

1 mean return of 13.61% and a median return of 14.95%. Thus, even though the  
2 returns from 2009 and 2010 were positive (11.89% and 5.47%), they have the  
3 effect of reducing the geometric, arithmetic and median return.

4 **Q: Is it appropriate to update Mr. Moul's Risk Premium analysis, when you do**  
5 **not have 2008, 2009 and 2010 data for Public Utility Bonds?**

6 A: I would prefer to have completed my analysis with 2008 - 2010 data for Public  
7 Utility Bonds. Because we do not have return data for Public Utility Bonds, our  
8 two options are no update or a partial update. However, Public Utility Bonds  
9 seem to track Long Term Corporate Bonds and we have return data for 2008 -  
10 2010 Long Term Corporate Bonds. There have only been two occasions (1987 &  
11 1981) since 1974 where Long Term Bonds and Public Utility Bonds had opposite  
12 positive/negative returns.

13 Because we have 2008 – 2010 data for Long Term Corporate Bonds, we  
14 can determine how including 2008 – 2010 data influences the arithmetic,  
15 geometric and median return on Long Term Corporate Bonds. A review of E.  
16 Kaufman Schedule 4, page 2 of 3 demonstrates that including data from 2008 –  
17 2010 has only a minimal effect on the average returns for Long Term Corporate  
18 Bonds.<sup>19</sup> For example, for the period 1974-2007 vs. 1974 – 2010, including  
19 return data from 2008, 2009 and 2010 for “Long Term Corporate Bonds”  
20 increased the geometric mean return by only 7 basis points, the arithmetic mean  
21 return by 11 basis points and the median return by 27 basis points. It seems likely  
22 that 2008 - 2010 data (if it existed) would similarly have only a minimal effect on

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19. Including 2008 – 2010 data dramatically influences the geometric, arithmetic and median return for the S&P Public Utility Index.

1 Public Utility Bonds. Thus, I do not believe that the lack of data for 2008 - 2010  
2 Public Utility bonds negates the basis to update the other indexes in Mr. Moul's  
3 analysis. Because Long Term Corporate Bonds had positive returns of 8.76%,  
4 3.02% and 12.44% in 2008, 2009 and 2010, it seems unlikely that 2008 Public  
5 Utility Bonds had negative returns. Moreover, if my purpose was to create a  
6 usable model, I would have greater concerns about the missing data from Lehman  
7 Bond Index. However, my intent here is to show the influence of excluding three  
8 years of missing data, which I believe can be done despite the missing data.

**D. Arithmetic vs. Geometric vs. Median return data**

9 **Q: To estimate his risk premium, Mr. Moul gives 50% weight to the arithmetic**  
10 **mean, 25% to the geometric mean and 25% to the median return. How**  
11 **would Mr. Moul's estimated risk premium change if his analysis included**  
12 **2008 – 2010 data, and gave equal weight to a geometric mean and arithmetic**  
13 **mean calculation (ignored medians)?**

14 **A:** The 1974 – 2010 risk premium would be reduced from 4.63% to 3.74% and the  
15 1979 – 2010 risk premium would be reduced 4.51% to 3.64%. If these two risk  
16 premiums are averaged (as above) it results in an unadjusted risk premium of  
17 3.69%. If the 3.69% risk premium is adjusted to reflect the lower risk of the  
18 Water Group compared to the S&P Public Utilities it results in a risk premium of  
19 3.25% ( $3.69\% * .88 = 3.25\%$ ). Schedule E. Kaufman 4, page 3 of 3 illustrates  
20 how including 2008 - 2010 data influences Mr. Moul's Schedule 10, page 2 of 2).  
21 Updating Mr. Moul's risk premium analysis for 2008 - 2010 data and excluding  
22 medians (giving equal weight to both the arithmetic and geometric mean  
23 calculation) reduces Mr. Moul's estimated risk premium by over 200 basis points.

1 Holding all other variables unchanged, this would reduce the resulting cost of  
2 equity estimate of Mr. Moul's Risk Premium model from 11.48% to 9.23%.

**E. Forecasted interest rates**

3 **Q: Both Mr. Moul's CAPM and Risk Premium analyses use forecasted interest**  
4 **rates. Do you agree with Mr. Moul's use of forecasted interest rates?**

5 A: Mr. Moul generally relies upon Blue Chip Financial Forecasts ("BCFF") to derive  
6 a forecasted interest rate for his CAPM and Risk Premium analyses. BCFF  
7 provides a consensus forecast over the next 6 quarters for many key interest rates.  
8 The March 1, 2011 issue shows forecasted interest rates from, 1Q - 2011 through  
9 2Q - 2012. I do not believe that a forecast of what long term interest rates might  
10 be over the next 6 quarters is more appropriate to use than current yields. The  
11 March 1, 2011 issue of BCFF shows a current interest rate (February 18, 2011)  
12 for 30-year US Treasury Bonds of 4.67% and forecasted interest rates from 4.6%  
13 to 5.1%. BCFF shows a similar trend for Corporate Aaa bonds (current rate of  
14 5.26% and forecasted rates of 5.2% to 5.8%).

15 **Q: But don't you need to use forecasted interest rates to make the models**  
16 **forward looking?**

17 A: No. When long term debt is purchased, the purchaser is making a forecast. The  
18 purchaser anticipates factors such as inflation over the life of the debt and uses  
19 those factors to determine the appropriate purchase price and subsequent yield of  
20 his or her investment. The purchase price produces a yield that the investor is  
21 willing to accept over the life of the debt. Thus, a current yield is already a  
22 forward looking yield over the investment horizon.

