



2014 Capitalization Rate Study

Appendix and Supporting Documents

Table Showing The Implied Risk Premium Using Macroeconomic Data
 This type of calculation can also be found in Chapter 9 of Ibbotson's (MorningStar) SBBI, Supply Side Model

3 Stage Dividend Growth Model

Assumptions:

Stages	Years	Growth	Model 1
1st Stage	1-5 years	Constant @:	13.00%
2nd Stage	6-15 years	Linear from:	12.32% to 5.57%
			Real Growth
3rd Stage	15 years -perpetuity	GDP Growth: Real and Inflation	2.00% to 3.20%
		GDP Growth*: Real + Inflation	5.57%

Model 2
12.10%
11.39% to 4.28%
Inflation
2.28% to 2.37%
4.28%

OR

S & P GICS Composite 1500 Valuations as of 12/31/13 Monthly Investment Review, January 2014
 Linear from 1st Stage to 3rd Stage

+

Inflation Range = Federal Reserve, Treasuries Inflation - Indexed

TO

*GDP Growth = Real growth + Inflation
 First Quarter 2013 Survey of Professional Forecasters - Philadelphia Federal Reserve Release Date 2/15/2013
 Livingston Survey Release Date December 12, 2013

Model 1

Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Starting Industry	Start Price	Expected Dividends	1st Stage Growth Rates					2nd Stage Growth Rates										
S & P 500	\$ (1,848.36)	\$ 38.82	13.000%	13.000%	13.000%	13.000%	13.000%	12.32%	11.649%	10.974%	10.298%	9.623%	8.947%	8.272%	7.596%	6.921%	6.245%	5.570%
			\$ 43.87	\$ 49.57	\$ 56.01	\$ 63.29	\$ 71.52	\$ 80.34	\$ 89.70	\$ 99.54	\$ 109.79	\$ 120.36	\$ 131.12	\$ 141.97	\$ 152.76	\$ 163.33	\$ 173.53	\$ 183.19
			Implied Market Return =		9.25%													

Model 2

Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Starting Industry	Start Price	Expected Dividends	1st Stage Growth Rates					2nd Stage Growth Rates										
S & P 500	\$ (1,848.36)	\$ 38.82	12.100%	12.100%	12.100%	12.100%	12.100%	11.39%	10.678%	9.967%	9.256%	8.545%	7.835%	7.124%	6.413%	5.702%	4.991%	4.280%
			\$ 43.52	\$ 48.78	\$ 54.69	\$ 61.30	\$ 68.72	\$ 76.55	\$ 84.72	\$ 93.16	\$ 101.79	\$ 110.49	\$ 119.14	\$ 127.63	\$ 135.81	\$ 143.56	\$ 150.72	\$ 157.17
			Implied Market Return =		8.09%													

Conclusions:

Implied Market Rate Range = 8.09% to 9.25%

Mean 8.67%
 Median 8.67%
 Market Rate Used 9.00%

2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053
5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%
\$193.40	\$204.17	\$215.54	\$227.55	\$240.22	\$253.60	\$267.73	\$282.64	\$298.38	\$315.00	\$332.55	\$351.07	\$370.63	\$391.27	\$413.06	\$436.07	\$460.36	\$486.00	\$513.07	\$541.65	\$571.82	\$603.67	\$637.30

2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053
4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%
\$163.90	\$170.92	\$178.23	\$185.86	\$193.81	\$202.11	\$210.76	\$219.78	\$229.19	\$239.00	\$249.23	\$259.89	\$271.02	\$282.62	\$294.71	\$307.33	\$320.48	\$334.20	\$348.50	\$363.41	\$378.97	\$395.19	\$412.10

2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072
5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%
\$672.79	\$710.27	\$749.83	\$791.60	\$835.69	\$882.24	\$931.38	\$983.25	\$1,038.02	\$1,095.84	\$1,156.88	\$1,221.31	\$1,289.34	\$1,361.16	\$1,436.97	\$1,517.01	\$1,601.51	\$1,690.72	\$1,784.89

2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072
4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%
\$429.74	\$448.13	\$467.31	\$487.31	\$508.17	\$529.92	\$552.60	\$576.25	\$600.92	\$626.64	\$653.46	\$681.42	\$710.59	\$741.00	\$772.72	\$805.79	\$840.28	\$876.24	\$913.75

2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091
3rd Stage Growth Rates																		
5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%
\$ 1,884.31	\$ 1,989.26	\$ 2,100.07	\$ 2,217.04	\$ 2,340.53	\$ 2,470.90	\$ 2,608.52	\$ 2,753.82	\$ 2,907.21	\$ 3,069.14	\$ 3,240.09	\$ 3,420.56	\$ 3,611.09	\$ 3,812.22	\$ 4,024.57	\$ 4,248.73	\$ 4,485.39	\$ 4,735.22	\$ 4,998.98

2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091
3rd Stage Growth Rates																		
4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%
\$ 952.85	\$ 993.64	\$ 1,036.16	\$ 1,080.51	\$ 1,126.76	\$ 1,174.98	\$ 1,225.27	\$ 1,277.71	\$ 1,332.40	\$ 1,389.43	\$ 1,448.89	\$ 1,510.91	\$ 1,575.57	\$ 1,643.01	\$ 1,713.33	\$ 1,786.66	\$ 1,863.13	\$ 1,942.87	\$ 2,026.02

2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108
5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%
\$ 5,277.42	\$ 5,571.37	\$ 5,881.70	\$ 6,209.31	\$ 6,555.17	\$ 6,920.29	\$ 7,305.75	\$ 7,712.68	\$ 8,142.28	\$ 8,595.80	\$ 9,074.59	\$ 9,580.04	\$ 10,113.65	\$ 10,676.98	\$ 11,271.69	\$ 11,899.52	\$ 12,562.32

2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108
4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%
\$ 2,112.74	\$ 2,203.16	\$ 2,297.46	\$ 2,395.79	\$ 2,498.33	\$ 2,605.26	\$ 2,716.76	\$ 2,833.04	\$ 2,954.29	\$ 3,080.74	\$ 3,212.59	\$ 3,350.09	\$ 3,493.48	\$ 3,643.00	\$ 3,798.92	\$ 3,961.51	\$ 4,131.06

2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125
5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%	5.570%
\$ 13,262.04	\$ 14,000.74	\$ 14,780.58	\$ 15,603.86	\$ 16,473.00	\$ 17,390.54	\$ 18,359.19	\$ 19,381.80	\$ 20,461.37	\$ 21,601.07	\$ 22,804.25	\$ 24,074.44	\$ 25,415.39	\$ 26,831.03	\$ 28,325.51	\$ 29,903.24	\$ 31,568.86

2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125
4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%	4.280%
\$ 4,307.87	\$ 4,492.25	\$ 4,684.52	\$ 4,885.02	\$ 5,094.09	\$ 5,312.12	\$ 5,539.48	\$ 5,776.57	\$ 6,023.81	\$ 6,281.63	\$ 6,550.48	\$ 6,830.84	\$ 7,123.20	\$ 7,428.07	\$ 7,745.99	\$ 8,077.52	\$ 8,423.24

2126	2127	2128	2129	2130
5.570%	5.570%	5.570%	5.570%	5.570%
\$ 33,327.24	\$ 35,183.57	\$ 37,143.29	\$ 39,212.17	\$ 41,396.29

2126	2127	2128	2129	2130
4.280%	4.280%	4.280%	4.280%	4.280%
\$ 8,783.76	\$ 9,159.70	\$ 9,551.74	\$ 9,960.55	\$ 10,386.86

FEDERAL RESERVE statistical release



H.15 (519) SELECTED INTEREST RATES

For use at 2:30 p.m. Eastern Time

Yields in percent per annum

January 6, 2014

Instruments	2013	2013	2014	2014	2014	Week Ending		2013
	Dec 30	Dec 31	Jan 1*	Jan 2	Jan 3	Jan 3	Dec 27	Dec
Federal funds (effective) ^{1 2 3}	0.08	0.07	0.07	0.08	0.08	0.08	0.09	0.09
Commercial Paper ^{3 4 5 6}								
Nonfinancial								
1-month	n.a.	0.03		0.05	0.06	0.05	0.05	0.06
2-month	0.07	n.a.		0.06	0.07	0.07	0.08	0.07
3-month	0.09	n.a.		0.09	0.09	0.09	0.09	0.09
Financial								
1-month	0.06	0.08		0.05	0.05	0.06	0.07	0.07
2-month	0.07	n.a.		0.09	0.10	0.09	0.10	0.10
3-month	0.14	0.14		0.14	0.14	0.14	0.13	0.14
Eurodollar deposits (London) ^{3 7}								
1-month	0.20	0.20		0.20	0.20	0.20	0.20	0.20
3-month	0.27	0.27		0.27	0.27	0.27	0.27	0.27
6-month	0.42	0.42		0.42	0.42	0.42	0.42	0.42
Bank prime loan ^{2 3 8}	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25
Discount window primary credit ^{2 9}	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
U.S. government securities								
Treasury bills (secondary market) ^{3 4}								
4-week	0.01	0.01		0.01	0.01	0.01	0.01	0.02
3-month	0.07	0.07		0.07	0.07	0.07	0.07	0.07
6-month	0.10	0.10		0.09	0.10	0.10	0.09	0.10
1-year	0.12	0.12		0.12	0.12	0.12	0.12	0.13
Treasury constant maturities								
Nominal ¹⁰								
1-month	0.01	0.01		0.01	0.02	0.01	0.01	0.02
3-month	0.07	0.07		0.07	0.07	0.07	0.07	0.07
6-month	0.10	0.10		0.09	0.10	0.10	0.09	0.10
1-year	0.13	0.13		0.13	0.13	0.13	0.13	0.13
2-year	0.39	0.38		0.39	0.41	0.39	0.40	0.34
3-year	0.77	0.78		0.76	0.80	0.78	0.79	0.69
5-year	1.71	1.75		1.72	1.73	1.73	1.72	1.58
7-year	2.40	2.45		2.41	2.42	2.42	2.42	2.29
10-year	2.99	3.04		3.00	3.01	3.01	2.99	2.90
20-year	3.66	3.72		3.68	3.69	3.69	3.66	3.63
30-year	3.90	3.96		3.92	3.93	3.93	3.90	3.89
Inflation indexed ¹¹								
5-year	0.07	0.06		0.01	0.04	0.05	0.04	-0.09
7-year	0.62	0.61		0.57	0.60	0.60	0.59	0.47
10-year	0.76	0.80		0.74	0.75	0.76	0.79	0.74
20-year	1.31	1.36		1.30	1.29	1.32	1.34	1.32
30-year	1.59	1.64		1.58	1.57	1.60	1.61	1.61
Inflation-indexed long-term average ¹²	1.27	1.31		1.26	1.25	1.27	1.29	1.27
Interest rate swaps ¹³								
1-year	0.31	0.31		0.31	0.31	0.31	0.31	0.29
2-year	0.48	0.49		0.49	0.49	0.49	0.49	0.43
3-year	0.86	0.87		0.87	0.88	0.87	0.87	0.77
4-year	1.32	1.33		1.34	1.34	1.33	1.33	1.20
5-year	1.76	1.78		1.78	1.78	1.77	1.77	1.64
7-year	2.43	2.47		2.46	2.46	2.45	2.44	2.33
10-year	3.03	3.09		3.07	3.07	3.06	3.03	2.95
30-year	3.85	3.91		3.90	3.91	3.89	3.85	3.81
Corporate bonds								
Moody's seasoned								
Aaa ¹⁴	4.53	4.57		4.55	4.56	4.55	4.56	4.62
Baa	5.34	5.37		5.34	5.35	5.35	5.35	5.38
State & local bonds ¹⁵				4.75		4.75	4.73	4.73
Conventional mortgages ¹⁶				4.53		4.53	4.48	4.46

See overleaf for footnotes.

* Markets closed.

n.a. Not available.

Footnotes

1. The daily effective federal funds rate is a weighted average of rates on brokered trades.
2. Weekly figures are averages of 7 calendar days ending on Wednesday of the current week; monthly figures include each calendar day in the month.
3. Annualized using a 360-day year or bank interest.
4. On a discount basis.
5. Interest rates interpolated from data on certain commercial paper trades settled by The Depository Trust Company. The trades represent sales of commercial paper by dealers or direct issuers to investors (that is, the offer side). The 1-, 2-, and 3-month rates are equivalent to the 30-, 60-, and 90-day dates reported on the Board's Commercial Paper Web page (www.federalreserve.gov/releases/cp/).
6. Financial paper that is insured by the FDIC's Temporary Liquidity Guarantee Program is not excluded from relevant indexes, nor is any financial or nonfinancial commercial paper that may be directly or indirectly affected by one or more of the Federal Reserve's liquidity facilities. Thus the rates published after September 19, 2008, likely reflect the direct or indirect effects of the new temporary programs and, accordingly, likely are not comparable for some purposes to rates published prior to that period.
7. Source: Bloomberg and CTRB ICAP Fixed Income & Money Market Products.
8. Rate posted by a majority of top 25 (by assets in domestic offices) insured U.S.-chartered commercial banks. Prime is one of several base rates used by banks to price short-term business loans.
9. The rate charged for discounts made and advances extended under the Federal Reserve's primary credit discount window program, which became effective January 9, 2003. This rate replaces that for adjustment credit, which was discontinued after January 8, 2003. For further information, see www.federalreserve.gov/boarddocs/press/bcreg/2002/200210312/default.htm. The rate reported is that for the Federal Reserve Bank of New York. Historical series for the rate on adjustment credit as well as the rate on primary credit are available at www.federalreserve.gov/releases/h15/data.htm.
10. Yields on actively traded non-inflation-indexed issues adjusted to constant maturities. The 30-year Treasury constant maturity series was discontinued on February 18, 2002, and reintroduced on February 9, 2006. From February 18, 2002, to February 9, 2006, the U.S. Treasury published a factor for adjusting the daily nominal 20-year constant maturity in order to estimate a 30-year nominal rate. The historical adjustment factor can be found at www.treasury.gov/resource-center/data-chart-center/interest-rates/. Source: U.S. Treasury.
11. Yields on Treasury inflation protected securities (TIPS) adjusted to constant maturities. Source: U.S. Treasury. Additional information on both nominal and inflation-indexed yields may be found at www.treasury.gov/resource-center/data-chart-center/interest-rates/.
12. Based on the unweighted average bid yields for all TIPS with remaining terms to maturity of more than 10 years.
13. International Swaps and Derivatives Association (ISDA®) mid-market par swap rates. Rates are for a Fixed Rate Payer in return for receiving three month LIBOR, and are based on rates collected at 11:00 a.m. Eastern time by ICAP plc and published on Thomson Reuters Page ISDAFIX®1. ISDAFIX is a registered service mark of ISDA®. Source: Thomson Reuters.
14. Moody's Aaa rates through December 6, 2001, are averages of Aaa utility and Aaa industrial bond rates. As of December 7, 2001, these rates are averages of Aaa industrial bonds only.
15. Bond Buyer Index, general obligation, 20 years to maturity, mixed quality; Thursday quotations.
16. Contract interest rates on commitments for 30-year fixed-rate first mortgages. Source: Primary Mortgage Market Survey® data provided by Freddie Mac.

Note: Weekly and monthly figures on this release, as well as annual figures available on the Board's historical H.15 web site (see below), are averages of business days unless otherwise noted.

Current and historical H.15 data are available on the Federal Reserve Board's web site (www.federalreserve.gov/). For information about individual copies or subscriptions, contact Publications Services at the Federal Reserve Board (phone 202-452-3244, fax 202-728-5886).

Description of the Treasury Nominal and Inflation-Indexed Constant Maturity Series

Yields on Treasury nominal securities at "constant maturity" are interpolated by the U.S. Treasury from the daily yield curve for non-inflation-indexed Treasury securities. This curve, which relates the yield on a security to its time to maturity, is based on the closing market bid yields on actively traded Treasury securities in the over-the-counter market. These market yields are calculated from composites of quotations obtained by the Federal Reserve Bank of New York. The constant maturity yield values are read from the yield curve at fixed maturities, currently 1, 3, and 6 months and 1, 2, 3, 5, 7, 10, 20, and 30 years. This method provides a yield for a 10-year maturity, for example, even if no outstanding security has exactly 10 years remaining to maturity. Similarly, yields on inflation-indexed securities at "constant maturity" are interpolated from the daily yield curve for Treasury inflation protected securities in the over-the-counter market. The inflation-indexed constant maturity yields are read from this yield curve at fixed maturities, currently 5, 7, 10, 20, and 30 years.



SURVEY OF PROFESSIONAL FORECASTERS

Release Date: February 14, 2014

FIRST QUARTER 2014

Forecasters Predict Higher Growth and Lower Unemployment over the Next Three Years

The outlook for growth in the U.S. economy over the next three years looks stronger than that of three months ago, according to 45 forecasters surveyed by the Federal Reserve Bank of Philadelphia. On an annual-average over annual-average basis, the forecasters predict faster real GDP growth in 2014, 2015, and 2016. The forecasters see real GDP growing 2.8 percent in 2014, up from their prediction of 2.6 percent in the last survey. The forecasters predict real GDP will grow 3.1 percent in 2015, higher than their prediction of 2.8 percent in the last survey. For 2016, the forecast for real GDP growth, at 3.1 percent, is 0.4 percentage point higher than the last survey.

A brighter outlook for the unemployment rate accompanies the more positive outlook for growth. The forecasters predict that the unemployment rate will be an annual average of 6.5 percent in 2014, before falling to 6.1 percent in 2015, 5.7 percent in 2016, and 5.5 percent in 2017. The projections for 2014, 2015, and 2016 are below those of the last survey.

On the jobs front, the forecasters see little change in job growth in 2014. The forecasters' projections for the annual-average level of nonfarm payroll employment suggest job gains at a monthly rate of 187,700 in 2014 and 206,900 in 2015, as the table below shows. (These annual-average estimates are computed as the year-to-year change in the annual-average level of nonfarm payroll employment, converted to a monthly rate.)

Median Forecasts for Selected Variables in the Current and Previous Surveys

	<i>Real GDP (%)</i>		<i>Unemployment Rate (%)</i>		<i>Payrolls (000s/month)</i>	
	<i>Previous</i>	<i>New</i>	<i>Previous</i>	<i>New</i>	<i>Previous</i>	<i>New</i>
<i>Quarterly Data:</i>						
2014:Q1	2.5	2.0	7.1	6.7	187.0	177.4
2014:Q2	2.9	3.0	7.0	6.6	193.5	193.5
2014:Q3	2.9	2.8	6.9	6.4	201.8	195.2
2014:Q4	2.9	2.7	6.8	6.3	202.1	215.0
2015:Q1	N.A.	3.2	N.A.	6.2	N.A.	201.0
<i>Annual Data (projections are based on annual-average levels):</i>						
2014	2.6	2.8	7.0	6.5	189.9	187.7
2015	2.8	3.1	6.4	6.1	N.A.	206.9
2016	2.7	3.1	6.0	5.7	N.A.	N.A.
2017	N.A.	2.4	N.A.	5.5	N.A.	N.A.

A Note to Users of the Data for Density Projections and Long-Term Forecasts for the Rate on 10-Year Constant Maturity Treasury Bonds

We made two permanent changes to the survey's design. First, we changed the definitions of the bins for the density questions on unemployment and GDP inflation. For unemployment, we shaved 2 percentage points from the endpoints of each bin. For GDP inflation, we defined the endpoints of each bin to correspond with those of core CPI inflation and core PCE inflation.

Second, we changed the phrasing of the question for the long-term (10-year annual-average) rate on 10-year constant maturity Treasury bonds. This question, which appears only in first-quarter surveys, has always been ambiguous. In previous first-quarter surveys, we asked for the return on 10-year Treasury bonds over the next 10 years. It was never clear whether we meant the return to buying a 10-year Treasury bond on the survey date and holding it until maturity or whether we meant the average return from buying a 10-year constant maturity Treasury bond each quarter (or month or day) over the next 10 years and holding the bonds until they mature. We have changed the question to emphasize the latter: We now ask for the yield on 10-year constant maturity Treasury bonds, and we make it clear to the panelists that we mean the average yield in the current year and the following nine years. This adjustment to the way we now ask the question might or might not change the panelists' responses compared with the way they would have answered had we not changed the question.

We caution users of the data against comparing the *long-term* (10-year annual-average) forecasts for 10-year Treasury bonds in this survey with those of previous first-quarter surveys. Note that we have not changed the questions on *short-term* projections for 10-year Treasury rates that appear in each quarterly survey. Thus, the short-term projections in this survey are comparable with those of all previous surveys.

