of the Federal Reserve's balance sheet in light of evolving financial market developments.

## December FOMC Statement

The Federal Open Market Committee decided today to establish a target range for the federal funds rate of 0 to 1/4 percent.

Since the Committee's last meeting, labor market conditions have deteriorated, and the available data indicate that consumer spending, business investment, and industrial production have declined. Financial markets remain quite strained and credit conditions tight. Overall, the outlook for economic activity has weakened further.

Meanwhile, inflationary pressures have diminished appreciably. In light of the declines in the prices of energy and other commodities and the weaker prospects for economic activity, the Committee expects inflation to moderate further in coming quarters.

The Federal Reserve will employ all available tools to promote the resumption of sustainable economic growth and to preserve price stability. In particular, the Committee anticipates that weak economic conditions are likely to warrant exceptionally low levels of the federal funds rate for some time.

The focus of the Committee's policy going forward will be to support the functioning of financial markets and stimulate the economy through open market operations and other measures that sustain the size of the Federal Reserve's balance sheet at a high level. As previously announced, over the next few quarters the Federal Reserve will purchase large quantities of agency debt and mortgage backed securities to provide support to the mortgage and housing markets, and it stands ready to expand its purchases of agency debt and mortgage-backed securities as conditions warrant. The Committee is also evaluating the potential benefits of purchasing longer-term Treasury securities. Early next year, the Federal Reserve will also implement the Term Asset-Backed Securities Loan Facility to facilitate the extension of credit to households and small businesses. The Federal Reserve will continue to consider ways of using its balance sheet to further support credit markets and economic activity.

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**Last update: March 4, 2015**