23 If interest rates are forecasted to increase the forecaster is, in effect,  
24 predicting that the price of the bond will decrease. If a potential purchaser of a

1 bond one strongly believes that the price of that bond will decrease in the near  
2 term, they would decrease his current purchase price and the spread between the  
3 forecasted yield and current yield would decrease. I think that there is a tendency  
4 amongst some analysts to take a "conservative" approach and assume that when  
5 interest rates are low the same interest rates are more likely to increase in the  
6 future. However, the best indication of what investors think interest rates will do  
7 is how they vote with current dollars. The current purchase price is a statement  
8 with dollars as to what the investor believes will happen over his or her  
9 investment horizon.

10 **Q: But, isn't it inconsistent to combine current interest rates with forecasted**  
11 **market risk premiums?**

12 A: No. As I described in my previous answer, today's current purchase price is a  
13 forecast and is the best forecast depicting investor expectations. A purchaser of a  
14 current bond is presumably knowledgeable of forecasted bond yields and factors  
15 those forecasts into his current purchase price. I am not convinced that a forecast  
16 of what long term bonds might yield in 6 to 18 months is more appropriate or  
17 more representative of investor expectations than a current yield.

**F. Conclusions on Mr. Moul's Risk Premium analysis**

18 **Q: If Mr. Moul's Risk Premium model was revised to include 2008 - 2010 data,**  
19 **did not include either; median returns, forecasted yields or flotation costs**  
20 **what cost of equity would it produce?**

21 A: If one adds a risk premium of 3.25% to the current yield on "A" utility bonds (as  
22 of September 16, 2011) (Value Line – Attachment ERK 2) on "A" bonds of  
23 4.55% it produces a cost of equity of 7.8%.

1 **Q: How does the result of Mr. Moul's Risk Premium analysis of 11.48%**  
2 **compare to the historical returns of the S&P Public Utility Index?**

3 A: The average actual earned return for the S&P Public Utility index from 1928 -  
4 2010 is only 8.36%. Mr. Moul's proposed cost of equity for his Risk Premium  
5 model is 312 basis points above the average actual earned return for the S&P  
6 Public Utility index from 1928 - 2010. Given today's historically low interest  
7 rates, it seems counterintuitive for a model, that relies on interest rates, to produce  
8 an estimated cost of equity well in excess of the historical returns.

9 **Q: Please summarize your concerns regarding the Risk Premium model.**

10 A: First, like his CAPM analysis, Mr. Moul's Risk Premium model relies too heavily  
11 on an arithmetic mean return to estimate a risk premium. Mr. Moul's Risk  
12 Premium analysis also relies on overstated median estimates. Mr. Moul's analysis  
13 ignores 2008, 2009 and 2010 data. Mr. Moul's analysis also relies on a forecasted  
14 interest rate, instead of a current or actual interest rate. Finally, Mr. Moul's  
15 analysis overstates estimated cost of equity for Indiana-American, because it  
16 unnecessarily includes an adjustment for floatation costs.

## **XII. MR. MOUL'S COMPARABLE EARNINGS ANALYSIS**

17 **Q: Please discuss your concerns with Mr. Moul's Comparable Earnings ("CE")**  
18 **analyses?**

19 A: Mr. Moul's CE analysis produces an estimated cost of equity of 12.40%. His CE  
20 analysis is based on the average of historical and projected returns of more than  
21 50 companies which he asserts are similar in risk to his proxy group. According  
22 to page 6 of his testimony, Mr. Moul appears to focus his estimated cost of equity  
23 on his DCF, CAPM and Risk Premium analysis and seems to give little weight to  
24 the results of his CE analysis so I will limit my criticisms of his CE analysis.

1 **Q: Please discuss your specific concerns regarding Mr. Moul's CE analysis.**

2 A: Despite excluding companies with returns exceeding 20.0%, Mr. Moul's analysis  
3 still include outliers. His CE analysis includes companies such as MTS Systems  
4 whose average return is 19.8% and Equifax Inc. whose forecasted return is 19.5%.  
5 It is unreasonable to include companies with such returns.

6 Next, Mr. Moul did not screen his CE proxy group for dividends or  
7 percentage of long term debt. Water utilities tend to have low business risk which  
8 allows them to incur a larger degree of financial risk (Remember all of the utilities  
9 in Mr. Moul's water company proxy group are rated by S&P as having an  
10 excellent business risk). Water utilities tend to carry a large proportion of long  
11 term debt in their capital structure. Despite the screening criteria used by Mr.  
12 Moul a company that has no or little long term debt is not comparable to either  
13 Indiana-American or his water company proxy group. A similar theory applies to  
14 dividends. Water utilities pay a relatively large percentage of their earnings as  
15 dividends. Large dividend payments reflect the lower risk of the water industry.  
16 Several of the companies in Mr. Moul's CE proxy group do not have long term  
17 debt and/or pay little or no dividends. Again, regardless of any other screening  
18 criteria employed by Mr. Moul, a Comparable Earnings analysis that includes  
19 companies that pay no or little dividends is not comparable to the water company  
20 proxy used by Mr. Moul in his analysis.