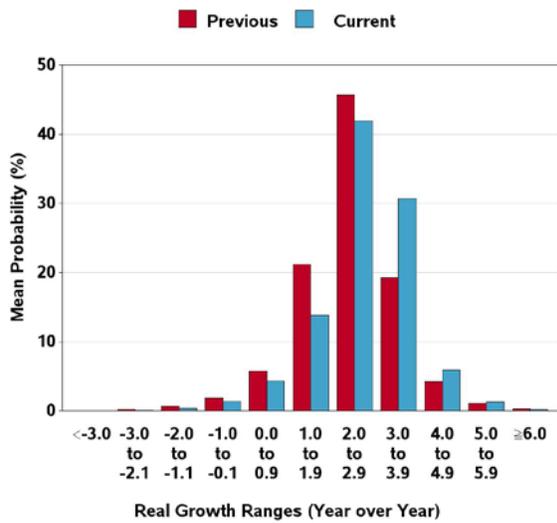
For additional information, please contact:

Tom Stark
Assistant Director and Manager
Real-Time Data Research Center
Research Department
Federal Reserve Bank of Philadelphia

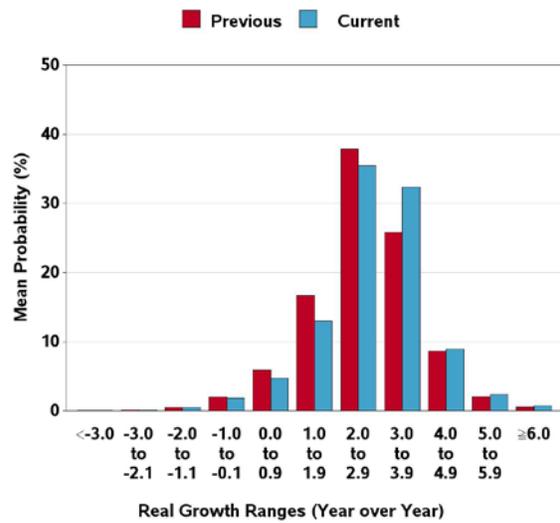
Phone: 215-574-6436
E-mail: Tom.Stark@phil.frb.org

The charts below provide some insight into the degree of uncertainty the forecasters have about their projections for the rate of growth in the annual-average level of real GDP. Each chart (except the chart for 2017) presents the forecasters' previous and current estimates of the probability that growth will fall into each of 11 ranges. The forecasters have shifted the distributions of density to the right for 2014, 2015, and 2016, indicating their expectations for higher real GDP growth compared with their previous estimates.

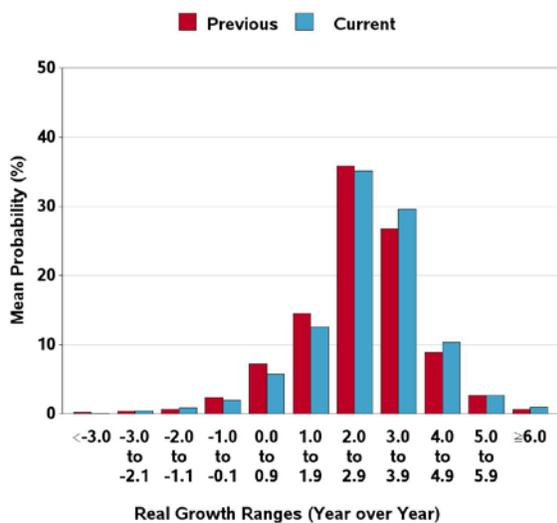
Mean Probabilities for Real GDP Growth in 2014



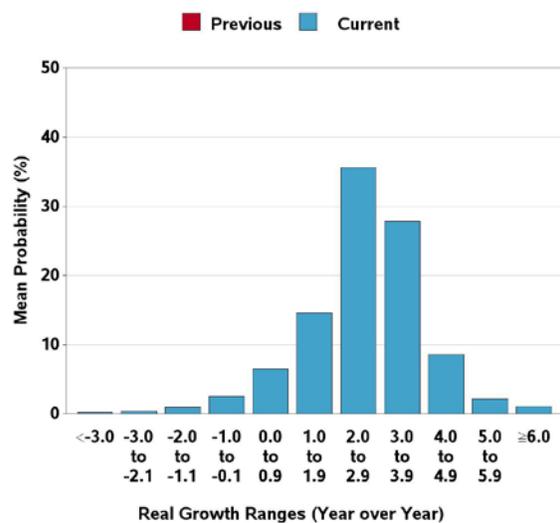
Mean Probabilities for Real GDP Growth in 2015



Mean Probabilities for Real GDP Growth in 2016

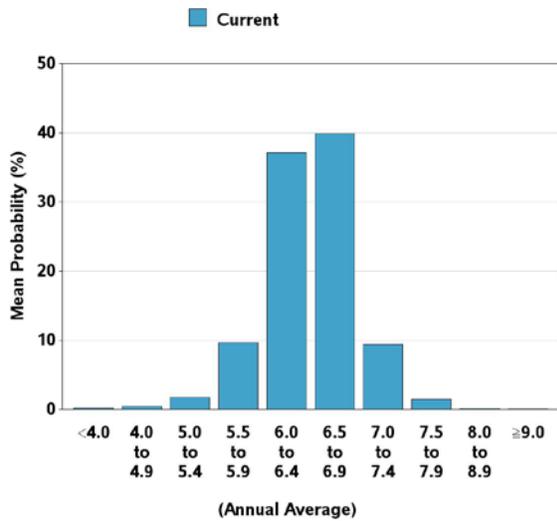


Mean Probabilities for Real GDP Growth in 2017

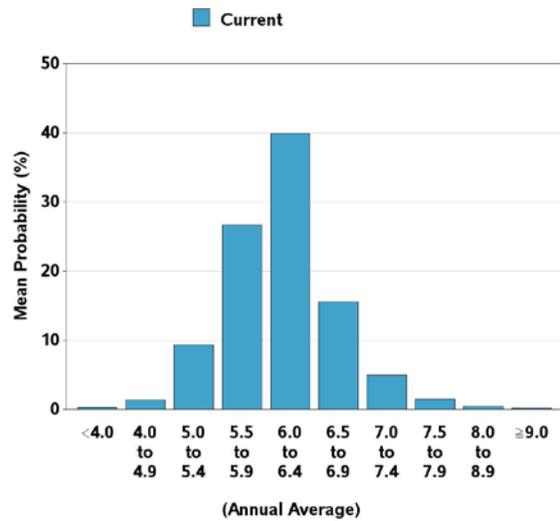


The forecasters' density projections for unemployment, shown below, shed light on uncertainty about the labor market over the next four years. Each chart for unemployment presents the forecasters' current estimates of the probability that unemployment will fall into each of 10 ranges. The forecasters estimate a near-40 percent chance that unemployment will average 6.0 to 6.4 percent in 2014 and 2015. They see a 35 percent chance of unemployment averaging 5.5 to 5.9 percent in 2016 and a substantial chance that unemployment will be below 5.5 percent in 2017.

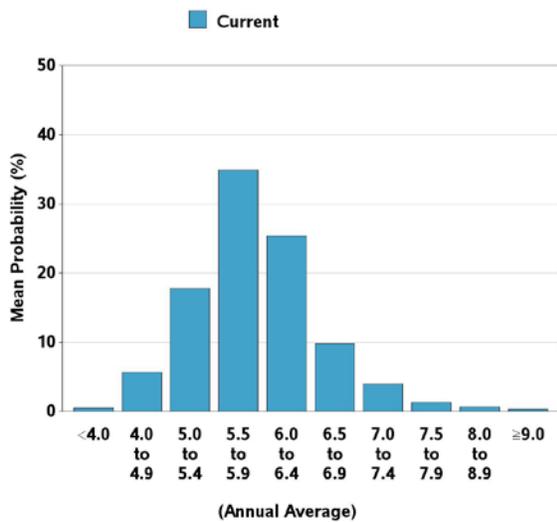
Mean Probabilities for Unemployment Rate in 2014



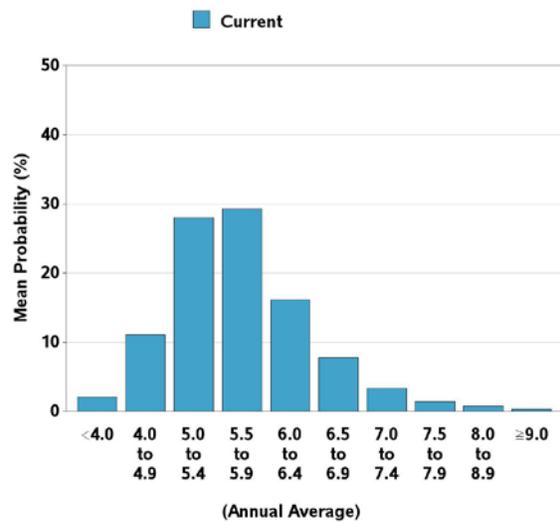
Mean Probabilities for Unemployment Rate in 2015



Mean Probabilities for Unemployment Rate in 2016



Mean Probabilities for Unemployment Rate in 2017



Forecasters See Lower Inflation

The forecasters expect current-quarter headline CPI inflation to average 1.7 percent, lower than the last survey's estimate of 1.8 percent. The forecasters predict current-quarter headline PCE inflation of 1.3 percent, lower than the prediction of 1.8 percent from the survey of three months ago.

The forecasters also see lower headline and core measures of CPI and PCE inflation during the next two years. Measured on a fourth-quarter over fourth-quarter basis, headline CPI inflation is expected to average 1.8 percent in 2014, down from 2.0 percent in the last survey, and 2.0 percent in 2015, down 0.2 percentage point from the previous estimate. Forecasters expect fourth-quarter over fourth-quarter headline PCE inflation to average 1.6 percent in 2014, down from 1.9 percent in the last survey, and 1.8 percent in 2015, down 0.1 percentage point from the previous estimate.

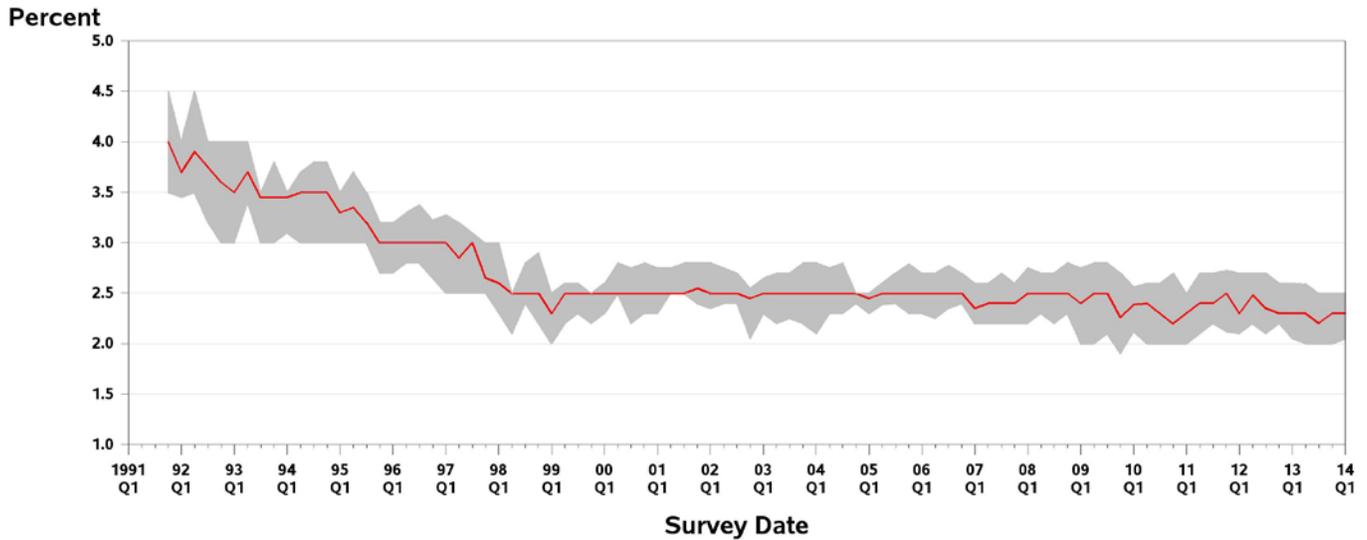
Over the next 10 years, 2014 to 2023, the forecasters expect headline CPI inflation to average 2.3 percent at an annual rate. The corresponding estimate for 10-year annual-average PCE inflation is 2.0 percent.

Median Short-Run and Long-Run Projections for Inflation (Annualized Percentage Points)

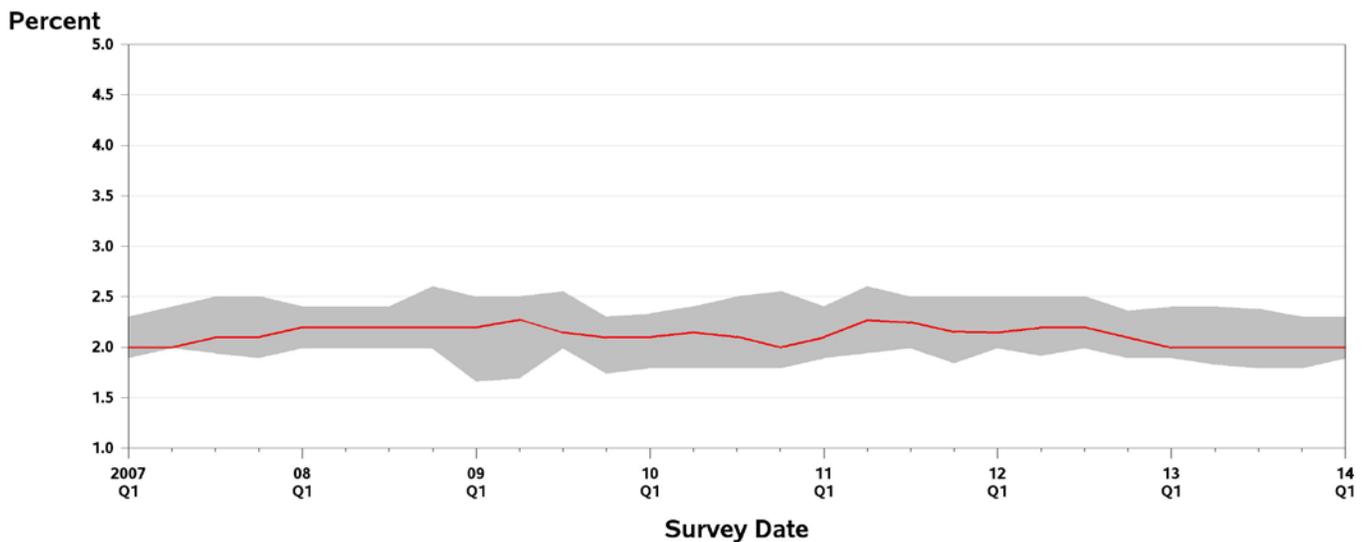
	Headline CPI		Core CPI		Headline PCE		Core PCE	
	Previous	Current	Previous	Current	Previous	Current	Previous	Current
<i>Quarterly</i>								
2014:Q1	1.8	1.7	1.9	1.8	1.8	1.3	1.7	1.5
2014:Q2	2.0	1.7	1.9	1.8	1.9	1.5	1.8	1.5
2014:Q3	2.0	1.9	2.0	1.9	1.9	1.7	1.7	1.6
2014:Q4	2.1	2.0	2.0	1.9	1.9	1.7	1.8	1.7
2015:Q1	N.A.	2.0	N.A.	2.1	N.A.	1.8	N.A.	1.8
<i>Q4/Q4 Annual Averages</i>								
2014	2.0	1.8	2.0	1.9	1.9	1.6	1.7	1.6
2015	2.2	2.0	2.1	2.0	1.9	1.8	1.9	1.8
2016	N.A.	2.1	N.A.	2.1	N.A.	2.0	N.A.	1.9
<i>Long-Term Annual Averages</i>								
2013-2017	2.1	N.A.	N.A.	N.A.	1.8	N.A.	N.A.	N.A.
2014-2018	N.A.	2.1	N.A.	N.A.	N.A.	1.9	N.A.	N.A.
2013-2022	2.3	N.A.	N.A.	N.A.	2.0	N.A.	N.A.	N.A.
2014-2023	N.A.	2.3	N.A.	N.A.	N.A.	2.0	N.A.	N.A.

The charts below show the median projections (the red line) and the associated interquartile ranges (the gray area around the red line) for 10-year annual-average CPI and PCE inflation. The top panel shows the unchanged long-term projection for CPI inflation, at 2.3 percent. The bottom panel highlights the unchanged 10-year forecast for PCE inflation, at 2.0 percent.

**Projections for the 10-Year Annual-Average Rate of CPI Inflation
(Median and Interquartile Range)**

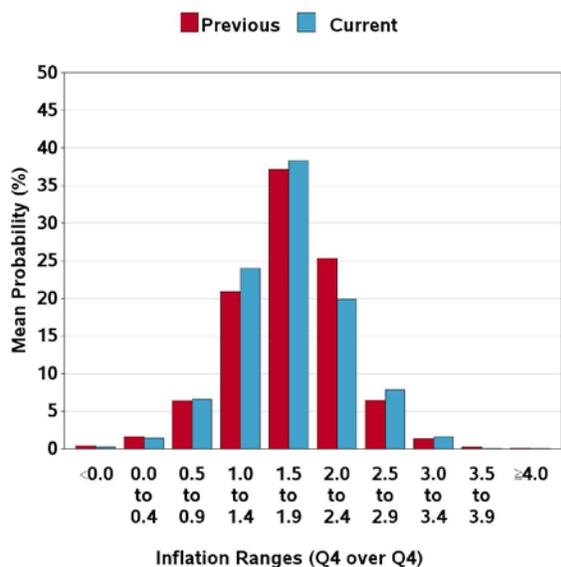


**Projections for the 10-Year Annual-Average Rate of PCE Inflation
(Median and Interquartile Range)**

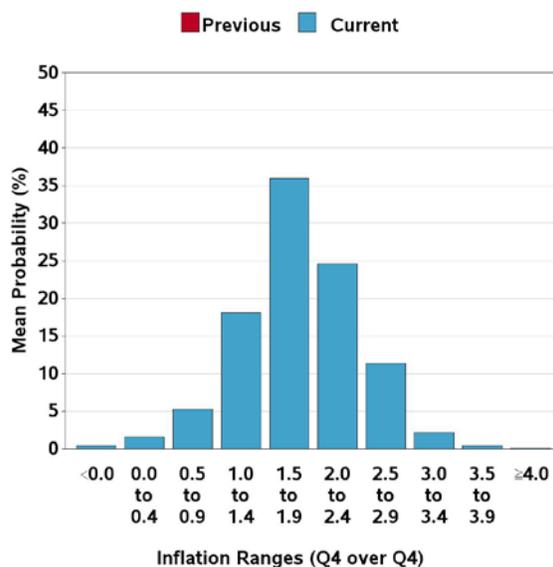


The figures below show the probabilities that the forecasters are assigning to the possibility that fourth-quarter over fourth-quarter core PCE inflation in 2014 and 2015 will fall into each of 10 ranges. For 2014, the forecasters assign a higher chance than previously noted that core PCE inflation will fall in the range of 1.0 to 1.9 percent (and a lower probability that inflation will fall in the range of 2.0 to 2.4 percent).

Mean Probabilities for Core PCE Inflation in 2014



Mean Probabilities for Core PCE Inflation in 2015



Risk of a Negative Quarter Remains Low

For the current quarter, the forecasters predict an 11.2 percent chance of negative growth. As the table below shows, the forecasters have kept their risk estimates for a downturn in the following quarters nearly unchanged, compared with their previous estimates.

*Risk of a Negative Quarter (%)
Survey Means*

<i>Quarterly Data:</i>	<i>Previous</i>	<i>New</i>
2014: Q1	11.1	11.2
2014: Q2	11.6	9.3
2014: Q3	11.7	10.6
2014: Q4	12.2	11.4
2015: Q1	N.A.	11.7

Forecasters State Their Views on House Prices

In this survey, a special question asked panelists to provide their forecasts for fourth-quarter over fourth-quarter growth in house prices, as measured by a number of alternative indices. The panelists were allowed to choose from a provided list of indices or to write in their own index. For each index of their choosing, the panelists provided forecasts for growth in 2014 and 2015.

Twenty-three panelists answered the special question. Some panelists provided projections for more than one index. The table below provides a summary of the forecasters' responses. The number of responses (N) is low for each index. The median estimates for the six house-price indices listed in the table below range from 2.1 percent to 7.0 percent in 2014 and from 2.7 percent to 4.9 percent in 2015.

Projections for Growth in Various Indices of House Prices Q4/Q4, Percentage Points

Index	2014 (Q4/Q4 Percent Change)			2015 (Q4/Q4 Percent Change)		
	N	Mean	Median	N	Mean	Median
S&P/Case-Shiller: U.S. National	6	5.6	5.9	6	4.4	4.9
S&P/Case-Shiller: Composite 20	6	4.8	4.5	6	3.5	3.2
FHFA: U.S. Total	6	7.2	6.3	6	3.1	2.7
FHFA: Purchase Only	5	5.1	5.8	5	2.7	2.9
CoreLogic: National HPI, incl. Distressed Sales (Single Family Combined)	6	6.4	7.0	6	4.8	4.8
NAR Median: Total Existing	1	2.1	2.1	1	2.8	2.8

Forecasters See Little Reason to Revise Long-Run Estimates of Growth in Output and Productivity

In the first-quarter surveys, the forecasters provide their long-run projections for an expanded set of variables, including growth in output and productivity, as well as returns on financial assets.

As the table below shows, the forecasters have slightly increased their estimates for the annual-average rate of growth in real GDP over the next 10 years. Currently, the forecasters expect real GDP to grow at an annual-average rate of 2.6 percent over the next 10 years, up from 2.5 percent in the first-quarter survey of 2013.

The forecasters' current projection for 10-year annual-average productivity growth is 1.80 percent, the same rate they predicted in last year's first-quarter survey. Stocks are seen returning 6.00 percent annually over the next 10 years, while Treasury bills will return 2.50 percent annually over the same period.

Median Long-Term (10-Year) Forecasts (%)

	<i>First Quarter 2013</i>	<i>Current Survey</i>
<i>Real GDP Growth</i>	2.50	2.60
<i>Productivity Growth</i>	1.80	1.80
<i>Stock Returns (S&P 500)</i>	6.13	6.00
<i>Rate on 10-Year Treasury Bonds</i>	N.A.	4.35
<i>Bill Returns (3-Month)</i>	2.40	2.50

The Federal Reserve Bank of Philadelphia thanks the following forecasters for their participation in recent surveys:

Lewis Alexander, Nomura Securities; **Scott Anderson**, Bank of the West (BNP Paribas Group); **Robert J. Barbera**, Johns Hopkins University Center for Financial Economics; **Peter Bernstein**, RCF Economic and Financial Consulting, Inc.; **Christine Chmura, Ph.D.** and **Xiaobing Shuai, Ph.D.**, Chmura Economics & Analytics; **Gary Ciminero, CFA**, GLC Financial Economics; **Julia Coronado**, BNP Paribas; **David Crowe**, National Association of Home Builders; **Nathaniel Curtis**, Navigant; **Rajeev Dhawan**, Georgia State University; **Shawn Dubravac**, Consumer Electronics Association; **Gregory Daco**, Oxford Economics USA, Inc.; **Michael R. Englund**, Action Economics, LLC; **Timothy Gill**, NEMA; **Matthew Hall** and **Daniil Manaenkov**, RSQE, University of Michigan; **James Glassman**, JPMorgan Chase & Co.; **Jan Hatzius**, Goldman Sachs; **Peter Hooper**, Deutsche Bank Securities, Inc.; **IHS Global Insight**; **Fred Joutz**, Benchmark Forecasts and Research Program on Forecasting, George Washington University; **Sam Kahan**, Kahan Consulting Ltd. (ACT Research LLC); **N. Karp**, BBVA Compass; **Walter Kemmsies**, Moffatt & Nichol; **Jack Kleinhenz**, Kleinhenz & Associates, Inc.; **Thomas Lam**, OSK-DMG/RHB; **L. Douglas Lee**, Economics from Washington; **Allan R. Leslie**, Economic Consultant; **John Lonski**, Moody's Capital Markets Group; **Macroeconomic Advisers, LLC**; **Dean Maki**, Barclays Capital; **Jim Meil** and **Arun Raha**, Eaton Corporation; **Anthony Metz**, Pareto Optimal Economics; **Michael Moran**, Daiwa Capital Markets America; **Joel L. Naroff**, Naroff Economic Advisors; **Michael P. Niemira**, International Council of Shopping Centers; **Luca Noto**, Anima Sgr; **Brendon Ogmundson**, BC Real Estate Association; **Martin A. Regalia**, U.S. Chamber of Commerce; **Philip Rothman**, East Carolina University; **Chris Rupkey**, Bank of Tokyo-Mitsubishi UFJ; **John Silvia**, Wells Fargo; **Allen Sinai**, Decision Economics, Inc.; **Tara M. Sinclair**, Research Program on Forecasting, George Washington University; **Sean M. Snaith, Ph.D.**, University of Central Florida; **Neal Soss**, Credit Suisse; **Stephen Stanley**, Pierpont Securities; **Charles Steindel**, New Jersey Department of the Treasury; **Susan M. Sterne**, Economic Analysis Associates, Inc.; **Thomas Kevin Swift**, American Chemistry Council; **Richard Yamarone**, Bloomberg, LP; **Mark Zandi**, Moody's Analytics.

This is a partial list of participants. We also thank those who wish to remain anonymous.

SUMMARY TABLE
SURVEY OF PROFESSIONAL FORECASTERS
MAJOR MACROECONOMIC INDICATORS

	2014 Q1	2014 Q2	2014 Q3	2014 Q4	2015 Q1	2014	2015 (YEAR-OVER-YEAR)	2016	2017
PERCENT GROWTH AT ANNUAL RATES									
1. REAL GDP (BILLIONS, CHAIN WEIGHTED)	2.0	3.0	2.8	2.7	3.2	2.8	3.1	3.1	2.4
2. GDP PRICE INDEX (PERCENT CHANGE)	1.7	1.6	1.9	1.9	2.0	1.6	2.0	N.A.	N.A.
3. NOMINAL GDP (\$ BILLIONS)	3.5	4.4	4.4	4.8	4.9	4.4	4.8	N.A.	N.A.
4. NONFARM PAYROLL EMPLOYMENT (PERCENT CHANGE) (AVG MONTHLY CHANGE)	1.6 177.4	1.7 193.5	1.7 195.2	1.9 215.0	1.7 201.0	1.7 187.7	1.8 206.9	N.A. N.A.	N.A. N.A.
VARIABLES IN LEVELS									
5. UNEMPLOYMENT RATE (PERCENT)	6.7	6.6	6.4	6.3	6.2	6.5	6.1	5.7	5.5
6. 3-MONTH TREASURY BILL (PERCENT)	0.1	0.1	0.1	0.1	0.1	0.1	0.3	1.5	2.8
7. 10-YEAR TREASURY BOND (PERCENT)	2.8	3.0	3.1	3.3	3.4	3.1	3.6	4.1	4.4
	2014 Q1	2014 Q2	2014 Q3	2014 Q4	2015 Q1	2014	2015 (Q4-OVER-Q4)	2016	
INFLATION INDICATORS									
8. CPI (ANNUAL RATE)	1.7	1.7	1.9	2.0	2.0	1.8	2.0	2.1	
9. CORE CPI (ANNUAL RATE)	1.8	1.8	1.9	1.9	2.1	1.9	2.0	2.1	
10. PCE (ANNUAL RATE)	1.3	1.5	1.7	1.7	1.8	1.6	1.8	2.0	
11. CORE PCE (ANNUAL RATE)	1.5	1.5	1.6	1.7	1.8	1.6	1.8	1.9	

THE FIGURES ON EACH LINE ARE MEDIANS OF 45 INDIVIDUAL FORECASTERS.

SOURCE: RESEARCH DEPARTMENT, FEDERAL RESERVE BANK OF PHILADELPHIA.
SURVEY OF PROFESSIONAL FORECASTERS, FIRST QUARTER 2014.

SURVEY OF PROFESSIONAL FORECASTERS

First Quarter 2014

Tables

Note: Data in these tables listed as "actual" are the data that were available to the forecasters when they were sent the survey questionnaire on January 30; the tables do not reflect subsequent revisions to the data. All forecasts were received on or before February 10, 2014.

TABLE ONE
MAJOR MACROECONOMIC INDICATORS
MEDIAN OF FORECASTER PREDICTIONS

	NUMBER OF FORECASTERS	ACTUAL	FORECAST					ACTUAL	FORECAST				
		2013 Q4	2014 Q1	2014 Q2	2014 Q3	2014 Q4	2015 Q1	2013 ANNUAL	2014 ANNUAL	2015 ANNUAL	2016 ANNUAL	2017 ANNUAL	
1. GROSS DOMESTIC PRODUCT (GDP) (\$ BILLIONS)	43	17103	17249	17437	17625	17834	18048	16803	17542	18392	N.A.	N.A.	
2. GDP PRICE INDEX (2009=100)	42	107.02	107.48	107.91	108.41	108.91	109.46	106.47	108.17	110.31	N.A.	N.A.	
3. CORPORATE PROFITS AFTER TAXES (\$ BILLIONS)	23	N.A.	1738.0	1759.0	1791.9	1793.6	1825.7	N.A.	1776.3	1871.7	N.A.	N.A.	
4. UNEMPLOYMENT RATE (PERCENT)	44	7.0	6.7	6.6	6.4	6.3	6.2	7.4	6.5	6.1	5.7	5.5	
5. NONFARM PAYROLL EMPLOYMENT (THOUSANDS)	38	136747	137279	137860	138445	139090	139693	135927	138180	140663	N.A.	N.A.	
6. INDUSTRIAL PRODUCTION (2007=100)	38	101.2	102.1	102.9	103.6	104.4	105.4	99.6	103.3	106.5	N.A.	N.A.	
7. NEW PRIVATE HOUSING STARTS (ANNUAL RATE, MILLIONS)	40	1.00	1.02	1.08	1.13	1.18	1.22	0.93	1.11	1.26	N.A.	N.A.	
8. 3-MONTH TREASURY BILL RATE (PERCENT)	42	0.06	0.07	0.08	0.10	0.10	0.12	0.06	0.09	0.35	1.50	2.78	
9. AAA CORPORATE BOND YIELD (PERCENT)	33	4.59	4.60	4.70	4.80	4.89	4.97	4.24	4.73	5.08	N.A.	N.A.	
10. BAA CORPORATE BOND YIELD (PERCENT)	32	5.36	5.35	5.47	5.60	5.75	5.83	5.10	5.52	6.00	N.A.	N.A.	
11. 10-YEAR TREASURY BOND YIELD (PERCENT)	43	2.75	2.84	3.00	3.12	3.25	3.40	2.35	3.06	3.58	4.05	4.43	
12. REAL GDP (BILLIONS, CHAIN WEIGHTED)	43	15966	16045	16164	16276	16386	16517	15767	16216	16721	17247	17665	
13. TOTAL CONSUMPTION EXPENDITURE (BILLIONS, CHAIN WEIGHTED)	41	10832.8	10900.9	10967.4	11043.4	11113.8	11186.4	10728.2	11007.8	11306.8	N.A.	N.A.	
14. NONRESIDENTIAL FIXED INVESTMENT (BILLIONS, CHAIN WEIGHTED)	39	2013.5	2038.0	2066.8	2096.5	2126.3	2157.5	1982.1	2080.7	2207.0	N.A.	N.A.	
15. RESIDENTIAL FIXED INVESTMENT (BILLIONS, CHAIN WEIGHTED)	39	486.5	498.2	513.5	528.5	546.9	565.2	486.0	521.5	578.3	N.A.	N.A.	
16. FEDERAL GOVERNMENT C & I (BILLIONS, CHAIN WEIGHTED)	38	1125.2	1130.4	1131.3	1133.0	1134.2	1133.5	1157.5	1132.7	1133.7	N.A.	N.A.	
17. STATE AND LOCAL GOVT C & I (BILLIONS, CHAIN WEIGHTED)	38	1745.4	1748.9	1751.6	1755.0	1759.5	1764.6	1739.7	1753.4	1772.1	N.A.	N.A.	
18. CHANGE IN PRIVATE INVENTORIES (BILLIONS, CHAIN WEIGHTED)	39	127.2	90.0	74.5	65.0	57.1	60.3	85.4	72.8	61.3	N.A.	N.A.	
19. NET EXPORTS (BILLIONS, CHAIN WEIGHTED)	39	-370.1	-370.0	-370.5	-370.0	-373.0	-378.7	-409.1	-373.8	-381.4	N.A.	N.A.	

SOURCE: RESEARCH DEPARTMENT, FEDERAL RESERVE BANK OF PHILADELPHIA. SURVEY OF PROFESSIONAL FORECASTERS, FIRST QUARTER 2014.

TABLE TWO
MAJOR MACROECONOMIC INDICATORS
PERCENTAGE CHANGES AT ANNUAL RATES

	NUMBER OF FORECASTERS	Q4 2013 TO Q1 2014	Q1 2014 TO Q2 2014	Q2 2014 TO Q3 2014	Q3 2014 TO Q4 2014	Q4 2014 TO Q1 2015	2013 TO 2014	2014 TO 2015	2015 TO 2016	2016 TO 2017
1. GROSS DOMESTIC PRODUCT (GDP) (\$ BILLIONS)	43	3.5	4.4	4.4	4.8	4.9	4.4	4.8	N.A.	N.A.
2. GDP PRICE INDEX (2009=100)	42	1.7	1.6	1.9	1.9	2.0	1.6	2.0	N.A.	N.A.
3. CORPORATE PROFITS AFTER TAXES (\$ BILLIONS)	23	0.0	4.9	7.7	0.4	7.3	5.6	5.4	N.A.	N.A.
4. UNEMPLOYMENT RATE (PERCENT)	44	-0.3	-0.1	-0.2	-0.1	-0.1	-0.9	-0.4	-0.3	-0.2
5. NONFARM PAYROLL EMPLOYMENT (PERCENT CHANGE) (AVG MONTHLY CHANGE)	38 38	1.6 177.4	1.7 193.5	1.7 195.2	1.9 215.0	1.7 201.0	1.7 187.7	1.8 206.9	N.A. N.A.	N.A. N.A.
6. INDUSTRIAL PRODUCTION (2007=100)	38	3.8	2.8	3.1	3.1	3.6	3.7	3.1	N.A.	N.A.
7. NEW PRIVATE HOUSING STARTS (ANNUAL RATE, MILLIONS)	40	8.8	24.3	20.8	18.7	15.1	19.2	13.9	N.A.	N.A.
8. 3-MONTH TREASURY BILL RATE (PERCENT)	42	0.01	0.01	0.02	0.01	0.02	0.03	0.26	1.15	1.28
9. AAA CORPORATE BOND YIELD (PERCENT)	33	0.01	0.10	0.10	0.09	0.08	0.49	0.35	N.A.	N.A.
10. BAA CORPORATE BOND YIELD (PERCENT)	32	-0.01	0.12	0.13	0.15	0.08	0.42	0.48	N.A.	N.A.
11. 10-YEAR TREASURY BOND YIELD (PERCENT)	43	0.09	0.16	0.12	0.13	0.15	0.71	0.52	0.47	0.38
12. REAL GDP (BILLIONS, CHAIN WEIGHTED)	43	2.0	3.0	2.8	2.7	3.2	2.8	3.1	3.1	2.4
13. TOTAL CONSUMPTION EXPENDITURE (BILLIONS, CHAIN WEIGHTED)	41	2.5	2.5	2.8	2.6	2.6	2.6	2.7	N.A.	N.A.
14. NONRESIDENTIAL FIXED INVESTMENT (BILLIONS, CHAIN WEIGHTED)	39	5.0	5.8	5.9	5.8	6.0	5.0	6.1	N.A.	N.A.
15. RESIDENTIAL FIXED INVESTMENT (BILLIONS, CHAIN WEIGHTED)	39	10.0	12.8	12.2	14.7	14.0	7.3	10.9	N.A.	N.A.
16. FEDERAL GOVERNMENT C & I (BILLIONS, CHAIN WEIGHTED)	38	1.8	0.3	0.6	0.4	-0.2	-2.1	0.1	N.A.	N.A.
17. STATE AND LOCAL GOVT C & I (BILLIONS, CHAIN WEIGHTED)	38	0.8	0.6	0.8	1.0	1.2	0.8	1.1	N.A.	N.A.
18. CHANGE IN PRIVATE INVENTORIES (BILLIONS, CHAIN WEIGHTED)	39	-37.2	-15.5	-9.5	-7.9	3.2	-12.6	-11.5	N.A.	N.A.
19. NET EXPORTS (BILLIONS, CHAIN WEIGHTED)	39	0.1	-0.5	0.5	-3.0	-5.7	35.4	-7.6	N.A.	N.A.

NOTE: FIGURES FOR UNEMPLOYMENT RATE, TREASURY BILL RATE, AAA CORPORATE BOND YIELD, BAA CORPORATE BOND YIELD, AND 10-YEAR TREASURY BOND YIELD ARE CHANGES IN THESE RATES, IN PERCENTAGE POINTS. FIGURES FOR CHANGE IN PRIVATE INVENTORIES AND NET EXPORTS ARE CHANGES IN BILLIONS OF CHAIN-WEIGHTED DOLLARS. ALL OTHERS ARE PERCENTAGE CHANGES AT ANNUAL RATES.

SOURCE: RESEARCH DEPARTMENT, FEDERAL RESERVE BANK OF PHILADELPHIA. SURVEY OF PROFESSIONAL FORECASTERS, FIRST QUARTER 2014.

TABLE THREE
 MAJOR PRICE INDICATORS
 MEDIANS OF FORECASTER PREDICTIONS

	NUMBER OF FORECASTERS	ACTUAL	FORECAST(Q/Q)					ACTUAL	FORECAST(Q4/Q4)			
		2013 Q4	2014 Q1	2014 Q2	2014 Q3	2014 Q4	2015 Q1	2013 ANNUAL	2014 ANNUAL	2015 ANNUAL	2016 ANNUAL	
1. CONSUMER PRICE INDEX (ANNUAL RATE)	44	0.9	1.7	1.7	1.9	2.0	2.0	1.2	1.8	2.0	2.1	
2. CORE CONSUMER PRICE INDEX (ANNUAL RATE)	40	1.6	1.8	1.8	1.9	1.9	2.1	1.7	1.9	2.0	2.1	
3. PCE PRICE INDEX (ANNUAL RATE)	38	0.7	1.3	1.5	1.7	1.7	1.8	0.9	1.6	1.8	2.0	
4. CORE PCE PRICE INDEX (ANNUAL RATE)	39	1.1	1.5	1.5	1.6	1.7	1.8	1.1	1.6	1.8	1.9	

SOURCE: RESEARCH DEPARTMENT, FEDERAL RESERVE BANK OF PHILADELPHIA. SURVEY OF PROFESSIONAL FORECASTERS, FIRST QUARTER 2014.

TABLE FOUR
ESTIMATED PROBABILITY OF DECLINE IN REAL GDP

ESTIMATED PROBABILITY (CHANCES IN 100)	Q4 2013	Q1 2014	Q2 2014	Q3 2014	Q4 2014
	TO Q1 2014	TO Q2 2014	TO Q3 2014	TO Q4 2014	TO Q1 2015

NUMBER OF FORECASTERS

10 OR LESS	26	30	26	24	24
11 TO 20	9	6	13	13	11
21 TO 30	4	5	2	4	4
31 TO 40	1	0	0	0	2
41 TO 50	0	0	0	0	0
51 TO 60	1	0	0	0	0
61 TO 70	0	0	0	0	0
71 TO 80	0	0	0	0	0
81 TO 90	0	0	0	0	0
91 AND OVER	0	0	0	0	0
NOT REPORTING	4	4	4	4	4

MEAN AND MEDIAN

MEDIAN PROBABILITY	10.00	7.84	8.00	8.90	8.00
MEAN PROBABILITY	11.17	9.30	10.55	11.37	11.71

NOTE: TOTAL NUMBER OF FORECASTERS REPORTING IS 41.
SOURCE: RESEARCH DEPARTMENT, FEDERAL RESERVE BANK OF PHILADELPHIA.
SURVEY OF PROFESSIONAL FORECASTERS, FIRST QUARTER 2014.

TABLE FIVE
MEAN PROBABILITIES

MEAN PROBABILITY ATTACHED TO POSSIBLE
CIVILIAN UNEMPLOYMENT RATES:
(ANNUAL AVERAGE)

	2014	2015	2016	2017
9.0 PERCENT OR MORE	0.03	0.16	0.24	0.29
8.0 TO 8.9 PERCENT	0.11	0.40	0.62	0.78
7.5 TO 7.9 PERCENT	1.50	1.49	1.30	1.40
7.0 TO 7.4 PERCENT	9.41	4.94	3.96	3.31
6.5 TO 6.9 PERCENT	39.85	15.54	9.78	7.76
6.0 TO 6.4 PERCENT	37.12	39.90	25.37	16.14
5.5 TO 5.9 PERCENT	9.61	26.66	34.91	29.24
5.0 TO 5.4 PERCENT	1.73	9.32	17.76	27.97
4.0 TO 4.9 PERCENT	0.44	1.34	5.61	11.03
LESS THAN 4.0 PERCENT	0.20	0.26	0.45	2.06

MEAN PROBABILITY ATTACHED TO POSSIBLE
PERCENT CHANGES IN REAL GDP:
(ANNUAL-AVERAGE OVER ANNUAL-AVERAGE)

	2013-2014	2014-2015	2015-2016	2016-2017
6.0 OR MORE	0.18	0.69	0.88	0.96
5.0 TO 5.9	1.30	2.37	2.61	2.15
4.0 TO 4.9	5.86	8.94	10.34	8.54
3.0 TO 3.9	30.72	32.40	29.54	27.80
2.0 TO 2.9	41.97	35.44	35.09	35.58
1.0 TO 1.9	13.83	12.99	12.61	14.58
0.0 TO 0.9	4.34	4.70	5.74	6.44
-1.0 TO -0.1	1.38	1.87	1.90	2.49
-2.0 TO -1.1	0.34	0.47	0.81	0.92
-3.0 TO -2.1	0.07	0.11	0.41	0.35
LESS THAN -3.0	0.00	0.03	0.06	0.18

MEAN PROBABILITY ATTACHED TO POSSIBLE
PERCENT CHANGES IN GDP PRICE INDEX:
(ANNUAL-AVERAGE OVER ANNUAL-AVERAGE)

	2013-2014	2014-2015
4.0 OR MORE	0.33	0.42
3.5 TO 3.9	0.43	0.70
3.0 TO 3.4	1.37	2.20
2.5 TO 2.9	5.10	10.84
2.0 TO 2.4	21.56	29.64
1.5 TO 1.9	39.08	33.97
1.0 TO 1.4	22.61	13.81
0.5 TO 0.9	6.44	5.60
0.0 TO 0.4	2.50	2.15
WILL DECLINE	0.60	0.65

SOURCE: RESEARCH DEPARTMENT, FEDERAL RESERVE BANK OF PHILADELPHIA.
SURVEY OF PROFESSIONAL FORECASTERS, FIRST QUARTER 2014.