21 **Q: Please discuss some of the theoretical concerns that apply to all comparable**  
22 **earnings analyses.**

23 A change in market conditions such as interest rates will influence investor  
24 expectations, and the results of both a CAPM and/or DCF analysis will, in turn,

1 quickly react to reflect the change in investor expectations. Historical earned  
2 returns do not react to changes in market conditions. In past cases I have seen the  
3 comparable earnings methodology produce increasing returns during periods of  
4 declining capital costs. Finally, Mr. Moul's analysis assumes that operating  
5 returns (accounting returns) can be used to estimate market returns. Mr. Moul  
6 fails to present a convincing case that it is appropriate to rely on accounting  
7 returns to estimate cost of equity.

8 **Q: Did the Commission comment on Mr. Moul's Comparable Earnings analysis**  
9 **in Indiana-American's last rate case?**

10 A: Yes. On page 48 of its Final Order in Cause No. 43680 the Commission stated as  
11 follows:

12 With respect to Mr. Moul's Comparable Earnings approach, Mr.  
13 Gorman and Mr. Kaufman both raised several concerns. The  
14 Commission has carefully reviewed these and concludes that the  
15 approach as implemented by Mr. Moul does not measure the  
16 appropriate return for Indiana American. As Mr. Kaufman  
17 observed, Mr. Moul appears to give little weight to his own  
18 Comparable Earnings results. The Commission finds that the  
19 results should be disregarded.

20 **Q: Please summarize your concerns regarding Mr. Moul's Comparable**  
21 **Earnings Analysis.**

22 A: Mr. Moul's Comparable Earnings analyses include companies that have little or  
23 no debt and/or don't pay dividends. These companies are not comparable to  
24 Petitioner or the members of Mr. Moul's water company proxy group. Mr.  
25 Moul's Comparable Earnings analysis should be given no weight.

**XIII. FLOATATION COSTS**

1 **Q: Mr. Moul adds 23 basis points to the results of his DCF, CAPM and Risk**  
2 **Premium analyses for flotation costs. Is this adjustment necessary?**

3 A: No. Petitioner has not justified the need to recover flotation costs in this case.

4 When a utility has recently incurred or expects to incur flotation costs in the near  
5 future, this Commission has typically allowed utilities to recover measurable and  
6 reasonable flotation costs. On page 30 of their Final Order in PSI, Cause No.  
7 40003, the IURC expressed their opinion on flotation costs:

8 Although this Commission has recognized the need to adjust the  
9 cost of equity to reflect the costs associated with equity issuances,  
10 it has heretofore authorized such adjustments only when there was  
11 a projected near-term need to issue new stock. In this particular  
12 proceeding, Dr. Morin has not persuaded us to change this practice

13 ...We also observe that Dr. Morin's proposal appears to recapture  
14 historical costs that may have been incurred decades prior to the  
15 test year. For these reasons, we reject Dr. Morin's proposal  
16 regarding flotation costs, and find that Mr. Kahal proposed a more  
17 appropriate adjustment for purposes of the DCF calculation.

18 Nonetheless, on page E2 of Appendix E of his testimony, Mr. Moul argues "Even  
19 in the situation where a company will not issue common stock during the near  
20 term, the flotation cost adjustment factor should be applied to the common equity  
21 cost rate." Mr. Moul's opinion that flotation costs should always be included is  
22 contrary to, the Commission's position stated in Cause No. 40003. Because Mr.  
23 Moul's proposed flotation cost adjustment is generic in nature and is not based on  
24 actual costs incurred by Indiana-American Water or by American Water on behalf  
25 of Indiana-American Water, a flotation cost adjustment should not be included in  
26 Indiana-American's authorized cost of equity. Finally, Mr. Moul has not  
27 provided any company specific analysis on the actual costs Petitioner has recently

1 incurred or would incur if its parent company has or did issue common stock.  
2 Because Petitioner has not provided the Commission with measurable floatation  
3 costs that it has or will incur, Petitioner has not shown the amount it proposes to  
4 include in rates for floatation costs matches its expense for floatation costs.

5 **Q: Do you have any additional comments on flotation costs?**

6 A: Yes. To support his proposal to include a flotation cost adjustment for Petitioner,  
7 Mr. Moul states as follows on Page E1 of Appendix E:

8 The rate of return on common equity must be high enough to avoid  
9 dilution when equity is issued.

10 Also:

11 A market price of common stock above book value is necessary to  
12 attract future capital on reasonable terms in competition with other  
13 seekers of equity capital.

14 And:

15 A market price of stock above book value will maintain the  
16 financial integrity of the shares previously issued and is necessary  
17 to avoid dilution when new shares are offered.

18 As indicated by Mr. Moul when he proposes his leverage adjustment, the market  
19 price of companies in his water company proxy group are currently well above  
20 book value. A market to book ratio that is well above 1.00 suggests that a  
21 flotation cost adjustment is not necessary to offset the effects of dilution.

#### **XIV. CONCLUSIONS ON COST OF EQUITY**

22 **Q: Have interest rates declined since Mr. Moul filed his testimony?**

23 A: Yes. For both his Risk Premium model and his Capital Asset Pricing Model Mr.  
24 Moul relies on forecasted interest rates from "Consensus Forecasts Of U.S.  
25 Interest Rates And Key Assumptions" from the March 1, 2011 edition of Blue  
26 Chip Financial Forecasts. In Attachment ERK 18, I provided a copy of both the

1 March 1 and the September 1 "Consensus Forecasts Of U.S. Interest Rates And  
2 Key Assumptions" from Blue Chip Financial Forecasts. A review of these two  
3 documents illustrates that interest rates have decreased significantly since Mr.  
4 Moul filed his direct testimony.