TABLE SIX
 MEAN PROBABILITY OF CORE CPI AND CORE PCE INFLATION (Q4/Q4)

MEAN PROBABILITY ATTACHED TO CORE CPI INFLATION:

	13Q4 TO 14Q4	14Q4 TO 15Q4
	-----	-----
4 PERCENT OR MORE	0.22	0.61
3.5 TO 3.9 PERCENT	0.42	0.97
3.0 TO 3.4 PERCENT	2.29	3.16
2.5 TO 2.9 PERCENT	9.24	15.08
2.0 TO 2.4 PERCENT	27.24	30.11
1.5 TO 1.9 PERCENT	40.91	33.85
1.0 TO 1.4 PERCENT	14.31	10.77
0.5 TO 0.9 PERCENT	3.77	3.79
0.0 TO 0.4 PERCENT	1.17	1.10
WILL DECLINE	0.41	0.56

MEAN PROBABILITY ATTACHED TO CORE PCE INFLATION:

	13Q4 TO 14Q4	14Q4 TO 15Q4
	-----	-----
4 PERCENT OR MORE	0.03	0.10
3.5 TO 3.9 PERCENT	0.06	0.46
3.0 TO 3.4 PERCENT	1.61	2.15
2.5 TO 2.9 PERCENT	7.84	11.33
2.0 TO 2.4 PERCENT	19.88	24.62
1.5 TO 1.9 PERCENT	38.34	36.00
1.0 TO 1.4 PERCENT	23.98	18.11
0.5 TO 0.9 PERCENT	6.60	5.26
0.0 TO 0.4 PERCENT	1.42	1.55
WILL DECLINE	0.24	0.42

SOURCE: RESEARCH DEPARTMENT, FEDERAL RESERVE BANK OF PHILADELPHIA.
 SURVEY OF PROFESSIONAL FORECASTERS, FIRST QUARTER 2014.

TABLE SEVEN
LONG-TERM (5-YEAR AND 10-YEAR) FORECASTS

ANNUAL AVERAGE OVER THE NEXT 5 YEARS: 2014-2018

=====

CPI INFLATION RATE		PCE INFLATION RATE	
-----		-----	
MINIMUM	0.81	MINIMUM	0.72
LOWER QUARTILE	2.00	LOWER QUARTILE	1.80
MEDIAN	2.10	MEDIAN	1.90
UPPER QUARTILE	2.32	UPPER QUARTILE	2.20
MAXIMUM	3.00	MAXIMUM	2.60
MEAN	2.14	MEAN	1.91
STD. DEVIATION	0.37	STD. DEVIATION	0.34
N	40	N	37
MISSING	5	MISSING	8

ANNUAL AVERAGE OVER THE NEXT 10 YEARS: 2014-2023

=====

CPI INFLATION RATE		PCE INFLATION RATE	
-----		-----	
MINIMUM	1.21	MINIMUM	1.08
LOWER QUARTILE	2.05	LOWER QUARTILE	1.90
MEDIAN	2.30	MEDIAN	2.00
UPPER QUARTILE	2.50	UPPER QUARTILE	2.30
MAXIMUM	3.40	MAXIMUM	2.90
MEAN	2.29	MEAN	2.06
STD. DEVIATION	0.39	STD. DEVIATION	0.37
N	40	N	37
MISSING	5	MISSING	8

REAL GDP GROWTH RATE		PRODUCTIVITY GROWTH RATE	
-----		-----	
MINIMUM	1.75	MINIMUM	1.00
LOWER QUARTILE	2.40	LOWER QUARTILE	1.50
MEDIAN	2.60	MEDIAN	1.80
UPPER QUARTILE	2.80	UPPER QUARTILE	2.00
MAXIMUM	3.50	MAXIMUM	2.40
MEAN	2.57	MEAN	1.76
STD. DEVIATION	0.39	STD. DEVIATION	0.37
N	38	N	29
MISSING	7	MISSING	16

STOCK RETURNS (S&P 500)		BOND RETURNS (10-YEAR)		BILL RETURNS (3-MONTH)	
-----		-----		-----	
MINIMUM	2.70	MINIMUM	2.70	MINIMUM	0.10
LOWER QUARTILE	5.00	LOWER QUARTILE	4.00	LOWER QUARTILE	1.92
MEDIAN	6.00	MEDIAN	4.35	MEDIAN	2.50
UPPER QUARTILE	7.20	UPPER QUARTILE	4.70	UPPER QUARTILE	2.88
MAXIMUM	12.00	MAXIMUM	5.30	MAXIMUM	4.20
MEAN	6.43	MEAN	4.25	MEAN	2.37
STD. DEVIATION	2.07	STD. DEVIATION	0.64	STD. DEVIATION	0.85
N	27	N	33	N	32
MISSING	18	MISSING	12	MISSING	13

SOURCE: RESEARCH DEPARTMENT, FEDERAL RESERVE BANK OF PHILADELPHIA.
SURVEY OF PROFESSIONAL FORECASTERS, FIRST QUARTER 2014.



THE

LIVINGSTON SURVEY

Release Date: December 12, 2013

DECEMBER 2013

Forecasters Cut Predictions for Growth Early Next Year but Shave Their Estimates for Unemployment

The 33 participants in the December Livingston Survey predict sustained output growth through the end of 2014. The forecasters, who are surveyed by the Federal Reserve Bank of Philadelphia twice a year, project that the economy's output (real GDP) will grow at an annual rate of 2.4 percent for the second half of 2013. They predict that the growth rate of economic output will increase to 2.5 percent (annual rate) in the first half of 2014 and 2.8 percent (annual rate) in the second half of 2014. The current projection for growth in the second half of 2013 increased 0.1 percentage point from the survey of six months ago, while the forecast for the first half of 2014 decreased 0.3 percentage point.

Projections for the unemployment rate have been revised downward. The forecasters predict that the unemployment rate will be 7.2 percent in December 2013 and 7.0 percent in June 2014. The current projections for December 2013 and June 2014 are down 0.2 percentage point from the last survey. The unemployment rate is then expected to fall to 6.7 percent in December 2014.

	<i>Growth Rate of Real GDP (%)</i>			<i>Unemployment Rate (%)</i>	
	<i>Previous</i>	<i>New</i>		<i>Previous</i>	<i>New</i>
<i>Half-year data:</i>					
2013 Q2 to 2013 Q4	2.3	2.4	December 2013	7.4	7.2
2013 Q4 to 2014 Q2	2.8	2.5	June 2014	7.2	7.0
2014 Q2 to 2014 Q4	N.A.	2.8	December 2014	N.A.	6.7

Forecasters Trim Their Estimates for 2014 CPI Inflation

On an annual-average over annual-average basis, CPI inflation is expected to be 1.5 percent in 2013 and 1.8 percent in 2014. The 2014 projection is down 0.2 percentage point from the estimate in the June survey. PPI inflation is expected to be 1.3 percent in 2013 and 1.5 percent in 2014. These projections are unchanged from those of the last survey.

	<i>CPI Inflation (%)</i>		<i>PPI Inflation (%)</i>	
	<i>Previous</i>	<i>New</i>	<i>Previous</i>	<i>New</i>
<i>Annual average data:</i>				
2012 to 2013	1.5	1.5	1.3	1.3
2013 to 2014	2.0	1.8	1.5	1.5
2014 to 2015	N.A.	2.1	N.A.	1.6

RESEARCH DEPARTMENT FEDERAL RESERVE BANK OF PHILADELPHIA

Ten Independence Mall, Philadelphia, PA 19106-1574 • www.philadelphiafed.org

Long-Term Interest Rates Revised Upward

The forecast for the interest rate on three-month Treasury bills is lower than that of six months ago, while the rate on 10-year Treasury bonds is higher. At the end of June 2014, the interest rate on three-month Treasury bills is predicted to be 0.09 percent, revised down from 0.14 percent in the survey of six months ago. The forecasters predict that the rate will then rise to 0.15 percent at the end of 2014, and then to 0.75 percent at the end of 2015. The interest rate on 10-year Treasury bonds is predicted to reach 3.01 percent at the end of June 2014, up from the previous estimate of 2.38 percent. According to the forecasters, it will then rise to 3.25 percent at the end of 2014, and to 3.88 percent at the end of 2015.

	<i>3-Month Treasury Bill</i>		<i>10-Year Treasury Bond</i>	
	<i>Interest Rate</i>		<i>Interest Rate</i>	
	<i>Previous</i>	<i>New</i>	<i>Previous</i>	<i>New</i>
Dec. 31, 2013	0.10	0.06	2.20	2.78
June 30, 2014	0.14	0.09	2.38	3.01
Dec. 31, 2014	0.20	0.15	2.65	3.25
Dec. 31, 2015	N.A.	0.75	N.A.	3.88

2013 Livingston Survey Participants

S. Anderson	Bank of the West	K. Mayland	Clear View Economics
B. Bovino	Standard & Poor's	G. Mokrzan	Huntington National Bank
J. Butkiewicz	University of Delaware	M. Moran	Daiwa Capital Markets America
R. Chase	Economic & Policy Resources Inc	J. Mueller	LBMC, LLC
C. Chrappa	Independent Equipment Company	F. Nothaft	Federal Home Loan Mortgage Corp.
D. Crowe	National Association of Home Builders	M. Regalia	U.S. Chamber of Commerce
R. Dhawan	Georgia State University	C. Rupkey	Bank of Tokyo-Mitsubishi UFJ
M. Englund	Action Economics, LLC	J. Silvia	Wells Fargo Securities, LLC
K. Goldstein/B. Ark	Conference Board	A. Sinai	Decision Economics, Inc.
P. Hooper	Deutsche Bank Securities Inc.	J. Smith	Parsec Financial Management, Inc.
B. Horrigan	Loomis Sayles & Co.	S. Snaith	University of Central Florida
S. Kahan	Kahan Consulting Ltd.	S. Stanley	Pierpont Securities
D. Knop	Independent Economist	D. Torgerson	USDA
T. Lam	OSK-DMG	B. Wesbury/R. Stein	First Trust Advisors, L.P.
E. Leamer/D. Shulman	University of California, Los Angeles	R. Yamarone	Bloomberg, LP
J. Lonski	Moody's Capital Markets Group	L. Yun	National Association of Realtors
D. Maki	Barclays Capital		

Outlook for Long-Term Inflation Revised Downward

The panelists project lower long-term inflation, but their projection for long-term output growth is unchanged. The forecasters now predict that inflation (measured by the consumer price index) will grow 2.35 percent annually over the next 10 years, which is lower than the forecast of 2.50 percent in the survey of six months ago. Real GDP growth is expected to average 2.60 percent over the next 10 years, the same estimate as in the previous survey.

Stock Prices Are Projected to Rise

The forecasters predict the S&P 500 index will finish 2013 at a level of 1800.7, an upward revision from the previous estimate of 1667.8. The forecasters project an increase in stock prices over the next two years, with the index rising to 1841.1 by the end of June 2014, and then to 1875.0 by the end of 2014, above the previous estimates of 1713.1 and 1750.0, respectively.

Stock Prices (end of period)

S&P 500 Index

Previous New

Dec. 31, 2013	1667.8	1800.7
June 30, 2014	1713.1	1841.1
Dec. 31, 2014	1750.0	1875.0
Dec. 31, 2015	N.A.	1948.5

Technical Notes

This news release reports the median value across the 33 forecasters on the survey's panel.

Special Note: Housing Starts

Due to delays in the release of historical data caused by the federal government shutdown, for the projections for housing starts, we used monthly historical values through August 2013, which were the only data available at the time we conducted the survey. (Normally, monthly historical values through October would be used to generate the projections for December's Livingston Survey.)

In the .XLS files that contain this survey's responses, the *BasePeriod* value (for October 2013) is based on the panelists' projections and not a historical value.

The Philadelphia Fed's Livingston Survey is the oldest continuous survey of economists' expectations. The survey was started in 1946 by the late columnist Joseph A. Livingston. It summarizes the forecasts of economists from industry, government, banking, and academia. It is published twice a year, in June and December.

To subscribe to the survey, go to http://www.philadelphiafed.org/philscriber/user/dsp_content.cfm.

LIVINGSTON SURVEY
MAJOR MACROECONOMIC INDICATORS, 2013-2015

QUARTERLY INDICATORS (percentage changes at annual rates)	Q2 2013 TO Q4 2013	Q4 2013 TO Q2 2014	Q2 2014 TO Q4 2014	2012 TO 2013	2013 TO 2014	2014 TO 2015
Real Gross Domestic Product	2.4	2.5	2.8	1.7	2.5	2.9
Nominal Gross Domestic Product	3.9	4.4	4.7	3.2	4.2	4.8
Nonresidential Fixed Investment	3.2	4.6	5.1	2.3	4.4	5.6
Corporate Profits After Taxes	5.6	4.5	4.9	6.3	5.2	4.8
MONTHLY INDICATORS (percentage changes at annual rates)	JUN 2013 TO DEC 2013	DEC 2013 TO JUN 2014	JUN 2014 TO DEC 2014	2012 TO 2013	2013 TO 2014	2014 TO 2015
Industrial Production	2.6	3.1	3.2	2.4	2.9	3.7
Producer Prices - Finished Goods	1.1	1.7	2.0	1.3	1.5	1.6
Consumer Price Index (CPI-U)	1.4	1.8	2.0	1.5	1.8	2.1
Average Weekly Earnings in Mfg.	1.7	2.6	2.9	1.6	2.4	2.6
Retail Trade	3.4	4.8	5.0	4.3	4.2	5.0
(levels of variables)	DEC 2013	JUN 2014	DEC 2014	2013	2014	2015
Total Private Housing Starts (annual rate, millions)	0.960	1.100	1.207	0.917	1.109	1.283
Unemployment Rate (percent)	7.2	7.0	6.7	7.4	6.9	6.4
Automobile Sales (incl. foreign) (annual rate, millions)	7.6	7.8	8.0	7.6	7.9	8.1
FINANCIAL INDICATORS (levels of variables at end of month)	DEC 2013	JUN 2014	DEC 2014	DEC 2015		
Prime Interest Rate	3.25	3.25	3.25	4.00		
10-Year Treasury Note Yield	2.78	3.01	3.25	3.88		
3-Month Treasury Bill Rate	0.06	0.09	0.15	0.75		
Stock Prices (S&P500)	1800.7	1841.1	1875.0	1948.5		

LONG-TERM OUTLOOK

Average Annual Growth Rate for the Next 10 Years

Real GDP 2.6

Consumer Price Index 2.3

Source: Research Department, Federal Reserve Bank of Philadelphia, Livingston Survey, December 2013

LIVINGSTON SURVEY

December 2013

Tables

Note: Data in these tables listed as “actual” are the data that were available to the forecasters when they were sent the survey questionnaire on Nov 26; the tables do not reflect subsequent revisions to the data. All forecasts were received on or before December 5.

Special Note: Housing Starts

Due to delays in the release of historical data caused by the federal government shutdown, for the projections for housing starts, we used monthly historical values through August 2013, which were the only data available at the time we conducted the survey. (Normally, monthly historical values through October would be used to generate the projections for December’s Livingston Survey.)

In the .XLS files that contain this survey’s responses, the *BasePeriod* value (for October 2013) is based on the panelists’ projections and not a historical value.

TABLE ONE
 MAJOR MACROECONOMIC INDICATORS, 2013-2015
 MEDIANS OF FORECASTER PREDICTIONS

QUARTERLY INDICATORS	NUMBER OF FORE- CASTERS	ACTUAL	FORECASTS				ACTUAL	FORECASTS		
		2013 Q2	2013 Q4	2014 Q2	2014 Q4	2012	2013	2014	2015	
1. Real Gross Domestic Product (billions, chain weighted)	33	15679.7	15868.5	16065.5	16286.6	15470.7	15730.5	16126.8	16595.7	
2. Nominal Gross Domestic Product (\$ billions)	33	16661.0	16986.8	17354.7	17757.0	16244.6	16760.2	17465.8	18310.0	
3. Nonresidential Fixed Investment (billions, chain weighted)	31	1971.3	2003.0	2048.6	2100.0	1931.8	1977.0	2063.4	2178.9	
4. Corporate Profits After Taxes (\$ billions)	22	1669.2	1715.7	1753.8	1796.5	1574.7	1674.1	1760.9	1845.9	
MONTHLY INDICATORS		ACTUAL JUN 2013	DEC 2013	FORECASTS JUN 2014	DEC 2014	ACTUAL 2012	2013	FORECASTS 2014	2015	
5. Industrial Production (2007=100)	30	99.2	100.5	102.0	103.6	97.1	99.4	102.3	106.1	
6. Total Private Housing Starts (annual rate, millions)	31	0.835	0.960	1.100	1.207	0.783	0.917	1.109	1.283	
7. Producer Prices - Finished Goods (index level)	28	196.9	197.9	199.6	201.6	194.5	197.0	200.0	203.1	
8. Consumer Price Index (CPI-U) (index level)	32	232.9	234.6	236.7	239.1	229.6	233.0	237.1	242.0	
9. Unemployment Rate (percent)	32	7.6	7.2	7.0	6.7	8.1	7.4	6.9	6.4	
10. Average Weekly Earnings in Mfg. (\$)	14	808.9	815.7	826.0	837.9	794.8	807.5	826.9	848.5	
11. Retail Trade (\$ billions)	21	423.8	431.0	441.2	452.2	406.3	423.7	441.6	463.5	
12. Automobile Sales (incl. foreign) (annual rate, millions)	24	7.7	7.6	7.8	8.0	7.2	7.6	7.9	8.1	

TABLE ONE (CONTINUED)

INTEREST RATES & STOCK PRICES (end of period)		ACTUAL	FORECASTS			
		JUN 2013	DEC 2013	JUN 2014	DEC 2014	DEC 2015
13. Prime Interest Rate (percent)	32	3.25	3.25	3.25	3.25	4.00
14. 10-Year Treasury Note Yield (percent)	32	2.52	2.78	3.01	3.25	3.88
15. 3-Month Treasury Bill Rate (percent)	32	0.04	0.06	0.09	0.15	0.75
16. Stock Prices (S&P500) (index level)	21	1606.3	1800.7	1841.1	1875.0	1948.5

Source: Research Department, Federal Reserve Bank of Philadelphia, Livingston Survey, December 2013

TABLE TWO
 MAJOR MACROECONOMIC INDICATORS, 2013-2015
 PERCENTAGE CHANGES AT ANNUAL RATES

QUARTERLY INDICATORS	NUMBER OF FORE- CASTERS	Q2 2013	Q4 2013	Q2 2014	2012	2013	2014
		TO Q4 2013	TO Q2 2014	TO Q4 2014	TO 2013	TO 2014	TO 2015
1. Real Gross Domestic Product	33	2.4	2.5	2.8	1.7	2.5	2.9
2. Nominal Gross Domestic Product	33	3.9	4.4	4.7	3.2	4.2	4.8
3. Nonresidential Fixed Investment	31	3.2	4.6	5.1	2.3	4.4	5.6
4. Corporate Profits After Taxes	22	5.6	4.5	4.9	6.3	5.2	4.8
MONTHLY INDICATORS		JUN 2013	DEC 2013	JUN 2014	2012	2013	2014
		TO DEC 2013	TO JUN 2014	TO DEC 2014	TO 2013	TO 2014	TO 2015
5. Industrial Production	30	2.6	3.1	3.2	2.4	2.9	3.7
6. Total Private Housing Starts	31	0.125	0.140	0.107	0.134	0.191	0.174
7. Producer Prices - Finished Goods	28	1.1	1.7	2.0	1.3	1.5	1.6
8. Consumer Price Index (CPI-U)	32	1.4	1.8	2.0	1.5	1.8	2.1
9. Unemployment Rate	32	-0.4	-0.2	-0.3	-0.7	-0.5	-0.5
10. Average Weekly Earnings in Mfg.	14	1.7	2.6	2.9	1.6	2.4	2.6
11. Retail Trade	21	3.4	4.8	5.0	4.3	4.2	5.0
12. Automobile Sales (incl. foreign)	24	-0.1	0.2	0.2	0.4	0.3	0.2

		JUN 2013	DEC 2013	JUN 2014	DEC 2014
		TO	TO	TO	TO
INTEREST RATES & STOCK PRICES		DEC 2013	JUN 2014	DEC 2014	DEC 2015
13. Prime Interest Rate	32	0.00	0.00	0.00	0.75
14. 10-Year Treasury Note Yield	32	0.26	0.23	0.24	0.63
15. 3-Month Treasury Bill Rate	32	0.02	0.03	0.06	0.60
16. Stock Prices (S&P500)	21	25.7	4.5	3.7	3.9

Note: Figures for housing starts, unemployment rate, auto sales, prime interest rate, 10-year Treasury bond, and 90-day Treasury bill are changes in levels. All others are percentage changes at annual rates.