5 **Q: Do you have any final comments about Mr. Moul's analysis?**

6 A: Yes. To the extent that I have not commented on areas of Mr. Moul's analysis,  
7 my silence should not be viewed as an acceptance of his analysis or position.

8 **Q: Please review the most significant differences between your estimated cost of**  
9 **equity and Mr. Moul's cost of equity.**

10 A: Our cost equity estimates differ by 290 basis points (8.6% vs. 11.5%). Most of  
11 our differences can be explained by the following factors:

- 12 1. Mr. Moul's estimated cost of equity gives too much weight to the  
13 arithmetic mean in both his Risk Premium and CAPM analyses.
- 14 2. Mr. Moul's Risk Premium analysis ignores 2008, 2009 and 2010 data.
- 15 3. Mr. Moul's analysis uses an unnecessary leverage adjustment in his DCF  
16 and CAPM analysis.
- 17 4. Mr. Moul's analysis uses an unrealistically high growth rate in his DCF  
18 analysis.
- 19 5. Mr. Moul includes a small company adjustment in his CAPM analysis.
- 20 6. Mr. Moul's forecasted risk premium exceeds historical averages in both  
21 his Risk Premium and CAPM analyses.

22 **Q: Please re-cap key elements illustrating the reasonableness of your proposed**  
23 **8.6% cost of equity.**

24 A: Petitioner's actuarial study assumes that the S&P 500 will earn a return of 8.85%.  
25 The compound average return of the S&P Public Utility Index from 1928 – 2010  
26 is 8.36%. The Third Quarter 2011 Duke Survey of CFO's forecasts a 10-year  
27 mean expected return for the S&P 500 is 6.5%. The Schwab Center for Financial

1 Research forecasts a long-term (20 year) annual rate of return for large-cap stocks  
2 of 7.9%. These four diverse sources provide a reasonable range of expected  
3 returns of 6.5% to 8.85%. If the lowest forecast is disregarded, these sources  
4 produce a range of long term forecasted returns for the market (or the utility  
5 market) of 7.9% to 8.85% with a midpoint of 8.375% and a mean of 8.37%.  
6 Because Petitioner is less risky than the market a proposed cost of equity of 8.6%  
7 is reasonable and should be approved by this Commission.

8 **Q: Does this conclude your testimony?**

9 A: Yes.

1 Table of Citations:

2 Page 17 Footnote 15: Robert D. Arnott and Peter L. Bernstein "What Risk  
3 Premium is Normal? *Financial Analysts Journal*, 58 (2) March/April  
4 2002): 64-85

5 Footnote 16: Source Council of Economic Advisors, Economic Report of  
6 the President, 2002.

7 Footnote 17: See for example, Vijay Kumar Chopra, "Why So Much Error  
8 in analysts' Earnings Forecasts?" *Financial Analysts Journal*, 54(6)  
9 November/December 1998): 35-42.

10 Footnote 18: See Masakao N. Darrough and Thomas Russal, "A Positive  
11 Model of Earnings Forecasts: Top Down Versus Bottom Up." *Journal of*  
12 *Business*, 75(1) (January 2002) 127-52.

13 Page 18 Footnote 2: See Marc H. Goedhart, Brendan Russel and Zane Williams,  
14 "Prophets and profits?" *McKinsey on Finance*, Number 2, Autumn 2001

15  
16 Footnote 1: See Marc H. Goedhart, Brendan Russel and Zane Williams,  
17 "Prophets and profits?" *McKinsey on Finance*, Number 2, Autumn 2001

18  
19 Footnote 2: US Securities and Exchange Commission (SEC) Regulation  
20 Fair Disclosure (FD), passed in 2000, prohibits the selective disclosure of  
21 material information to some people but not others. The Sarbanes-Oxley  
22 Act of 2002 includes provisions specifically intended to help restore  
23 investor confidence in the reporting of securities' analysts, including a  
24 code of conduct for them and a requirement to disclose knowable conflicts  
25 of interest. The Global Settlement of 2003 between regulators and ten of  
26 the largest US Investment firms aimed to prevent conflicts of interest  
27 between their analyst and investment businesses.

28 Page 29 Footnote 4 of the text cites to Ibbotson Associates, *Stocks, Bonds, Bills*  
29 *and Inflation 1993 Yearbook* (Chicago, 1993).

30 Page 30 Footnote 5 of the text cites A. Lo and C. MacKinlay, "Stock market Prices  
31 Do Not Follow Random Walks: Evidence from a Simple Specification  
32 Test," *Review of Financial Studies* (Spring 1988): 41-66; E. Fama and K.  
33 French, "Dividend Yields and Expected Stock Returns," *Journal of*  
34 *Financial Economics* (October 1988): 3-25; J. Poterba and L. Summers,  
35 "Mean reversions in Stock Prices: Evidence and Implications," *Journal of*  
36 *Financial Economics* (October 1988): 27-59.

- 1 Page 31 Footnote 14 of the text cites Mehra and Prescott (1985). The relatively  
2 large size of the historical U.S. equity premium relative to that predicted  
3 by theory, given estimates of investors' risk aversion, is known as the  
4 "equity premium puzzle" The geometric mean was also the choice of  
5 Dimson, Marsh, and Staunton (2000) in their authoritative survey of world  
6 equity markets.
- 7 Page 31 Footnote 41: In other words, good years are more likely to be followed by  
8 poor years, and vice versa. The evidence on negative serial correlation in  
9 stock market returns over time is extensive, and can be found in Fama and  
10 French (1988). While they find that one-year correlations are low, the  
11 five-year serial correlations are strongly negative for all size classes.  
12 Fama, E. F. and K.R. French. 1992, The Cross-Section of Expected  
13 Returns, Journal of Finance, Vol 47, 427-466.
- 14 Page 72 Footnote 6: Zepp, Thomas M. (2002) "Utility stocks and the size effect:  
15 revisited". Economics and Finance Quarterly, 43, 578-582.