Source: Research Department, Federal Reserve Bank of Philadelphia, Livingston Survey, December 2013

TABLE THREE
LONG-TERM (10 YEAR) FORECASTS

SERIES: CPI Inflation Rate

STATISTIC	
Minimum	1.20
Lower Quartile	2.00
Median	2.35
Upper Quartile	2.50
Maximum	3.30
Mean	2.30
Std. Deviation	0.44
N	31
Missing	2

SERIES: Real GDP

STATISTIC	
Minimum	2.00
Lower Quartile	2.40
Median	2.60
Upper Quartile	2.70
Maximum	3.20
Mean	2.55
Std. Deviation	0.30
N	31
Missing	2

Download Page H.15 Selected Interest Rates for Feb 10, 2014

Series Description	Market yield on U.S. Treasury securities at 1-year constant maturity, quoted on investment basis		Market yield on U.S. Treasury securities at 5-year constant maturity, quoted on investment basis, inflation-		Market yield on U.S. Treasury securities at 10-year constant maturity, quoted on investment basis, inflation-		Market yield on U.S. Treasury securities at 20-year constant maturity, quoted on investment basis, inflation-indexed		Inflation on 10 year	Average	Inflation on 20 year	Average	Used in 3 stage growth Model
	Percent:_Per_Yr	Percent:_Per_Yr	Percent:_Per_Yr	Percent:_Per_Yr	Percent:_Per_Yr	Percent:_Per_Yr	Percent:_Per_Yr	Percent:_Per_Yr					
Unit:	1	1	1	1	1	1	1	1					
Multiplier:	NA	NA	NA	NA	NA	NA	NA	NA					
Currency:	NA	NA	NA	NA	NA	NA	NA	NA					
Unique Identifier:	H15/H15/RIFLGI	H15/H15/RIFLGI	H15/H15/RIFI	H15/H15/RIFL	H15/H15/RIFL	H15/H15/RIFL	H15/H15/RIFL	H15/H15/RIFL	H15/H15/RIFL	H15/H15/RIFL	H15/H15/RIFL	H15/H15/RIFL	H15/H15/RIFL
Time Period	RIFLGF01	RIFLGF05	RIFLGF05	RIFLGF10	RIFLGF10	RIFLGF10	RIFLGF20	RIFLGF20					
2013-01-04	0.15	0.78	-1.34	1.87	-0.6	2.64	0.24	2.47	2.277308	2.4	2.367115		
2013-01-11	0.14	0.79	-1.38	1.9	-0.62	2.67	0.18	2.52		2.49			
2013-01-18	0.14	0.77	-1.41	1.87	-0.65	2.63	0.16	2.52		2.47			
2013-01-25	0.15	0.79	-1.41	1.9	-0.63	2.66	0.19	2.53		2.47			
2013-02-01	0.15	0.89	-1.4	2.02	-0.55	2.79	0.23	2.57		2.56			
2013-02-08	0.15	0.85	-1.44	2	-0.57	2.8	0.2	2.57		2.6			
2013-02-15	0.15	0.88	-1.35	2.01	-0.56	2.81	0.21	2.57		2.6			
2013-02-22	0.17	0.87	-1.33	2	-0.54	2.8	0.21	2.54		2.59			
2013-03-01	0.17	0.77	-1.41	1.88	-0.63	2.7	0.12	2.51		2.58			
2013-03-08	0.15	0.82	-1.41	1.96	-0.59	2.78	0.17	2.55		2.61			
2013-03-15	0.15	0.88	-1.41	2.04	-0.52	2.86	0.25	2.56		2.61			
2013-03-22	0.15	0.8	-1.44	1.94	-0.59	2.77	0.2	2.53		2.57			
2013-03-29	0.14	0.78	-1.45	1.9	-0.62	2.73	0.17	2.52		2.56			
2013-04-05	0.13	0.73	-1.44	1.81	-0.67	2.64	0.09	2.48		2.55			
2013-04-12	0.12	0.72	-1.39	1.79	-0.66	2.58	0.08	2.45		2.5			
2013-04-19	0.12	0.71	-1.3	1.73	-0.62	2.51	0.08	2.35		2.43			
2013-04-26	0.12	0.7	-1.38	1.73	-0.65	2.5	0.03	2.38		2.47			
2013-05-03	0.11	0.68	-1.35	1.7	-0.62	2.49	0.07	2.32		2.42			
2013-05-10	0.11	0.76	-1.28	1.83	-0.49	2.63	0.23	2.32		2.4			
2013-05-17	0.12	0.83	-1.17	1.93	-0.37	2.74	0.34	2.3		2.4			
2013-05-24	0.12	0.88	-1.08	1.99	-0.28	2.8	0.43	2.27		2.37			
2013-05-31	0.14	1.03	-0.87	2.14	-0.09	2.93	0.59	2.23		2.34			
2013-06-07	0.14	1.04	-0.85	2.12	-0.04	2.93	0.68	2.16		2.25			
2013-06-14	0.14	1.11	-0.71	2.2	0.14	3	0.94	2.06		2.06			
2013-06-21	0.13	1.22	-0.55	2.33	0.33	3.11	1.14	2		1.97			
2013-06-28	0.16	1.44	-0.24	2.55	0.58	3.26	1.16	1.97		2.1			
2013-07-05	0.15	1.45	-0.38	2.56	0.52	3.25	1.12	2.04		2.13			
2013-07-12	0.13	1.48	-0.38	2.64	0.58	3.36	1.18	2.06		2.18			
2013-07-19	0.11	1.35	-0.54	2.54	0.39	3.28	1.03	2.15		2.25			
2013-07-26	0.11	1.36	-0.51	2.57	0.38	3.3	1.05	2.19		2.25			
2013-08-02	0.11	1.4	-0.47	2.64	0.44	3.38	1.08	2.2		2.3			
2013-08-09	0.12	1.38	-0.54	2.62	0.37	3.39	1	2.25		2.39			
2013-08-16	0.12	1.5	-0.36	2.73	0.53	3.5	1.15	2.2		2.35			
2013-08-23	0.14	1.64	-0.14	2.86	0.73	3.61	1.31	2.13		2.3			
2013-08-30	0.13	1.6	-0.22	2.76	0.63	3.48	1.18	2.13		2.3			
2013-09-06	0.15	1.76	0.03	2.92	0.85	3.59	1.35	2.07		2.24			
2013-09-13	0.13	1.73	-0.01	2.92	0.82	3.61	1.33	2.1		2.28			
2013-09-20	0.11	1.54	-0.28	2.79	0.6	3.53	1.21	2.19		2.32			
2013-09-27	0.1	1.43	-0.35	2.66	0.46	3.41	1.07	2.2		2.34			
2013-10-04	0.11	1.39	-0.38	2.64	0.45	3.42	1.07	2.19		2.35			
2013-10-11	0.14	1.43	-0.36	2.68	0.48	3.43	1.08	2.2		2.35			
2013-10-18	0.14	1.39	-0.39	2.66	0.48	3.41	1.1	2.18		2.31			
2013-10-25	0.11	1.32	-0.45	2.55	0.37	3.32	1.01	2.18		2.31			
2013-11-01	0.11	1.32	-0.44	2.57	0.39	3.34	1.02	2.18		2.32			
2013-11-08	0.11	1.36	-0.38	2.68	0.52	3.46	1.16	2.16		2.3			
2013-11-15	0.13	1.4	-0.4	2.74	0.56	3.53	1.21	2.18		2.32			
2013-11-22	0.13	1.37	-0.4	2.74	0.56	3.54	1.23	2.18		2.31			
2013-11-29	0.13	1.36	-0.36	2.74	0.57	3.52	1.21	2.17		2.31			
2013-12-06	0.13	1.46	-0.21	2.84	0.71	3.61	1.32	2.13		2.29			
2013-12-13	0.14	1.51	-0.13	2.86	0.72	3.6	1.31	2.14		2.29			
2013-12-20	0.13	1.58	-0.1	2.89	0.72	3.61	1.3	2.17		2.31			
2013-12-27	0.13	1.72	0.04	2.99	0.79	3.66	1.34	2.2		2.32			
2014-01-03	0.13	1.73	0.05	3.01	0.76	3.69	1.32	2.25		2.37			
2014-01-10	0.13	1.71	-0.07	2.96	0.68	3.63	1.22	2.28		2.41			
2014-01-17	0.11	1.65	-0.08	2.86	0.6	3.53	1.15	2.26		2.38			
2014-01-24	0.11	1.65	-0.08	2.82	0.62	3.47	1.14	2.2		2.33			
2014-01-31	0.11	1.55	-0.17	2.73	0.58	3.39	1.11	2.15		2.28			
2014-02-07	0.12	1.48	-0.29	2.68	0.53	3.37	1.1	2.15		2.27			

Cost of Capital

23-Jan-14

Industry Name	Number of Firms	Beta	Cost of Equity	E/(D+E)	Std Dev in Stock	Cost of Debt	Tax Rate	After-tax Cost of Debt	D/(D+E)	Cost of Capital
Advertising	65	1.03	8.19%	65.55%	113.36%	7.04%	6.04%	6.62%	34.45%	7.64%
Aerospace/Defense	95	1.01	8.08%	84.04%	88.97%	5.54%	15.03%	4.71%	15.96%	7.54%
Air Transport	25	0.94	7.73%	47.74%	92.87%	6.04%	13.79%	5.21%	52.26%	6.41%
Apparel	70	1.15	8.77%	82.42%	94.86%	6.04%	10.29%	5.42%	17.58%	8.18%
Auto & Truck	26	1.28	9.42%	50.62%	103.75%	7.04%	4.71%	6.71%	49.38%	8.08%
Auto Parts	75	1.46	10.35%	75.76%	102.64%	7.04%	9.43%	6.38%	24.24%	9.38%
Bank	7	0.72	6.62%	54.29%	41.40%	4.04%	22.17%	3.14%	45.71%	5.03%
Banks (Regional)	721	0.58	5.96%	58.14%	70.20%	5.04%	18.00%	4.13%	41.86%	5.19%
Beverage	47	1.42	10.16%	81.86%	109.89%	7.04%	3.95%	6.76%	18.14%	9.54%
Beverage (Alcoholic)	19	1.14	8.74%	78.40%	97.07%	6.04%	10.72%	5.39%	21.60%	8.01%
Biotechnology	349	1.12	8.62%	91.61%	133.64%	7.04%	1.13%	6.96%	8.39%	8.48%
Broadcasting	30	1.53	10.70%	67.35%	110.90%	7.04%	13.21%	6.11%	32.65%	9.20%
Brokerage & Investment Banking	49	1.11	8.58%	19.98%	87.95%	5.54%	13.44%	4.80%	80.02%	5.55%
Building Materials	37	1.27	9.40%	76.89%	85.47%	5.54%	16.33%	4.64%	23.11%	8.30%
Business & Consumer Services	179	0.90	7.53%	77.38%	89.91%	5.54%	13.41%	4.80%	22.62%	6.91%
Cable TV	16	0.97	7.91%	67.01%	86.81%	5.54%	15.00%	4.71%	32.99%	6.86%
Chemical (Basic)	47	1.01	8.10%	77.12%	108.14%	7.04%	6.27%	6.60%	22.88%	7.76%
Chemical (Diversified)	10	1.42	10.12%	74.97%	64.97%	4.54%	25.03%	3.40%	25.03%	8.44%
Chemical (Specialty)	100	1.01	8.11%	85.99%	85.18%	5.54%	12.74%	4.83%	14.01%	7.65%
Coal & Related Energy	45	1.28	9.42%	53.58%	120.20%	7.04%	2.44%	6.87%	46.42%	8.24%
Computer Services	129	0.92	7.65%	83.00%	96.81%	6.04%	9.94%	5.44%	17.00%	7.27%
Computer Software	273	1.07	8.38%	92.01%	100.31%	7.04%	6.16%	6.61%	7.99%	8.24%
Computers/Peripherals	66	1.15	8.79%	91.89%	111.60%	7.04%	5.66%	6.64%	8.11%	8.61%
Construction	18	0.96	7.84%	76.65%	94.83%	6.04%	9.82%	5.45%	23.35%	7.28%
Diversified	20	0.77	6.89%	51.42%	58.91%	4.54%	12.60%	3.97%	48.58%	5.47%
Educational Services	40	1.24	9.22%	71.93%	120.83%	7.04%	11.84%	6.21%	28.07%	8.37%
Electrical Equipment	135	1.14	8.75%	87.92%	109.94%	7.04%	7.49%	6.51%	12.08%	8.48%
Electronics	191	1.02	8.16%	86.20%	111.11%	7.04%	7.52%	6.51%	13.80%	7.94%
Electronics (Consumer & Office)	26	1.37	9.88%	71.27%	101.29%	7.04%	8.97%	6.41%	28.73%	8.88%
Engineering	56	1.20	9.04%	81.49%	89.28%	5.54%	14.86%	4.72%	18.51%	8.24%
Entertainment	85	1.19	8.98%	79.38%	102.02%	7.04%	4.85%	6.70%	20.62%	8.51%
Environmental & Waste Services	108	1.13	8.71%	69.64%	118.46%	7.04%	5.02%	6.69%	30.36%	8.10%
Farming/Agriculture	29	0.79	7.01%	70.86%	84.88%	5.54%	9.01%	5.04%	29.14%	6.44%
Financial Svcs.	76	0.99	7.97%	49.48%	79.79%	5.04%	18.37%	4.11%	50.52%	6.02%
Financial Svcs. (Non-bank & Insurance)	17	1.05	8.29%	23.18%	66.66%	5.04%	9.77%	4.55%	76.82%	5.41%
Food Processing	97	0.85	7.30%	78.17%	86.41%	5.54%	14.00%	4.76%	21.83%	6.74%
Food Wholesalers	18	1.18	8.92%	85.63%	91.05%	6.04%	10.69%	5.39%	14.37%	8.41%
Furn/Home Furnishings	36	1.24	9.25%	78.33%	100.03%	7.04%	10.03%	6.33%	21.67%	8.62%
Healthcare Equipment	193	0.85	7.31%	85.28%	105.14%	7.04%	5.80%	6.63%	14.72%	7.21%
Healthcare Facilities	47	1.13	8.68%	45.27%	90.96%	6.04%	13.49%	5.23%	54.73%	6.79%
Healthcare Products	58	1.00	8.06%	83.47%	100.72%	7.04%	8.76%	6.42%	16.53%	7.79%
Healthcare Services	126	0.83	7.20%	78.17%	91.19%	6.04%	13.77%	5.21%	21.83%	6.77%
Healthcare Information and Technology	125	0.99	8.00%	87.32%	112.18%	7.04%	6.09%	6.61%	12.68%	7.83%

Cost of Capital

23-Jan-14

Industry Name	Number of Firms	Beta	Cost of Equity	E/(D+E)	Std Dev in Stock	Cost of Debt	Tax Rate	After-tax Cost of Debt	D/(D+E)	Cost of Capital
Heavy Construction	46	1.67	11.39%	63.98%	89.60%	5.54%	19.40%	4.47%	36.02%	8.89%
Homebuilding	32	1.71	11.61%	63.85%	105.53%	7.04%	6.68%	6.57%	36.15%	9.78%
Hotel/Gaming	89	1.27	9.41%	65.65%	99.66%	6.04%	10.48%	5.41%	34.35%	8.03%
Household Products	139	1.00	8.06%	83.80%	106.72%	7.04%	9.51%	6.37%	16.20%	7.79%
Information Services	71	0.84	7.26%	90.39%	66.77%	5.04%	17.05%	4.18%	9.61%	6.96%
Insurance (General)	26	0.92	7.64%	68.43%	55.60%	4.54%	19.19%	3.67%	31.57%	6.38%
Insurance (Life)	27	1.21	9.09%	60.00%	57.69%	4.54%	17.82%	3.73%	40.00%	6.95%
Insurance (Prop/Cas.)	53	0.76	6.86%	74.09%	65.78%	5.04%	19.42%	4.06%	25.91%	6.13%
Internet software and services	330	1.05	8.27%	96.00%	120.28%	7.04%	4.59%	6.72%	4.00%	8.20%
Investment Co.	65	0.82	7.12%	48.92%	76.57%	5.04%	6.62%	4.71%	51.08%	5.89%
Machinery	141	1.04	8.25%	85.11%	78.89%	5.04%	13.02%	4.38%	14.89%	7.68%
Metals & Mining	134	1.26	9.34%	67.47%	127.20%	7.04%	1.90%	6.91%	32.53%	8.55%
Office Equipment & Services	30	1.14	8.76%	64.48%	81.92%	5.54%	12.81%	4.83%	35.52%	7.37%
Oil/Gas (Integrated)	8	1.00	8.06%	92.13%	52.52%	4.54%	20.55%	3.61%	7.87%	7.71%
Oil/Gas (Production and Exploration)	411	1.24	9.24%	39.04%	112.16%	7.04%	6.29%	6.60%	60.96%	7.63%
Oil/Gas Distribution	80	0.82	7.12%	65.82%	63.33%	4.54%	4.18%	4.35%	34.18%	6.18%
Oilfield Svcs/Equip.	163	1.30	9.56%	83.14%	101.55%	7.04%	10.73%	6.28%	16.86%	9.01%
Packaging & Container	24	0.99	7.97%	67.03%	56.60%	4.54%	21.28%	3.57%	32.97%	6.52%
Paper/Forest Products	21	1.34	9.72%	65.79%	75.10%	5.04%	8.20%	4.63%	34.21%	7.98%
Pharma & Drugs	138	1.10	8.56%	87.82%	117.64%	7.04%	4.30%	6.74%	12.18%	8.33%
Power	106	0.68	6.43%	54.02%	55.54%	4.54%	16.03%	3.81%	45.98%	5.23%
Precious Metals	166	1.33	9.71%	72.98%	140.33%	7.04%	0.82%	6.98%	27.02%	8.97%
Publishing & Newspapers	52	1.08	8.45%	73.09%	88.39%	5.54%	13.92%	4.77%	26.91%	7.46%
R.E.I.T.	46	0.78	6.95%	14.93%	56.02%	4.54%	2.48%	4.43%	85.07%	4.80%
Railroad	10	1.08	8.43%	80.85%	67.40%	5.04%	20.51%	4.01%	19.15%	7.59%
Real Estate (Development)	22	0.99	7.99%	80.06%	94.11%	6.04%	3.00%	5.86%	19.94%	7.57%
Real Estate (General/Diversified)	11	0.72	6.63%	85.25%	74.92%	5.04%	8.72%	4.60%	14.75%	6.33%
Real Estate (Operations & Services)	47	1.40	10.05%	62.67%	101.66%	7.04%	8.56%	6.44%	37.33%	8.70%
Recreation	70	1.30	9.56%	79.92%	97.36%	6.04%	8.81%	5.51%	20.08%	8.75%
Reinsurance	3	0.56	5.85%	72.20%	37.61%	4.04%	13.34%	3.50%	27.80%	5.20%
Restaurant	84	0.86	7.32%	78.39%	78.32%	5.04%	15.17%	4.28%	21.61%	6.66%
Retail (Automotive)	30	1.15	8.80%	63.49%	84.47%	5.54%	19.23%	4.47%	36.51%	7.22%
Retail (Building Supply)	7	1.07	8.38%	81.85%	97.40%	6.04%	21.97%	4.71%	18.15%	7.72%
Retail (Distributors)	87	1.00	8.04%	69.53%	85.26%	5.54%	16.18%	4.64%	30.47%	7.00%
Retail (General)	21	0.98	7.94%	73.74%	77.55%	5.04%	25.03%	3.78%	26.26%	6.84%
Retail (Grocery and Food)	21	0.81	7.11%	63.75%	79.40%	5.04%	22.83%	3.89%	36.25%	5.94%
Retail (Internet)	47	1.03	8.19%	95.18%	114.31%	7.04%	9.80%	6.35%	4.82%	8.10%
Retail (Special Lines)	137	0.99	7.97%	72.57%	91.79%	6.04%	18.90%	4.90%	27.43%	7.13%
Rubber& Tires	4	1.27	9.38%	47.67%	106.10%	7.04%	15.21%	5.97%	52.33%	7.59%
Semiconductor	104	1.19	9.01%	88.48%	95.41%	6.04%	7.30%	5.60%	11.52%	8.61%
Semiconductor Equip	51	1.25	9.31%	85.49%	101.14%	7.04%	5.13%	6.68%	14.51%	8.93%
Shipbuilding & Marine	14	1.50	10.52%	60.48%	117.34%	7.04%	4.99%	6.69%	39.52%	9.01%
Shoe	14	0.83	7.19%	92.69%	78.29%	5.04%	19.82%	4.04%	7.31%	6.96%
Steel	37	1.19	8.99%	68.54%	83.60%	5.54%	14.13%	4.76%	31.46%	7.66%
Telecom (Wireless)	28	0.68	6.44%	48.75%	96.71%	6.04%	11.54%	5.34%	51.25%	5.88%
Telecom. Equipment	131	1.14	8.76%	90.28%	106.61%	7.04%	6.90%	6.55%	9.72%	8.55%
Telecom. Services	82	0.94	7.74%	58.40%	98.32%	6.04%	8.40%	5.53%	41.60%	6.82%
Thrift	223	0.53	5.70%	1.84%	69.10%	5.04%	18.93%	4.09%	98.16%	4.12%

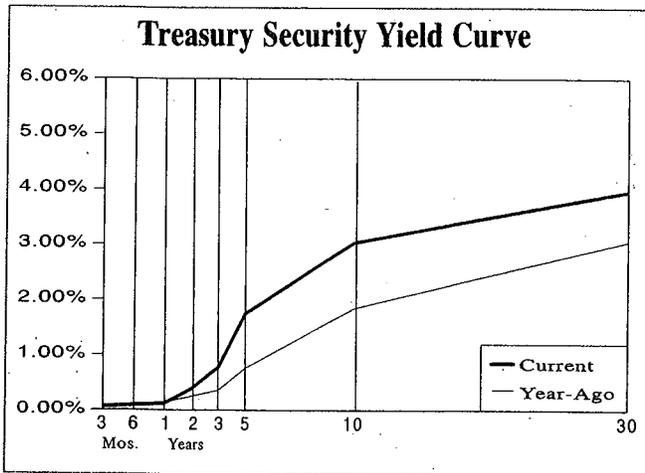
Cost of Capital

23-Jan-14

<i>Industry Name</i>	<i>Number of Firms</i>	<i>Beta</i>	<i>Cost of Equity</i>	<i>E/(D+E)</i>	<i>Std Dev in Stock</i>	<i>Cost of Debt</i>	<i>Tax Rate</i>	<i>After-tax Cost of Debt</i>	<i>D/(D+E)</i>	<i>Cost of Capital</i>
Tobacco	12	0.94	7.73%	82.76%	58.61%	4.54%	14.23%	3.89%	17.24%	7.07%
Transportation	22	1.01	8.07%	82.81%	75.94%	5.04%	21.21%	3.97%	17.19%	7.37%
Trucking	28	1.17	8.87%	56.03%	82.51%	5.54%	27.93%	3.99%	43.97%	6.73%
Utility (General)	20	0.56	5.84%	59.05%	33.80%	4.04%	29.93%	2.83%	40.95%	4.61%
Utility (Water)	20	0.75	6.78%	63.33%	77.13%	5.04%	14.52%	4.31%	36.67%	5.87%
Total Market	7766	1.01	8.07%	57.38%	94.94%	6.04%	10.32%	5.42%	42.62%	6.94%

Selected Yields

	Recent	3 Months Ago	Year Ago		Recent	3 Months Ago	Year Ago
	(12/31/13)	(10/02/13)	(1/02/13)		(12/31/13)	(10/02/13)	(1/02/13)
TAXABLE							
Market Rates							
Discount Rate	0.75	0.75	0.75				
Federal Funds	0.00-0.25	0.00-0.25	0.00-0.25				
Prime Rate	3.25	3.25	3.25				
30-day CP (A1/P1)	0.09	0.13	0.25				
3-month LIBOR	0.25	0.24	0.31				
Bank CDs							
6-month	0.07	0.07	0.10				
1-year	0.09	0.09	0.13				
5-year	0.53	0.58	0.70				
U.S. Treasury Securities							
3-month	0.06	0.01	0.07				
6-month	0.09	0.04	0.11				
1-year	0.12	0.09	0.14				
5-year	1.75	1.39	0.76				
10-year	3.03	2.63	1.84				
10-year (inflation-protected)	0.77	0.41	-0.69				
30-year	3.96	3.71	3.05				
30-year Zero	4.24	3.99	3.29				
Mortgage-Backed Securities							
GNMA 5.5%	2.15	2.45	1.75				
FHLMC 5.5% (Gold)	2.20	2.66	2.12				
FNMA 5.5%	1.99	2.39	1.81				
FNMA ARM	1.94	2.11	2.16				
Corporate Bonds							
Financial (10-year) A	4.30	4.07	3.10				
Industrial (25/30-year) A	4.82	4.70	3.99				
Utility (25/30-year) A	4.75	4.61	4.03				
Utility (25/30-year) Baa/BBB	5.12	5.26	4.35				
Foreign Bonds (10-Year)							
Canada	2.76	2.55	1.87				
Germany	1.93	1.81	1.44				
Japan	0.74	0.64	0.79				
United Kingdom	3.02	2.71	1.99				
Preferred Stocks							
Utility A	6.31	6.05	5.64				
Financial BBB	6.60	6.51	6.01				
Financial Adjustable A	5.48	5.48	5.48				



TAX-EXEMPT							
Bond Buyer Indexes							
20-Bond Index (GOs)	4.73	4.53	3.58				
25-Bond Index (Revs)	5.33	5.17	4.28				
General Obligation Bonds (GOs)							
1-year Aaa	0.15	0.20	0.21				
1-year A	0.77	0.85	0.83				
5-year Aaa	1.35	1.40	0.90				
5-year A	2.18	2.20	1.83				
10-year Aaa	2.94	2.84	1.97				
10-year A	3.67	3.68	2.87				
25/30-year Aaa	4.38	4.24	3.16				
25/30-year A	5.87	5.86	4.85				
Revenue Bonds (Revs) (25/30-Year)							
Education AA	5.17	5.10	4.23				
Electric AA	5.25	5.18	4.33				
Housing AA	5.63	5.44	4.64				
Hospital AA	5.34	5.21	4.50				
Toll Road Aaa	4.87	5.02	4.42				

Source: Bloomberg Finance L.P.

Federal Reserve Data

BANK RESERVES							
(Two-Week Period; in Millions, Not Seasonally Adjusted)							
	Recent Levels			Average Levels Over the Last...			
	12/25/13	12/11/13	Change	12 Wks.	26 Wks.	52 Wks.	
Excess Reserves	2428716	2440755	-12039	2355559	2222117	1964535	
Borrowed Reserves	181	168	13	208	270	364	
Net Free/Borrowed Reserves	2428535	2440587	-12052	2355351	2221847	1964170	
MONEY SUPPLY							
(One-Week Period; in Billions, Seasonally Adjusted)							
	Recent Levels			Ann'l Growth Rates Over the Last...			
	12/16/13	12/9/13	Change	3 Mos.	6 Mos.	12 Mos.	
M1 (Currency+demand deposits)	2635.4	2626.6	8.8	11.4%	7.7%	8.5%	
M2 (M1+savings+small time deposits)	10976.7	10971.7	5.0	7.1%	7.3%	5.5%	

Source: United States Federal Reserve Bank

REV. RUL. 2013-26 TABLE 2
Adjusted AFR for December 2013

	Period for Compounding			
	Annual	Semiannual	Quarterly	Monthly
Short-term adjusted AFR	.25%	.25%	.25%	.25%
Mid-term adjusted AFR	1.57%	1.56%	1.56%	1.55%
Long-term adjusted AFR	3.32%	3.29%	3.28%	3.27%

REV. RUL. 2013-26 TABLE 3
Rates Under Section 382 for December 2013

Adjusted federal long-term rate for the current month	3.32%
Long-term tax-exempt rate for ownership changes during the current month (the highest of the adjusted federal long-term rates for the current month and the prior two months.)	3.50%

REV. RUL. 2013-26 TABLE 4

Appropriate Percentages Under Section 42(b)(1) for December 2013

Note: Under section 42(b)(2), the applicable percentage for non-federally subsidized new buildings placed in service after July 30, 2008, with respect to housing credit dollar amount allocations made before January 1, 2014, shall not be less than 9%.

Appropriate percentage for the 70% present value low-income housing credit	7.57%
Appropriate percentage for the 30% present value low-income housing credit	3.25%

REV. RUL. 2013-26 TABLE 5

Rate Under Section 7520 for December 2013

Applicable federal rate for determining the present value of an annuity, an interest for life or a term of years, or a remainder or reversionary interest	2.0%
---	------

REV. RUL. 2013-26 TABLE 6

Rates Under Sections 846 and 807

Applicable rate of interest for 2014 for purposes of sections 846 and 807	1.79%
---	-------

Section 1288.—Treatment of Original Issue Discount on Tax-Exempt Obligations

The adjusted applicable federal short-term, mid-term, and long-term rates are set forth for the month of December 2013. See Rev. Rul. 2013-26, page 628.

Section 3402.—Income Tax Collected at Source

Dividends and other distributions made by an Alaska Native Corporation to its shareholders are eligible for voluntary withholding under section 3402(p)(3)(B) of the Internal Revenue Code (Code) and § 31.3402(p)-1T of the Employment Tax Regulations. See Notice 2013-77 on page 632.

Section 3402.—Income Tax Collected at Source

Temporary and proposed regulations under section 3402(p)(3) relating to voluntary withholding agreements allow the Secretary to issue guidance in the Internal Revenue Bulletin to describe payments for which the Secretary finds that income tax withholding under a voluntary withholding agreement would be appropriate. The proposed regulations also clarify that existing regulations under section 3402(p) apply to voluntary withholding agreements between employers and employees. See T.D. 9646 on page 630 and REG-146620-13 on page 674.

U.S. DEPARTMENT OF THE TREASURY

Resource Center

Daily Treasury Yield Curve Rates

Get updates to this content.

 These data are also available in XML format by clicking on the XML icon.

 The schema for the XML is available in XSD format by clicking on the XSD icon.

If you are having trouble viewing the above XML in your browser, click here.

To access interest rate data in the legacy XML format and the corresponding XSD schema, click here.

Select type of Interest Rate Data

Daily Treasury Yield Curve Rates

Select Time Period

Current Month

Date	1 Mo	3 Mo	6 Mo	1 Yr	2 Yr	3 Yr	5 Yr	7 Yr	10 Yr	20 Yr	30 Yr
12/02/13	0.02	0.05	0.10	0.13	0.30	0.59	1.43	2.16	2.81	3.58	3.86
12/03/13	0.04	0.06	0.10	0.13	0.28	0.58	1.40	2.13	2.79	3.56	3.84
12/04/13	0.04	0.06	0.10	0.14	0.30	0.60	1.45	2.19	2.84	3.63	3.90
12/05/13	0.02	0.06	0.10	0.13	0.30	0.61	1.49	2.23	2.88	3.65	3.92
12/06/13	0.03	0.06	0.10	0.13	0.30	0.64	1.51	2.23	2.88	3.63	3.90
12/09/13	0.04	0.07	0.10	0.13	0.30	0.64	1.50	2.23	2.86	3.61	3.88
12/10/13	0.03	0.07	0.10	0.14	0.30	0.62	1.46	2.17	2.81	3.56	3.83
12/11/13	0.02	0.07	0.10	0.13	0.31	0.63	1.50	2.21	2.86	3.61	3.87
12/12/13	0.01	0.07	0.09	0.14	0.34	0.67	1.55	2.26	2.89	3.63	3.91
12/13/13	0.02	0.07	0.09	0.14	0.34	0.68	1.55	2.25	2.88	3.61	3.88
12/16/13	0.02	0.07	0.09	0.13	0.34	0.68	1.55	2.26	2.89	3.63	3.90
12/17/13	0.02	0.07	0.09	0.14	0.34	0.65	1.52	2.22	2.85	3.60	3.88
12/18/13	0.01	0.07	0.10	0.13	0.32	0.64	1.55	2.26	2.89	3.63	3.90
12/19/13	0.01	0.06	0.09	0.13	0.35	0.70	1.63	2.35	2.94	3.64	3.91
12/20/13	0.02	0.07	0.09	0.13	0.37	0.74	1.66	2.33	2.89	3.57	3.82
12/23/13	0.01	0.07	0.09	0.14	0.38	0.77	1.68	2.37	2.94	3.60	3.85
12/24/13	0.01	0.07	0.09	0.14	0.38	0.80	1.73	2.43	2.99	3.66	3.90
12/26/13	0.00	0.07	0.09	0.13	0.42	0.81	1.74	2.43	3.00	3.68	3.92
12/27/13	0.01	0.07	0.09	0.12	0.40	0.79	1.74	2.44	3.02	3.70	3.94
12/30/13	0.01	0.07	0.10	0.13	0.39	0.77	1.71	2.40	2.99	3.66	3.90
12/31/13	0.01	0.07	0.10	0.13	0.38	0.78	1.75	2.45	3.04	3.72	3.96

* 30-year Treasury constant maturity series was discontinued on February 18, 2002 and reintroduced on February 9, 2006. From February 18, 2002 to February 8, 2006, Treasury published alternatives to a 30-year rate. See Long-Term Average Rate for more information.

Treasury discontinued the 20-year constant maturity series at the end of calendar year 1986 and reinstated that series on October 1, 1993. As a result, there are no 20-year rates available for the time period January 1, 1987 through September 30, 1993.

Treasury Yield Curve Rates. These rates are commonly referred to as "Constant Maturity Treasury" rates, or CMTs. Yields are interpolated by the Treasury from the daily yield curve. This curve, which relates the yield on a security to its time to maturity is based on the closing market bid yields on actively traded Treasury securities in the over-the-counter market. These market yields are calculated from composites of quotations obtained by the Federal Reserve Bank of New York. The yield values are read from the yield curve at fixed maturities, currently 1, 3 and 6 months and 1, 2, 3, 5, 7, 10, 20, and 30 years. This method provides a yield for a 10 year maturity, for example, even if no outstanding security has exactly 10 years remaining to maturity.

Treasury Yield Curve Methodology. The Treasury yield curve is estimated daily using a cubic spline model. Inputs to the model are primarily bid-side yields for on-the-run Treasury securities. See our Treasury Yield Curve Methodology page for details.

Negative Yields and Nominal Constant Maturity Treasury Series Rates (CMTs). Current financial market conditions, in conjunction with extraordinary low levels of interest rates, have resulted in negative yields for some Treasury securities trading in the secondary market. Negative yields for Treasury securities most often reflect highly technical factors in Treasury markets related to the cash and repurchase agreement markets, and are at times unrelated to the time value of money.

As such, Treasury will restrict the use of negative input yields for securities used in deriving interest rates for the Treasury nominal Constant Maturity Treasury series (CMTs). Any CMT input points with negative yields will be reset to zero percent prior to use as inputs in the CMT derivation. This decision is consistent with Treasury not accepting negative yields in Treasury nominal security auctions.

In addition, given that CMTs are used in many statutorily and regulatory determined loan and credit programs as well as for setting interest rates on non-marketable government securities, establishing a floor of zero more accurately reflects borrowing costs related to various programs.

For more information regarding these statistics contact the Office of Debt Management by email at debt.management@do.treas.gov.

S&P GICS Composite 1500 Valuations as of 12/31/13

	Earnings		P/E Ratios			P/Es Rel. to the S&P 1500			Proj.	2014e	Div'd Yield
	% Change								5-Yr %	P/E to	
	2013e	2014e	2013e	2014e	5 Yr Avg	2013e	2014e	5 Yr Avg	G. Rate	G. Rate	
S&P GICS Composite 1500	11.1	14.5	17.8	15.5	18.2	1.0	1.0	1.0	12.3	1.3	1.9
S&P 500	10.8	13.3	17.2	15.2	17.6	1.0	1.0	1.0	12.1	1.3	2.0
S&P 400	11.8	22.3	22.0	18.0	22.5	1.2	1.2	1.2	13.0	1.4	1.4
S&P 600	20.7	35.1	25.5	18.9	25.8	1.4	1.2	1.4	15.0	1.3	1.2
Consumer Discretionary	13.8	16.8	21.3	18.3	22.4	1.2	1.2	1.2	17.3	1.1	1.3
Advertising	4.0	14.7	21.4	18.6	20.7	1.2	1.2	1.1	9.1	2.1	1.8
Apparel Retail	3.1	17.4	19.5	16.6	20.3	1.1	1.1	1.1	12.6	1.3	1.3
Apparel, Accessories & Luxury Goods	2.0	19.4	23.3	19.5	22.9	1.3	1.3	1.3	16.7	1.2	0.9
Auto Parts & Equipment	41.3	11.5	16.6	14.9	19.2	0.9	1.0	1.1	15.3	1.0	1.4
Automobile Manufacturers	11.8	8.4	10.4	9.6	9.6	0.6	0.6	0.5	12.9	0.7	1.5
Automotive Retail	19.1	10.2	18.7	16.9	20.9	1.1	1.1	1.2	15.2	1.1	0.1
Broadcasting	21.7	18.0	22.9	19.4	25.4	1.3	1.3	1.4	16.8	1.2	0.5
Cable & Satellite	13.6	14.6	19.1	16.7	21.0	1.1	1.1	1.2	14.2	1.2	1.3
Casinos & Gaming	46.4	28.5	26.1	20.3	28.9	1.5	1.3	1.6	25.5	0.8	2.7
Computer & Electronics Retail	3.2	20.6	15.5	12.9	13.6	0.9	0.8	0.7	9.9	1.3	2.0
Consumer Electronics	5.3	10.7	19.9	18.0	21.0	1.1	1.2	1.2	13.3	1.4	2.6
Department Stores	(11.3)	21.7	23.1	18.9	19.4	1.3	1.2	1.1	9.2	2.1	1.9
Distributors	11.3	17.0	23.1	19.7	24.2	1.3	1.3	1.3	14.6	1.3	1.4
Education Services	(31.2)	(11.0)	14.8	16.7	9.4	0.8	1.1	0.5	10.3	1.6	0.6
Footwear	1.6	15.2	25.4	22.1	25.9	1.4	1.4	1.4	14.0	1.6	1.1
General Merchandise Stores	(9.1)	24.0	18.1	14.6	16.0	1.0	0.9	0.9	12.5	1.2	1.5
Home Furnishings	24.3	24.2	22.8	18.4	25.6	1.3	1.2	1.4	26.6	0.7	1.0
Home Improvement Retail	25.2	18.5	22.3	18.8	25.3	1.3	1.2	1.4	17.3	1.1	1.7
Homebuilding	123.5	27.5	17.7	13.9	30.7	1.0	0.9	1.7	18.3	0.8	0.5
Homefurnishing Retail	10.6	10.5	16.8	15.2	18.1	0.9	1.0	1.0	13.3	1.1	0.5
Hotels, Resorts & Cruise Lines	1.4	23.3	24.3	19.7	22.6	1.4	1.3	1.2	15.3	1.3	1.8
Household Appliances	71.4	(2.5)	13.0	13.4	16.2	0.7	0.9	0.9	27.7	0.5	1.3
Housewares & Specialties	13.1	10.7	17.3	15.6	19.3	1.0	1.0	1.1	11.0	1.4	1.4
Internet Retail	45.6	64.1	86.8	52.9	83.9	4.9	3.4	4.6	38.4	1.4	0.0
Leisure Facilities	5.4	10.6	18.8	17.0	19.3	1.1	1.1	1.1	13.1	1.3	0.2
Leisure Products	19.2	12.1	19.2	17.1	21.8	1.1	1.1	1.2	12.1	1.4	2.2
Motorcycle Manufacturers	16.2	18.9	21.1	17.7	22.4	1.2	1.1	1.2	13.8	1.3	1.2
Movies & Entertainment	13.2	15.0	20.6	17.9	22.1	1.2	1.2	1.2	15.0	1.2	1.2
Publishing	17.9	(10.7)	16.9	19.0	20.6	1.0	1.2	1.1	8.1	2.3	1.5
Restaurants	5.1	13.4	22.9	20.2	23.1	1.3	1.3	1.3	12.9	1.6	2.2
Specialized Consumer Services	15.0	12.8	19.9	17.6	20.0	1.1	1.1	1.1	12.9	1.4	2.0
Specialty Stores	6.6	22.0	21.8	17.9	21.4	1.2	1.2	1.2	19.5	0.9	1.1
Tires & Rubber	31.9	7.2	9.1	8.5	10.5	0.5	0.5	0.6	41.1	0.2	0.8
Consumer Staples	5.0	10.4	18.8	17.1	19.1	1.1	1.1	1.1	9.7	1.8	2.6
Agricultural Products	2.4	35.0	17.0	12.6	15.0	1.0	0.8	0.8	12.4	1.0	2.0
Brewers	9.8	10.0	16.6	15.1	16.9	0.9	1.0	0.9	6.8	2.2	1.8
Distillers & Vintners	10.8	16.8	25.5	21.8	23.1	1.4	1.4	1.3	12.5	1.7	1.0
Drug Retail	20.7	17.1	18.8	16.1	20.5	1.1	1.0	1.1	12.9	1.2	1.8
Food Distributors	(5.1)	13.7	21.9	19.2	19.8	1.2	1.2	1.1	9.0	2.1	2.6
Food Retail	(6.0)	25.4	21.9	17.5	20.0	1.2	1.1	1.1	13.6	1.3	1.4
Household Products	2.1	10.4	20.0	18.1	19.8	1.1	1.2	1.1	8.9	2.0	2.8
Hypermarkets & Super Centers	6.1	7.6	17.0	15.8	17.9	1.0	1.0	1.0	9.7	1.6	2.0
Packaged Foods & Meats	2.7	10.1	20.2	18.3	20.7	1.1	1.2	1.1	9.9	1.8	2.2
Personal Products	11.7	14.7	23.2	20.2	22.1	1.3	1.3	1.2	12.7	1.6	1.1
Soft Drinks	1.1	10.5	19.7	17.8	19.3	1.1	1.1	1.1	8.7	2.1	2.6
Tobacco	9.5	2.7	15.6	15.2	16.8	0.9	1.0	0.9	8.3	1.8	4.6
Energy	1.2	14.9	15.1	13.1	14.0	0.8	0.8	0.8	12.5	1.1	2.1
Coal & Consumable Fuels	NM	NM	NM	NM	30.1	NM	NM	1.7	10.1	NM	1.3
Integrated Oil & Gas	(9.5)	3.0	12.4	12.0	11.3	0.7	0.8	0.6	8.2	1.5	2.7
Oil & Gas Drilling	13.8	27.4	12.7	9.9	12.8	0.7	0.6	0.7	15.4	0.6	3.2
Oil & Gas Equipment & Services	5.7	26.3	18.3	14.5	17.7	1.0	0.9	1.0	18.0	0.8	1.1
Oil & Gas Exploration & Production	126.0	22.0	18.2	14.9	21.5	1.0	1.0	1.2	15.9	0.9	1.4
Oil & Gas Refining & Marketing	(28.1)	42.5	14.2	9.9	11.6	0.8	0.6	0.6	8.2	1.2	2.3
Oil & Gas Storage & Transport	(12.0)	38.2	35.1	25.4	27.4	2.0	1.6	1.5	20.0	1.3	4.1
Financials	24.5	6.3	14.9	14.0	17.0	0.8	0.9	0.9	10.1	1.4	1.9
Asset Management & Custody Banks	16.2	12.6	17.6	15.6	19.0	1.0	1.0	1.0	13.9	1.1	2.0
Consumer Finance	19.5	0.5	13.1	13.0	15.0	0.7	0.8	0.8	10.6	1.2	1.3
Diversified Banks	9.5	2.9	12.1	11.8	13.3	0.7	0.8	0.7	7.2	1.6	2.5
Diversified REITs	14.2	24.4	63.9	51.4	60.4	3.6	3.3	3.3	5.9	8.6	3.9
Industrial REITs	NM	(42.7)	53.7	93.8	NM	3.0	6.0	NM	4.9	19.2	3.1

Investment cornerstones for 2014: Validating the rally

2014 should see moderate growth and moderate returns, but there are credible upside- and downside-risk scenarios that require careful monitoring.