**SUMMARY OF COST OF EQUITY STUDIES**

**DCF Studies**

Value Line Proxy Group

DCF Study using 3 month:  
Dividend yield: (Schedule 2) 8.44%

DCF Study using 6 month:  
Dividend yield: (Schedule 2) 8.40%

AUS Proxy Group

DCF Study using 3 month:  
Dividend yield: (Schedule 2) 9.45%

DCF Study using 6 month:  
Dividend yield: (schedule 2) 9.43%

My Multi-Stage DCF Model 8.50%

Multi-Stage DCF Model  
Using Mr. Moul's inputs: 8.71%

Range of DCF Studies: 8.40% - 9.45%

**CAPM Studies**

Combined (AUS) Proxy Group

Historical Risk Premiums

CAPM Study using  
Long term interest rates: 7.71% - 7.91%  
(Schedule 3, page 3)

**SUMMARY OF COST OF EQUITY STUDIES**

**CAPM Studies (cont)**

Forecasted Risk Premiums

CAPM Study using  
Long term interest rates: 7.75% - 7.95%  
(Schedule 3, page 3)

Range of CAPM Studies: 7.71% - 7.95%

Range of all Studies: 7.71% - 9.45%

Range of most heavily  
Weighted studies: 7.71% - 8.44%

Recommended Cost of  
Equity for Petitioner: **8.60%**

DCF MODEL  
 VALUE LINE PROXY  
 SUMMARY OF GROWTH RATES (g)

	10 YEAR EARNINGS PER SHARE	5 YEAR EARNINGS PER SHARE	FORECASTED EARNINGS PER SHARE	10 YEAR DIVIDENDS PER SHARE	5 YEAR DIVIDENDS PER SHARE	FORECASTED DIVIDENDS PER SHARE	10 YEAR BOOK VALUE PER SHARE	5 YEAR BOOK VALUE PER SHARE	FORECASTED BOOK VALUE PER SHARE	AVERAGE
AMERICAN STATES WATER	4.50%	11.50%	5.50%	2.00%	2.50%	4.00%	5.00%	5.00%	2.00%	4.67%
AQUA AMERICA	6.50%	4.50%	10.50%	7.50%	8.00%	5.50%	9.00%	7.00%	6.00%	7.17%
CALIFORNIA WATER	3.00%	6.50%	6.00%	1.00%	1.00%	3.00%	4.50%	5.50%	3.50%	3.78%
SJW CORP	2.00%		5.50%	5.00%	5.50%	3.50%	6.00%	6.50%	5.50%	4.94%
AVERAGE	4.00%	7.50%	6.88%	3.88%	4.25%	4.00%	6.13%	6.00%	4.25%	5.21%
50/50 WEIGHT HISTORICAL/FORECASTED		5.75%	6.88%		4.06%	4.00%		6.06%	4.25%	5.17%

Value Line July 22, 2011

DIVIDEND YIELDS

	Mar-2011	Apr-2011	May-2011	Jun-2011	Jul-2011	Aug-2011	3 MONTH AVERAGE	6 MONTH AVERAGE
AMERICAN STATES WATER	3.10%	3.00%	3.30%	3.30%	3.2%	3.30%	3.27%	3.20%
AQUA AMERICA	2.80%	2.80%	2.80%	2.90%	2.8%	3.00%	2.90%	2.85%
CALIFORNIA WATER	3.40%	3.30%	3.30%	3.40%	3.3%	3.50%	3.40%	3.37%
SJW CORP	3.00%	3.00%	3.10%	3.00%	2.9%	3.20%	3.03%	3.03%
AVERAGE	3.08%	3.03%	3.13%	3.15%	3.05%	3.25%	3.15%	3.11%

COST OF EQUITY = DIVIDEND YIELD \* (1+.5 \* GROWTH RATE) + GROWTH RATE

USING A THREE MONTH AVERAGE YIELD AND A  
 5.21% Growth Rate 8.44%

USING A SIX MONTH AVERAGE YIELD AND A  
 5.21% Growth Rate 8.40%

	VALUE LINE FORECASTED EPS*	YAHOO.COM FORECASTED EPS**	MORNINGSTAR FORECASTED EPS***
AMERICAN STATES WATER	5.50%	7.43%	4.50%
AMERICAN WATER WORKS	8.50%	8.43%	8.50%
AQUA AMERICA	10.50%	6.37%	7.50%
ARTESIAN WATER	3.60%	3.80%	3.60%
CALIFORNIA WATER	6.00%	10.00%	5.00%
CONNECTICUT WATER SRVICES	4.00%	3.00%	3.00%
MIDDLESEX WATER	3.00%	3.00%	3.00%
SJW CORP	5.50%	14.00%	
YORK WATER CO.	6.00%	6.00%	6.00%
AVERAGE	5.84%	6.89%	5.14%
AVERAGE OF ALL 3 FORECASTS OF GROWTH			5.96%

\*Value Line July 22, 2011 (Value Line relies on consensus earnings forecasts for companies not covered in its Standard Universe)  
 \*\*Yahoo.com 8/28/2011 - Yahoo.com relies on Thomson FInnacial Network for is Analyst estimates  
 \*\*\*Mornngstar 8/28/2011

DIVIDEND YIELDS

	Mar-2011	Apr-2011	May-2011	Jun-2011	Jul-2011	Aug-2011	3 MONTH AVERAGE	6 MONTH AVERAGE
AMERICAN STATES WATER	3.10%	3.00%	3.30%	3.30%	3.20%	3.30%	3.27%	3.20%
AMERICAN WATER WORKS	3.20%	3.10%	3.00%	3.00%	3.00%	3.40%	3.13%	3.12%
AQUA AMERICA	2.80%	2.80%	2.80%	2.90%	2.80%	3.00%	2.90%	2.85%
ARTESIAN WATER	3.90%	3.80%	3.90%	3.90%	4.10%	4.40%	4.13%	4.00%
CALIFORNIA WATER	3.40%	3.30%	3.30%	3.40%	3.30%	3.50%	3.40%	3.37%
CONNECTICUT WATER SRVICES	3.70%	3.70%	3.70%	3.70%	3.60%	3.50%	3.60%	3.65%
MIDDLESEX WATER	4.10%	4.00%	4.00%	3.90%	3.90%	4.30%	4.03%	4.03%
SJW CORP	3.00%	3.00%	3.10%	3.00%	2.90%	3.20%	3.03%	3.03%
YORK WATER CO.	3.10%	3.00%	3.10%	3.00%	3.00%	3.10%	3.03%	3.05%
AVERAGE	3.37%	3.30%	3.36%	3.34%	3.31%	3.52%	3.39%	3.37%

COST OF EQUITY = DIVIDEND YIELD \* (1+.5 \* GROWTH RATE) + GROWTH RATE

USING A THREE MONTH AVERAGE DIVIDEND YIELD AND A  
 5.96% 5 Year Growth Rate 9.45%

USING A SIX MONTH AVERAGE DIVIDEND YIELD AND A  
 5.96% 5 Year Growth Rate 9.43%

**2-Stage DCF Model results**  
Water Industry

	<u>Hypothetical</u>	Mr. Kaufman's <u>Inputs*</u>	Mr. Moul's <u>Inputs**</u>
Price	\$ 10.00	\$ 10.00	\$ 10.00
Current DPS	\$ 0.80	\$ 0.34	\$ 0.34
Growth rate, 1st Stage	5.50%	5.98%	7.00%
Growth rate, 2nd Stage	5.00%	4.75%	4.75%
Years in 1st stage	5	5	5
COE ( r )	<u>13.57%</u>	<u>8.50%</u>	<u>8.71%</u>

\*Mr. Kaufman's AUS proxy group (Schedule 2, page 2 of 3)

\*\*See Moul page 24 lines 3 & 4 combined with Moul's Dividend Yield (page 36 bottom of page)

Standard & Poor's 500

Dr. Damodaran's  
Inputs

Price	\$ 10.00
Current DPS	\$ 0.51
Growth rate, 1st Stage	6.95%
Growth rate, 2nd Stage	2.23%
Years in 1st stage	5
COE ( r )	<u>8.62%</u>
Risk premium	6.39%

**YIELDS ON U.S. TREASURY SECURITIES**

	<u>1 Year T-NOTE</u>	<u>5 Year T-NOTE</u>	<u>10 Year T-NOTE</u>	<u>30 Year T-BOND</u>
5-Jan-11	0.28%	2.14%	3.47%	4.54%
2-Feb-11	0.26%	2.09%	3.48%	4.62%
2-Mar-11	0.23%	2.17%	3.47%	4.56%
6-Apr-11	0.28%	2.31%	3.55%	4.60%
4-May-11	0.18%	1.94%	3.22%	4.32%
1-Jun-11	0.15%	1.59%	2.94%	4.14%
6-Jul-11	0.17%	1.66%	3.11%	4.36%
3-Aug-11	0.14%	1.26%	2.62%	3.90%
31-Aug-11	0.10%	0.96%	2.22%	3.60%
3-Month Average	0.14%	1.29%	2.65%	3.95%
6-Month Average	0.17%	1.62%	2.94%	4.15%
Spot yields - September 16, 2011	0.93%	2.08%	3.34%	
Spot yields - September 23, 2011	0.85%	1.81%	2.87%	

Interest rates obtained from Value Line Selections and Opinions  
 Spot yields taken from CNN.com

**RISK PREMIUM**

Historical Risk Prremiums

Total Returns 1926 - 2010

	Stocks	Long Bonds	Int Bonds	Short Bonds
Geometric Mean	9.90%	5.50%	5.40%	3.60%
Arithmetic Mean	11.90%	5.90%	5.50%	3.70%

Market Risk Premiums

Geometric Mean	4.40%	4.50%	6.30%
Arithmetic Mean	6.00%	6.40%	8.20%
Average Premium	5.20%	5.45%	7.25%

Total return data obtained from Ibbotson Associates:  
SBBI 2011 Yearbook Classic Edition.