Expectations for 2014:

- › Equities to modestly outperform fixed income and cash
- › U.S. economic growth of 2.9%
- › Jobs gains that average 230,000 per month
- › Modest inflation of just 1.9%
- › U.S. Federal Reserve (Fed) tapering to begin in the first half, but no rise in the Fed funds rate until late 2015
- › U.S. 10-year treasury yield at 3.2% by year end
- › Single-digit growth in corporate earnings to drive U.S. equity returns. Price/Earnings (P/E) multiples to remain broadly unchanged.
- › Our target for the U.S. large-cap Russell 1000® Index at year-end 2014 is 1,060, while for the S&P500® Index it is 1,900.

The squeeze play continues

In last year's annual outlook, we argued that investors would be squeezed out of safe-haven assets and forced further up the risk curve. In our view, the combination of low interest rates, low inflation, moderate economic growth, and moderately attractive equity market valuations would leave few viable alternatives. We got the direction right, but the magnitude outstripped our expectations. As you will see in the chart on the next page, investors fleeing bonds is an example of what helped propel the Russell Global Index to gain around 20% in 2013 while global fixed income seems likely to deliver a small negative return.

The forces behind the squeeze play are still in place—ultra-expansionary monetary policy, low risk-free returns, low inflation, and moderate corporate profit growth. The differences heading into 2014 are that equity markets are now less attractively valued after 2013's big gains and the Fed is likely to start winding down its Quantitative Easing (QE) program at some stage during the year.

We think global equities will outperform cash and fixed income over 2014, but there are a couple of risky scenarios we'll be on the alert for. One is that global equity markets move into speculative overdrive. Asset markets have a history of overshooting, and global equity markets could become outright expensive if confidence in the economic outlook takes hold.

The alternative scenario is that economic growth disappoints and investors conclude that monetary policy has reached its limits. The equity market gains in 2013 largely reflect confidence that the global economy, and in particular the United States, is returning to more normal growth rates. U.S. economic growth of between 2.5%–3.0% in 2014 is needed to validate the market gains of 2013. GDP growth that significantly disappoints expectations could see equity markets give up a large portion of their 2013 gains.

 We think global equities will outperform cash and fixed income over 2014, but there are a couple of risky scenarios we'll be on the alert for.

Enter Symbol

Mon, Feb 10, 2014, 3:00pm EST [Sign In](#) US Markets close [Mail](#) mins

Dow \uparrow 0.04% Nasdaq \uparrow 0.40%

Trade free for 60 days
+ get up to \$600 cash.
 American Express

E*TRADE
OPEN AN ACCOUNT
E*TRADE SECURITIES L.L.C.

S&P 500 (^GSPC) - SNP [★ Follow](#)

[Add to Portfolio](#)

1,799.12 \uparrow 2.10(0.12%) 3:00PM EST

Historical Prices

Get Historical Prices for: [GO](#)

Set Date Range

Start Date: Eg. Jan 1, 2010
End Date:
 Daily
 Weekly
 Monthly
 Dividends Only

[Get Prices](#)

[First](#) | [Previous](#) | [Next](#) | [Last](#)

Prices	Date	Open	High	Low	Close	Volume	Adj Close*
	Dec 31, 2013	1,842.61	1,849.44	1,842.41	1,848.36	2,312,840,000	1,848.36
	Dec 30, 2013	1,841.47	1,842.47	1,838.77	1,841.07	0	1,841.07
	Dec 27, 2013	1,842.97	1,844.89	1,839.81	1,841.40	2,052,920,000	1,841.40
	Dec 26, 2013	1,834.96	1,842.84	1,834.96	1,842.02	1,982,270,000	1,842.02

* Close price adjusted for dividends and splits.

[First](#) | [Previous](#) | [Next](#) | [Last](#)

[Download to Spreadsheet](#)

Currency in USD.

Quotes are real-time for NASDAQ, NYSE, and NYSE MKT. See also delay times for other exchanges. All information provided "as is" for informational purposes only, not intended for trading purposes or advice. Neither Yahoo! nor any of independent providers is liable for any informational errors, incompleteness, or delays, or for any actions taken in reliance on information contained herein. By accessing the Yahoo! site, you agree not to redistribute the information found therein. Real-Time continuous streaming quotes are available through our premium service. You may turn streaming quotes on or off.

Fundamental company data provided by Capital IQ. Historical chart data and daily updates provided by Commodity Systems, Inc. (CSI). International historical chart data, daily updates, fund summary, fund performance, dividend data and Morningstar Index data provided by Morningstar, Inc.

Table: Equity Risk Premium

March 20, 2013

Duff & Phelps Recommended Equity Risk Premium (ERP) and Corresponding Risk-Free Rates (R_f); January 2008–Present

For additional information, please visit www.DuffandPhelps.com/CostofCapital

	<i>Duff & Phelps Recommended ERP</i>	<i>Risk Free Rate</i>
<i>Current ERP Guidance</i> ✓ February 28, 2013 – UNTIL FURTHER NOTICE	5.0%	4.0% Normalized 20-year Treasury yield *
<i>Year-end 2012 Guidance</i> © December 31, 2012	5.5%	4.0% Normalized 20-year Treasury yield *
<i>Change in ERP Guidance</i> January 15, 2012 – February 27, 2013	5.5%	4.0% Normalized 20-year Treasury yield *
<i>Change in ERP Guidance</i> September 30, 2011 – January 14, 2012	6.0%	4.0% Normalized 20-year Treasury yield *
July 2011 – September 29, 2011	5.5%	4.0% Normalized 20-year Treasury yield *
June 1, 2011 – June 30, 2011	5.5%	Spot 20-year Treasury Yield
May 1, 2011 – May 31, 2011	5.5%	4.0% Normalized 20-year Treasury yield *
December 1, 2010 – April 30, 2011	5.5%	Spot 20-year Treasury Yield
June 1, 2010 – November 30, 2010	5.5%	4.0% Normalized 20-year Treasury yield *
<i>Change in ERP Guidance</i> December 1, 2009 – May 31, 2010	5.5%	Spot 20-year Treasury Yield
June 1, 2009 – November 30, 2009	6.0%	Spot 20-year Treasury Yield
November 1, 2008 – May 31, 2009	6.0%	4.5% Normalized 20-year Treasury yield *
<i>Change in ERP Guidance</i> October 27, 2008 – October 31, 2008	6.0%	Spot 20-year Treasury Yield
January 1, 2008 – October 26, 2008	5.0%	Spot 20-year Treasury Yield

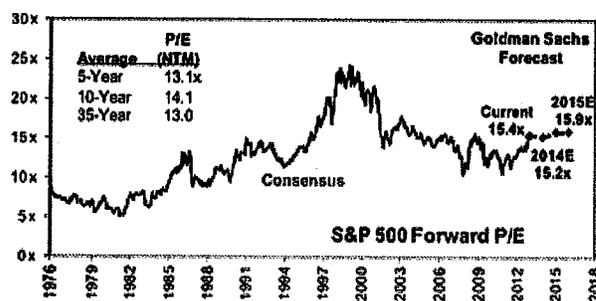
* Normalized in this context means that in months where the risk-free rate is deemed to be abnormally low, a proxy for a longer-term sustainable risk-free rate is used.

MarketWatch

November 21, 2013, 5:00 AM ET

Goldman: S&P 500 could drop 10% sometime during 2014

We forecast S&P 500 forward P/E multiple will remain in the 15-16x range



Source: Goldman Sachs Global Investment Research

Goldman Sachs has released its top ten market themes for 2014. It's calling for U.S. growth to accelerate to 3% and another "solid year" for equities, notably in developed markets, with some caveats of course.

In a separate note released Wednesday, Goldman's David Kostin and other strategist laid out their S&P 500 SPX forecasts for next year, reiterating an end-2014 target of 1,900, a gain of 6% — its fair value estimate. (Note, that's a little more sunshiny than that 12-month S&P target of 1,840 from Morgan Stanley, aka Bob Marley.)

Here are the caveats though. Goldman says given the big run in the S&P 500 — some 26% year-to-date — the index could fall 6% in the next three months and 11% over the next 12 months, to levels of 1,700 and 1,600, respectively. And the investment banks sees a 67% *probability* of a 10% drop at some point in 2014.

While multiple expansion was the name of the game for stocks in 2013, next year's returns will depend on earnings and money flow rather than further valuation re-rating, says Goldman. And valuation is the biggest wildcard. Goldman says its year-end 2014 price target reflects a slight multiple contraction to a p/e of 15.2 forward EPS.

Durability of the expansion matters, says Goldman, and if above-trend growth continues past 2014, the output gap will narrow and the cost of equity will fall, with both trends supporting a higher P/E multiple. Goldman sees forward P/E for the S&P 500 of 16 times, with the index reaching 2,100 by the end of 2015 and 2,200 by the end of 2016.

So where to go with all that? Here is Goldman's four recommended strategies for next year:

Growth over value. Russell 1000 Growth RUI should beat Russell 1000 Value as slowing earnings growth, falling equity risk premium and higher bond yields will benefit growth.

Firms investing in capital expenditure. Companies that have under-invested in recent years, but have high return on invested capital that Goldman thinks will spend more in 2014 should create a platform for future growth.

Companies with high buyback yields. Goldman's sector-neutral basket of 50 stocks with the highest share-repurchase yield should benefit as firms return more cash to shareholders.

Stocks with high operating leverage. Economic growth will boost sales and firms with a high degree of operating leverage will benefit most in terms of a lift to EPS.

As for sectors, Goldman is re-shuffling its pro-cyclical sector allocation, recommending overweights in IT, consumer discretionary, industrials vs. underweights in consumer staples, utilities and telecom services. Financials, materials, energy and health care are market weights.

Here's more tidbits from Goldman's crystal ball on the S&P 500:

Operating EPS forecasts for the S&P: \$108/2013, \$116/2014, \$125/2015, \$132/2016, \$138/2017. Technology will generate 40% of S&P 500 EPS in 2014.
Revenue forecast for the S&P: Up 5% in both 2014 and 2015, in-line with consensus. Every 100 basis point shift in 2014 U.S. GDP translates into a swing of roughly \$5 per share in 2014 EPS.

Margins: Will return to the previous high of 8.9% in 2014, 9% in 2015. Goldman says its profit-margin forecast is the "greatest investable gap relative to consensus expectations." Bottom-up consensus sees margins establishing a record high of 9.5% in 2014 and 10.1% in 2015. Every 50 basis point swing in net margins equals around \$5 per share shift in 2014 EPS.

And show me the money?

\$150 billion to flow into U.S. stocks in 2014, from individuals, investors and companies.

Net household outflows will total \$430 billion next year as direct ownership of stocks falls, but \$130 billion is expected to flow into ETFs next year.

Net equity inflows of \$225 billion from mutual, pension funds and life insurers.

International investment outflows of \$25 billion, following on from what was seen in 2013. U.S. investors are expected to buy \$200 billion of non-U.S. stocks during 2014.

Total capital usage by S&P 500 firms will rise 18% to \$2.2 trillion in 2014, and allocate 55% of capital spending for growth and return 45% to shareholders via buybacks and dividends.

— Barbara Kollmeyer

Follow this reporter [@bkollmeyer](#)

Follow The Tell blog [@thetellblog](#)

Copyright 2014 Dow Jones & Company, Inc. All Rights Reserved

This copy is for your personal, non-commercial use only. Distribution and use of this material are governed by our Subscriber Agreement and by copyright law. For non-personal use or to order multiple copies, please contact Dow Jones Reprints at 1-800-843-0008 or visit www.djreprints.com

US Inflation Calculator

Easily calculate how the buying power of the US dollar has changed from 1913-2013; get inflation rates, and inflation news.

RSS Feed Comments

- [Home](#)
- [About](#)
- [Inflation News](#)
- [Inflation FAQ's](#)
- [Inflation and Prices](#)
 - [U.S. Coin Melt Values Calculator](#)
 - [Inflation vs. Consumer Price Index \(CPI\). How They Are Different](#)
 - [Consumer Price Index Data from 1913 to 2014](#)
 - [Consumer Price Index Release Schedule](#)
 - [Current US Inflation Rates: 2003-2014](#)
 - [Historical Inflation Rates: 1914-2014](#)
 - [Annual Averages for Rate of Inflation](#)
- [Terms & Privacy Policy](#)

Search this website...

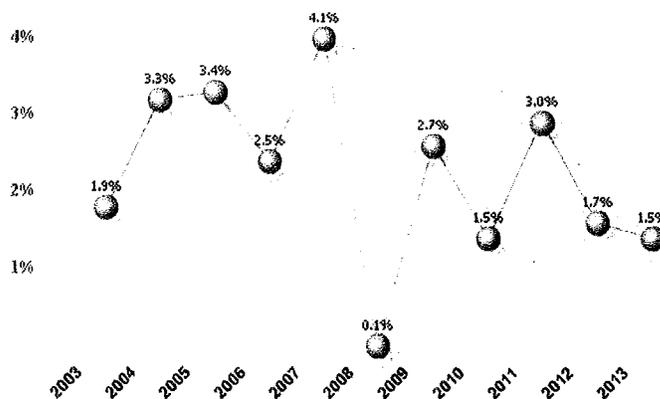
Current US Inflation Rates: 2003-2014

The latest annual inflation rate for the United States is 1.5% through the 12 months ended December 2013, as published by the US government on January 16, 2014. The next inflation update is scheduled for release on February 20, 2014 at 8:30 a.m. ET. This upcoming data update will offer the inflation rate over the 12 months ended January 2014.

The chart, graph and table below displays annual US inflation rates from 2003-2013. Rates of inflation are calculated using the Current [Consumer Price Index](#) published [monthly](#) by the Bureau of Labor Statistics ([BLS](#)). For 2013, the most recent monthly data (12-month based) is used in the chart and graph.

[Historical inflation rates](#) are available from 1914-2013. If you would like to calculate rates between different dates, the [US Inflation Calculator](#) will do that quickly.

Inflation Rates Graph (2003-2013)



Annual Inflation Rates Chart (2003-2013)

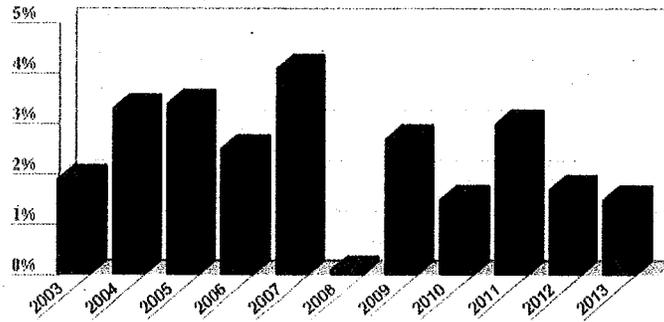


Table of Inflation Rates by Month and Year (1999-2013)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ave
2014													
2013	1.6	2.0	1.5	1.1	1.4	1.8	2.0	1.5	1.2	1.0	1.2	1.5	1.5
2012	2.9	2.9	2.7	2.3	1.7	1.7	1.4	1.7	2.0	2.2	1.8	1.7	2.1
2011	1.6	2.1	2.7	3.2	3.6	3.6	3.6	3.8	3.9	3.5	3.4	3.0	3.2
2010	2.6	2.1	2.3	2.2	2.0	1.1	1.2	1.1	1.1	1.2	1.1	1.5	1.6
2009	0	0.2	-0.4	-0.7	-1.3	-1.4	2.1	-1.5	-1.3	-0.2	1.8	2.7	-0.4
2008	4.3	4	4	3.9	4.2	5.0	5.6	5.4	4.9	3.7	1.1	0.1	3.8
2007	2.1	2.4	2.8	2.6	2.7	2.7	2.4	2	2.8	3.5	4.3	4.1	2.8
2006	4	3.6	3.4	3.5	4.2	4.3	4.1	3.8	2.1	1.3	2	2.5	3.2
2005	3	3	3.1	3.5	2.8	2.5	3.2	3.6	4.7	4.3	3.5	3.4	3.4
2004	1.9	1.7	1.7	2.3	3.1	3.3	3	2.7	2.5	3.2	3.5	3.3	2.7
2003	2.6	3	3	2.2	2.1	2.1	2.1	2.2	2.3	2	1.8	1.9	2.3
2002	1.1	1.1	1.5	1.6	1.2	1.1	1.5	1.8	1.5	2	2.2	2.4	1.6
2001	3.7	3.5	2.9	3.3	3.6	3.2	2.7	2.7	2.6	2.1	1.9	1.6	2.8
2000	2.7	3.2	3.8	3.1	3.2	3.7	3.7	3.4	3.5	3.4	3.4	3.4	3.4
1999	1.7	1.6	1.7	2.3	2.1	2	2.1	2.3	2.6	2.6	2.6	2.7	2.2

• Resource Links

- [Bureau of Labor Statistics](#)
- [Coin Melt Value Calculator](#)
- [Gas Prices & Inflation](#)
- [Reserve Monetary Policy](#)
- [Reuters Inflation News](#)
- [Silver Coins Calculators](#)

• 2 Years of Archives

- [January 2014](#)
- [December 2013](#)
- [November 2013](#)
- [October 2013](#)
- [September 2013](#)
- [August 2013](#)
- [July 2013](#)
- [June 2013](#)
- [May 2013](#)
- [April 2013](#)
- [March 2013](#)
- [February 2013](#)

- [January 2013](#)
- [December 2012](#)
- [November 2012](#)
- [October 2012](#)
- [September 2012](#)
- [August 2012](#)
- [July 2012](#)
- [June 2012](#)
- [May 2012](#)
- [April 2012](#)
- [March 2012](#)
- [February 2012](#)

[Try Inflation Calculator!](#)

• **Current CPI and Inflation Rate**

Inflation Rate 1.5%

**Consumer Price Index
(CPI) 233.049**

(Released on Jan 16, 2014 for December 2013)

• **Recent Posts**

- [US Annual Inflation in 2013 Increases 1.5%](#)
- [US Inflation Unchanged in November 2013, Annual Inflation Rate Rises](#)
- [US Inflation in October 2013 Retreats, 12-Month Inflation Rate Eases](#)
- [US Inflation Up 0.2% in September 2013, Annual Inflation Rate at 1.2%](#)
- [US Inflation Edges Up in August 2013, Inflation Rate at 1.5%](#)
- [US Inflation Eases in July 2013, Yet Annual Inflation Rate at 2%](#)
- [US Inflation Jumps in June 2013, Annual Inflation Rate Hits 1.8%](#)
- [US Inflation Climbs 0.1% in May 2013, Annual Inflation Rate at 1.4%](#)
- [US Inflation Falls for Second Month in April 2013](#)
- [US Inflation Eases as Consumer Prices Retreat in March 2013](#)
- [US Inflation Spikes as Consumer Prices Jump in February 2013](#)
- [US Inflation Eases, Consumer Prices Flat in January 2013](#)
- [US Inflation Slowed in 2012, Consumer Prices Muted](#)

• **US Inflation Calculator Pages**

- [Inflation FAQ's](#)
- [Inflation News](#)

- [Current Inflation Rates: 2002-2012](#)
- [Historical Inflation Rates: 1914-2012](#)
- [Consumer Price Index Release Schedule](#)
- [Annual Averages for Rate of Inflation](#)
- [CPI Data from 1913 to 2012](#)
- [U.S. Coin Melt Values Calculator](#)

US [Inflation Calculator](#) · Copyright © 2008-2014 CoinNews Media Group LLC ([Coin News](#)) · All Rights Reserved

[Duff & Phelps > Expertise](#)

[Print page](#) [Email page](#)

- [Our Team](#)
- [Transactions](#)
- [Publications](#)
- [Cost of Capital](#)
- [Webcasts](#)
- [Blogs](#)
- [Regulatory Affiliations](#)
- [Tools](#)

Cost of Capital

As the economic recovery slowly moves along, companies are still confronted with difficulties in estimating their cost of capital (expected rate of return on equity capital and overall capital). The steep decline and recovery has impacted companies differently if their capital structures contain conservative amounts of debt compared to companies with large amounts of debt. The methods commonly used to estimate the cost of capital in more stable economic times, are still providing faulty estimates even today. The information below provides much more detail on these topics. In order for our clients to stay abreast of the latest thinking on this topic, check back for periodic updates.