Value Line  
 Beta\*

AMERICAN STATES WATER	0.75
AMERICAN WATER WORKS COMPANY	0.65
AQUA AMERICA	0.65
ARTESIAN WATER	0.60
CALIFORNIA WATER	0.70
CONNECTICUT WATER SRVICES	0.80
MIDDLESEX WATER	0.75
SJW CORP	0.90
YORK WATER CO.	0.70

Average	0.722
---------	-------

\*July 22, 2011

**CAPM Calculations**  
Historical Risk Premiums

Risk premiums		Long	Int	Short
Premiums		5.20%	5.45%	7.25%
Rates	<b>3 month</b>	3.95%	1.97%	0.14%
Beta	0.722	<b>7.71%</b>	5.91%	5.37%
Risk premiums		Long	Int	Short
Premiums		5.20%	5.45%	7.25%
Rates	<b>6 month</b>	4.15%	2.28%	0.17%
Beta	0.722	<b>7.91%</b>	6.22%	5.41%

Forecasted Risk Premiums

Risk premiums		Long
Premiums		5.25%
Rates	<b>3 month</b>	3.95%
Beta	0.722	<b>7.75%</b>
Risk premiums		Long
Premiums		5.25%
Rates	<b>6 month</b>	4.15%
Beta	0.722	<b>7.95%</b>

S&P Composite Index and S&P Public Utility Index  
Long-Term Corporate and Public Utility Bonds  
 Yearly Total Returns  
 1928-2010

Year	S & P Composite Index	S & P Public Utility Index	Long Term Corporate Bonds	Public Utility Bonds
1928	43.61%	57.47%	2.84%	3.08%
1929	-8.42%	11.02%	3.27%	2.34%
1930	-24.90%	-21.96%	7.98%	4.74%
1931	-43.34%	-35.90%	-1.85%	-11.11%
1932	-8.19%	-0.54%	10.82%	7.25%
1933	53.99%	-21.87%	10.38%	-3.82%
1934	-1.44%	-20.41%	13.84%	22.61%
1935	47.67%	76.63%	9.61%	16.03%
1936	33.92%	20.69%	6.74%	8.30%
1937	-35.03%	-37.04%	2.75%	-4.05%
1938	31.12%	22.45%	6.13%	8.11%
1939	-0.41%	11.26%	3.97%	6.76%
1940	-9.78%	-17.15%	3.39%	4.45%
1941	-11.59%	-31.57%	2.73%	2.15%
1942	20.34%	15.39%	2.60%	3.81%
1943	25.90%	46.07%	2.63%	7.04%
1944	19.75%	18.03%	4.73%	3.29%
1945	36.44%	53.33%	4.08%	5.92%
1946	-8.07%	1.26%	1.72%	2.98%
1947	5.71%	-13.16%	-2.34%	-2.19%
1948	5.50%	4.01%	4.14%	2.65%
1949	18.79%	31.39%	3.31%	7.16%
1950	31.71%	3.25%	2.12%	2.01%
1951	24.02%	18.63%	-2.69%	-2.77%
1952	18.37%	19.25%	3.52%	2.99%
1953	-0.99%	7.85%	3.41%	2.08%
1954	52.62%	24.72%	5.39%	7.57%
1955	31.56%	11.26%	0.48%	0.12%
1956	6.56%	5.06%	-6.81%	-6.25%
1957	-10.78%	6.36%	8.71%	3.58%
1958	43.36%	40.70%	-2.22%	0.18%
1959	11.96%	7.49%	-0.97%	-2.29%
1960	0.47%	20.26%	9.07%	9.01%
1961	26.89%	29.33%	4.82%	4.65%
1962	-8.73%	-2.44%	7.95%	6.55%
1963	22.80%	12.36%	2.19%	3.44%
1964	16.48%	15.91%	4.77%	4.94%
1965	12.45%	4.67%	-0.46%	0.50%
1966	-10.06%	-4.48%	0.20%	-3.45%
1967	23.98%	-0.63%	-4.95%	-3.63%
1968	11.06%	10.32%	2.57%	1.87%
1969	-8.50%	-15.42%	-8.09%	-6.66%
1970	4.01%	16.56%	18.37%	15.80%
1971	14.31%	2.41%	11.01%	11.59%
1972	18.98%	8.15%	7.26%	7.19%
1973	-14.66%	-18.07%	1.14%	2.42%
1974	-26.47%	-21.55%	-3.06%	-5.28%
1975	37.20%	44.49%	14.64%	15.50%
1976	23.84%	31.81%	18.65%	19.04%
1977	-7.18%	8.64%	1.71%	5.22%
1978	6.56%	-3.71%	-0.07%	-0.98%
1979	18.44%	13.58%	-4.18%	-2.75%
1980	32.42%	15.08%	-2.76%	-0.23%
1981	-4.91%	11.74%	-1.24%	4.27%
1982	21.41%	26.52%	42.56%	33.52%
1983	22.51%	20.01%	6.26%	10.33%
1984	6.27%	26.04%	16.86%	14.82%
1985	32.16%	33.05%	30.09%	26.48%
1986	18.47%	28.53%	19.85%	18.16%
1987	5.23%	-2.92%	-0.27%	3.02%
1988	16.81%	18.27%	10.70%	10.19%
1989	31.49%	47.80%	16.23%	15.61%
1990	-3.17%	-2.57%	6.78%	8.13%
1991	30.55%	14.61%	19.89%	19.25%
1992	7.67%	8.10%	9.39%	8.65%
1993	9.99%	14.41%	13.19%	10.59%
1994	1.31%	-7.94%	-5.76%	-4.72%
1995	37.43%	42.15%	27.20%	22.81%
1996	23.07%	3.14%	1.40%	3.04%
1997	33.36%	24.69%	12.95%	11.39%
1998	28.58%	14.82%	10.76%	9.44%
1999	21.04%	-8.85%	-7.45%	-1.69%
2000	-9.11%	59.70%	12.87%	9.45%
2001	-11.88%	-30.41%	10.65%	5.85%
2002	-22.10%	-30.04%	16.33%	1.63%
2003	28.70%	26.11%	5.27%	10.01%
2004	10.87%	24.22%	8.72%	6.03%
2005	4.91%	16.79%	5.87%	3.02%
2006	15.80%	20.95%	3.24%	3.94%
2007	5.49%	19.39%	2.60%	5.20%
2008	-37.00%	-28.96%	8.78%	na
2009	26.46%	11.89%	3.02%	na
2010	15.06%	5.47%	12.44%	na
Geometric Mean	9.55%	8.36%	5.89%	5.45%
Arithmetic Mean	11.57%	10.70%	6.20%	5.72%
Standard Deviation	20.44%	22.46%	8.40%	7.84%
Median	14.31%	11.74%	4.14%	4.55%