5.0%

DUFF & PHELPS U.S. EQUITY RISK PREMIUM (ERP)

Last change: February 28, 2013

FIND A PROFESSIONAL



Roger J. Grabowski
Chicago
Managing Director

[View All on this Topic](#)

Available Soon:
New Valuation Handbook-Guide to Cost of Capital

[Register for an email alert](#)

Learn More

[Duff & Phelps Decreases U.S. Equity Risk Premium Recommendation to 5.0%](#)

[\(TABLE\) Duff & Phelps Recommended ERP and Risk-Free Rates Over Time](#)

Risk Premium Report and Calculator

2013 Duff & Phelps Risk Premium Report

The 2013 Duff & Phelps Risk Premium Report is available for purchase through Business Valuation Resources (BVR) and ValueSource.

[Webcast Replay: Using the 2011 Duff & Phelps Risk Premium Report](#)

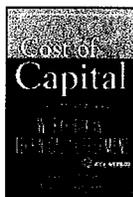
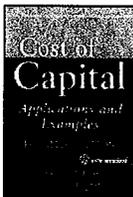
The Risk Premium Calculator

The Duff & Phelps Risk Premium Calculator is a web-based resource for calculating cost of equity, a key input in computing a discount rate.

[Webcast Replay: Introducing the Duff & Phelps Risk Premium Calculator](#)

Publications

The following books were co-authored by Roger Grabowski, Managing Director at Duff & Phelps:



[Click here](#) for a book review of Cost of Capital: Applications and Examples, 4th Edition that appeared in The Value Examiner.

[Click here](#) for a book review of Cost of Capital in Litigation: Applications and Examples, 4th Edition that appeared in Financial Valuation.

NEWS

The American Society of Appraisers announces new OnDemand Cost of Capital Course presented by Managing Director Roger J. Grabowski

Duff & Phelps Releases 2013 Risk Premium Report, Decreases Recommended U.S. ERP

[Read more stories in our Press Room](#)

EVENTS

Feb 20 2014 Live Webinar: The 2014 Valuation Handbook and the Risk Premium Calculator

Expertise

Client Alert: Duff & Phelps Updates Recommended Equity Risk Premium to 5.0%

Duff & Phelps regularly reviews fluctuations in global economic and financial conditions that warrant periodic reassessments of the recommended ERP. Based upon current market conditions, Duff & Phelps recommends a U.S. ERP of 5.0% when developing discount rates as of February 28, 2013 and thereafter.

Duff & Phelps Updated Recommended Equity Risk Premium to 5.5% as of Jan 15, 2012

Duff & Phelps regularly reviews fluctuations in global economic and financial conditions that warrant periodic reassessments of the recommended ERP. Based upon market conditions as of January 15, 2012 and thereafter, Duff & Phelps recommends a U.S. ERP of 5.5% when developing discount rates.

Cost of Capital Expertise Archives

- [2009](#)
- [2010](#)
- [2011](#)

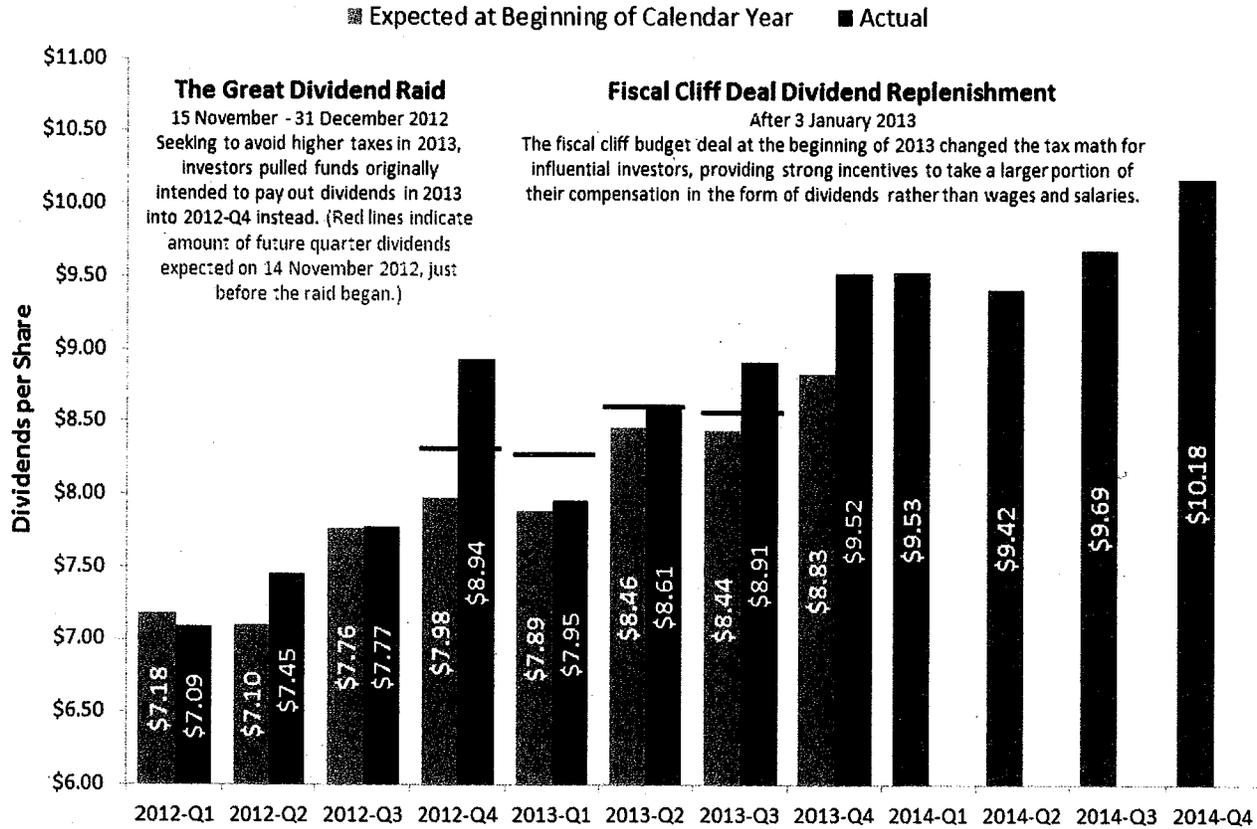
Webcasts and Videos

[Webcast Replay: Using the 2011 Duff & Phelps Risk Premium Report](#)

[Webcast Replay: Introducing the Duff & Phelps Risk Premium Calculator](#)

[Exploring the Cost of Capital - Videos provided by SmartPros Ltd.](#)

Expected vs Actual S&P 500 Quarterly Dividends per Share, 2012-2014



Sources: IndexArb (2012-2013), CBOE (2014), Standard & Poor

© Political Calculations 2014



Equity Risk Premium Quarterly - January 2014

The equity risk premium ("ERP") is the extra return over the expected yield on risk-free securities that investors expect to receive from an investment in a diversified portfolio of common stocks.¹ It can also be thought to measure what investors demand over and above the risk-free rate for investing in equities as a class or the market price for taking on average equity risk.²

In recent years, US risk-free rates have reached levels near historic lows due to the perceived low risk of US treasuries relative to the sovereign debt of other developed nations. Additionally, the Federal Reserve and other Central Banks around the world have undertaken quantitative easing and other efforts to lower interest rates in response to economic conditions. As a result, the capital asset pricing model ("CAPM"), which utilizes the ERP to calculate a cost of equity, has implied a below-average cost of equity when the market may have exhibited higher risk. Yields on US Treasury bonds, which were being manipulated by government intervention, were the primary driver for the implied below-average cost of equity. However, in the past several months, US Treasury yields have been returning to normal levels. The Federal Reserve's market interventions remain ambiguous at best, but it is certain that interest rates are currently on the rise. The Fed has begun its tapering plan by slowly winding down its bond buying program. Yields on the 10-year US Treasury bond have risen 114 basis points from January 2, 2013, to January 2, 2014. Yields on the 20-year US Treasury bond have risen more than 105 basis points over the same period to 3.68%.

Research has shown that the ERP is cyclical during business cycles and that the ERP can fluctuate within its historic range based on current and forecasted economic conditions. The ERP tends to move in the opposite direction of the economy, so when the business cycle is at its peak, the ERP will be at the lower end of its historical range; conversely, during economic troughs, the ERP will be at the higher end of the range.¹ The historical risk-free rate and ERP are presented in the following chart.



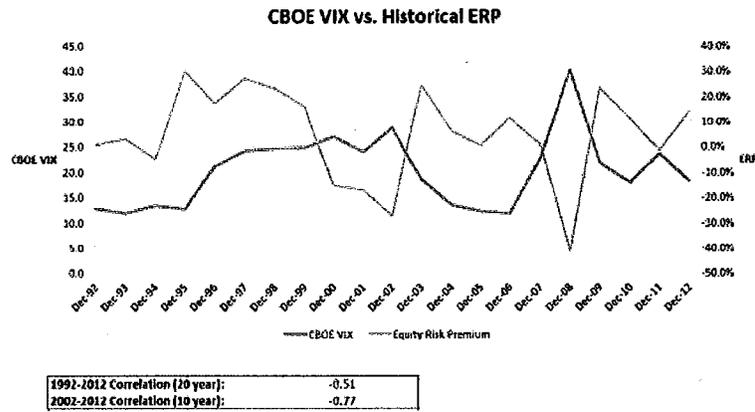
There is no single universally accepted methodology for estimating the ERP; thus, there is wide diversity in practice among academics and financial advisors with regard to recommended ERP estimates.

American Appraisal researched and analyzed various economic and market factors in order to determine where the current ERP should fall within a range of historical ERP. To determine which indicators were most relevant to the ERP, correlations were calculated for these indicators relative to the historical ERP. Long-term correlations greater than +/- 0.5 were considered meaningful.

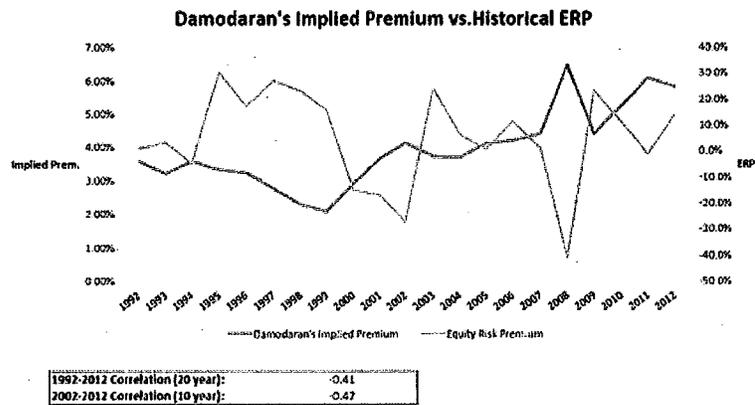
Based on our research and analysis, American Appraisal utilizes a 6.0% US ERP combined with the actual risk-free rate as of January 2014, which is consistent with our conclusion for the prior quarter. Additional details of the factors we reviewed follow.

Economic/Market Indicators

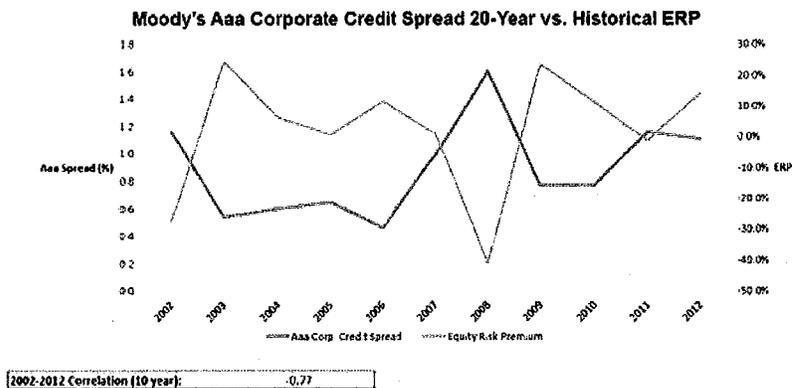
The factors determined to display moderate or strong correlations with historical ERPs are the CBOE Volatility Index ("VIX"), Damodaran's implied premium, and Moody's Aaa and Baa 2-year corporate credit spreads. VIX is the ticker symbol for the Chicago Board Options Exchange ("CBOE") Volatility Index, which numerically expresses the market's expectations of 30-day volatility; it is constructed by using the implied volatilities of a wide range of S&P 500 Index options. The results are meant to be forward-looking and are calculated by using both call and put options. The VIX is a widely used measure of market risk and often is referred to as the investor fear gauge. There are three variations of the volatility indexes: (1) the VIX, which tracks the S&P 500; (2) the VXN, which tracks the Nasdaq 100; and (3) the VXD, which tracks the Dow Jones Industrial Average.



Damodaran's implied premium, developed by Aswath Damodaran, Professor of Finance at the Stern School of Business at New York University, is a forward-looking approach to calculating an expected ERP. It is based on using current market data to calculate an implied or residualized ERP.³



Moody's Aaa corporate credit spreads are calculated based on the difference in Aaa corporate yields vs. US treasuries with similar maturities.



Economic Indicators

As described previously, the VIX, Damodaran's implied premium, and Moody's Aaa and Baa 20-year corporate credit spreads display meaningful correlations with historical ERPs. Each of the factors is briefly discussed as follows:

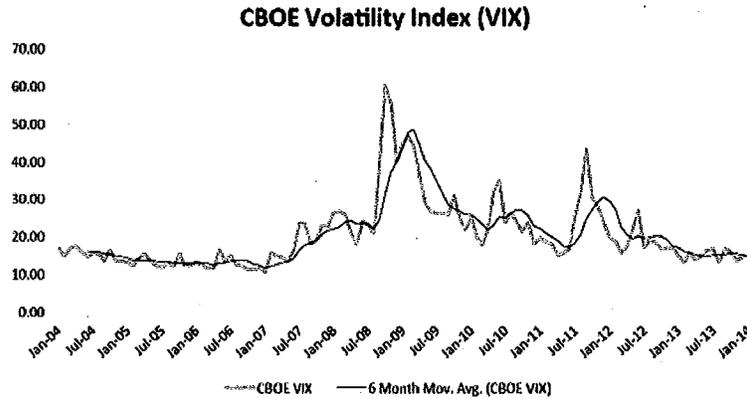
Damodaran's Implied Premium

The six-month moving average trendline suggests that the implied premium has steadily trended down from 7.0% toward 6.0%, and has dropped sharply - to slightly below 5% - over the past quarter.



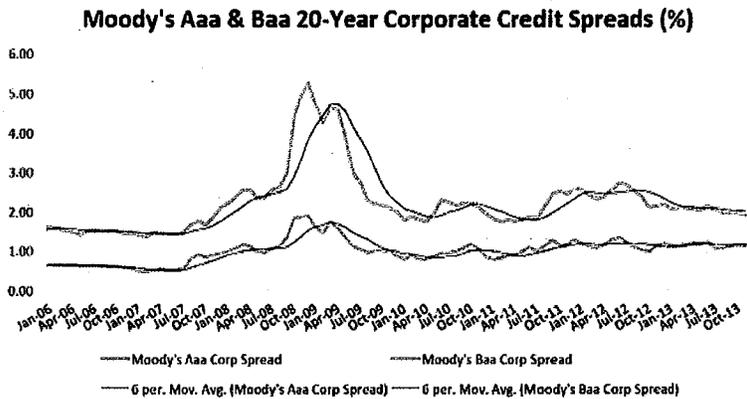
CBOE Volatility Index (VIX)

The VIX appears to be trending around its historical average (near 20), but has fluctuated considerably over the past few years, spiking to over 40 in 2011. Since the first quarter of 2012 the six-month trendline has dipped down below 20. Further, throughout the second half of 2012 and 2013, the actual index has also fallen below 20 and is trending toward 15. The index is only slightly above the near-record lows observed in 2007.



Moody's Aaa and Baa Corporate Credit Spreads (20-year)

Credit spreads have climbed slowly since January 2011. In 2012, Aaa and Baa spreads fell, rose, fell, and rose again, while their six-month moving averages remained relatively flat. The rise in spreads since 2011 may be a signal of increased risk or could be the effect of global risk in Europe causing flight to quality and creating anomalies in the US treasury markets. The most recent monthly data continues to indicate a narrowing of credit spreads, which appeared to stabilize in 2013.



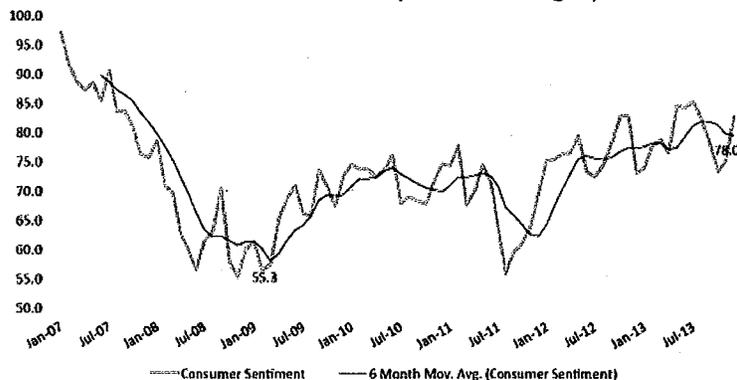
Additional Economic Indicators

In addition to the economic and market factors that display meaningful correlations with historical ERPs, the following economic indicators are monitored on a frequent basis to determine the current status of the US economy and help establish where the current ERP falls within the historical range.

Consumer Sentiment

Consumer sentiment trends, as tracked by the University of Michigan, indicate improving consumer sentiment, which is typically preceded by positive economic trends. The survey has indicated that consumer sentiment increased in May and June 2013 to its most recent highs, but August and September 2013 showed declines, which may be attributable to the turmoil in Congress. Overall consumer sentiment has been trending positive since early 2012.

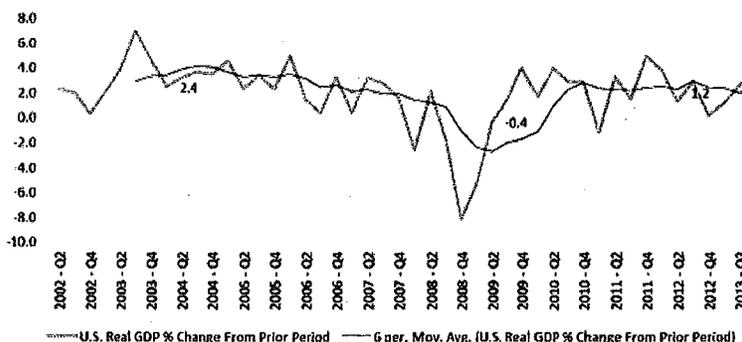
Consumer Sentiment (Univ. of Michigan)



US Real GDP

The six-month moving average trendline for US real GDP indicates a relatively flat economy with slower growth trending toward 2.0%. However, during the fourth quarter of 2012, US real GDP dipped below its six-month moving average trendline to near 0%. Economists were generally surprised by the contraction in economic growth, which many attributed to the decline in government spending, particularly military spending. Economic growth bounced back from the fourth-quarter 2012 decline and returned closer to the trending average of 2.0% in 2013. The third quarter of 2013 showed a significant jump in economic activity, as GDP increased to 4%. This is considered a coincident indicator by economists and is neither leading nor lagging.

US Real GDP % Change From Prior Period



Conclusion

As the ERP is cyclical and can fluctuate within its historical range based on current and economic conditions, please consult with your American Appraisal valuation advisor when developing a weighted average cost of capital or, more specifically, the cost of equity for your business.

Sources

- 1 Shannon Pratt and Roger Grabowski, *Cost of Capital: Applications and Examples*, fourth edition (New York: John Wiley & Sons, 2010), pages 115, 137.
- 2 Aswath Damodaran, "Risk Premiums: Looking backwards and forwards..." (presentation, October 2011).
- 3 Aswath Damodaran, *Equity Risk Premiums (ERP): Determinants, Estimation and Implications - The 2013 Edition* (paper, updated March 2013).

This newsletter is provided for general informational purposes only and is based upon the information available as of the time it was written. This ERP Quarterly newsletter is also intended for US-based companies and may not be appropriate for companies with a significant share of revenues originating outside the United States.

Services

Financial Reporting	Tax Valuation	Property Insurance Appraisal & Valuation	Fixed Asset Management	Transaction Consulting	Advisory
Business Combinations	Purchase Price Allocation	Building Insurance Appraisal & Inspection	Fixed Asset Inventory & Reconciliation	Fairness Opinions	Litigation Support
Impairment Testing	Corporate Tax Valuation Services	Equipment/Personal Property Insurance Appraisal & Inventory	Fixed Asset Componentization	Solvency Opinions	Appraisal Reviews
Equity-Based Compensation	IRC §409A Stock Valuation	Property Insurance Appraisal Update	IT Asset Inventory	Asset Purchase, Sale or Lease	Bankruptcy & Restructuring
Fresh Start Accounting	Gift & Estate Tax Property Tax	Web-Based Reporting	Property Record Outsourcing Services	Asset Financing	Real Estate Advisory
					Portfolio Valuation

Cost Segregation
Transfer Pricing

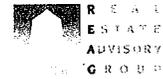
Industries

Aerospace & Defense
Agribusiness, Food & Beverage
Chemicals
Consumer Products & Services
Financial Services & Transaction Processing

Government
Healthcare
Higher Education
Hospitality & Gaming
Insurance
Manufacturing

Media & Entertainment
Metals & Mining
Oil & Gas
Paper & Forest Products
Pharmaceuticals
Professional Services

Real Estate
Technology & Electronics
Telecommunications
Transportation
Utilities & Power Generation



Privacy / Terms of Use / Corporate Governance

© American Appraisal 2014