**Comparison of 2007 & 2010 Averages**

	<u>S &amp; P Composite Index</u>	<u>S &amp; P Public Utility Index</u>	<u>Long Term Corporate Bonds</u>	<u>Public Utility Bonds</u>
<b>1974 - 2010</b>				
Geometric Mean	10.56%	11.33%	8.83%	8.45%
Arithmetic Mean	12.20%	13.38%	9.30%	8.79%
Standard Deviation	18.26%	20.95%	10.51%	8.89%
Median	15.80%	14.82%	8.78%	8.39%

<b>1974 - 2007</b>				
Geometric Mean	11.83%	12.98%	8.90%	8.45%
Arithmetic Mean	13.14%	14.90%	9.41%	8.79%
Standard Deviation	16.82%	20.50%	10.90%	8.89%
Median	16.31%	15.94%	9.06%	8.39%

**Change from 2007 to 2010**

Geometric Mean	1.27%	<b>1.64%</b>	0.07%	0.00%
Arithmetic Mean	0.94%	<b>1.52%</b>	0.11%	0.00%
Median	0.51%	<b>1.12%</b>	0.27%	0.00%

	<u>S &amp; P Composite Index</u>	<u>S &amp; P Public Utility Index</u>	<u>Long Term Corporate Bonds</u>	<u>Public Utility Bonds</u>
<b>1979 - 2010</b>				
Geometric Mean	11.57%	11.65%	9.27%	8.83%
Arithmetic Mean	13.04%	13.61%	9.76%	9.15%
Standard Deviation	17.34%	21.08%	10.70%	8.75%
Median	16.31%	14.95%	9.09%	8.65%

<b>1979 - 2007</b>				
Geometric Mean	13.18%	13.62%	9.41%	8.83%
Arithmetic Mean	14.23%	15.41%	9.93%	9.15%
Standard Deviation	15.34%	19.80%	11.18%	8.75%
Median	16.81%	16.79%	9.39%	8.65%

**Change from 2007 to 2010**

Geometric Mean	1.61%	<b>1.97%</b>	0.13%	0.00%
Arithmetic Mean	1.19%	<b>1.81%</b>	0.17%	0.00%
Median	0.51%	<b>1.84%</b>	0.31%	0.00%

**Updated**  
**Tabulation of Risk Rate Differentials for**  
**S&P Public Utility Index and Public Utility Bonds**  
**For the Years 1928-2008, 1952-2008, 1974-2008, and 1979-2008**

<b>Total Returns</b>	<b>Range</b>		<b>Midpoint</b>	<b>Point Estimate Arithmetic Mean</b>	<b>2010 Average of the Midpoint of Range and Point Estimate</b>	<b>2007 Average of the Midpoint of Range and Point Estimate</b>	<b>Average of the Geometric Arithmetic Mean 50/50</b>
	<b>Geometric Mean</b>	<b>Median</b>					
<b>1928-2010</b>							
S&P Public Utility Index	8.36%	11.74%		10.70%			
Public Utility Bonds	5.45%	4.55%		5.72%			
Risk Differential	2.91%	7.19%	5.05%	4.98%	5.02%	5.51%	3.95%
<b>1952-2010</b>							
S&P Public Utility Index	10.21%	12.36%		11.81%			
Public Utility Bonds	6.15%	5.07%		6.45%			
Risk Differential	4.06%	7.29%	5.68%	5.36%	5.52%	6.58%	4.71%
<b>1974-2010</b>							
S&P Public Utility Index	11.33%	14.82%		13.38%			
Public Utility Bonds	8.45%	8.39%		8.79%			
Risk Differential	2.88%	6.43%	4.66%	4.59%	4.63%	6.08%	3.74%
<b>1979-2010</b>							
S&P Public Utility Index	11.65%	14.95%		13.61%			
Public Utility Bonds	8.83%	8.65%		9.15%			
Risk Differential	2.82%	6.30%	4.56%	4.46%	4.51%	6.37%	3.64%
Average (all four time periods)					4.92%	6.14%	4.01%
Average (1974 - 2010 & 1979 - 2010)					4.57%	6.23%	3.69%
Average (1974 - 2010 & 1979 - 2010) * 0.88					4.02%	5.46%	3.25%

**AFFIRMATION**

I affirm, under the penalties for perjury, that the foregoing representations are true.

Edward R. Kaufman

By: Edward R. Kaufman  
Indiana Office of  
Utility Consumer Counselor

10-5-11

Date

Cause No. 44022  
Indiana-American Water Co., Inc.

## First Quarter 2011 Survey of Professional Forecasters

Release Date: February 11, 2011

Listen to an interview with a research analyst [about this quarter's survey.](#)

### Forecasters See Stronger Growth in 2011 and 2012

The outlook for growth in the U.S. economy looks more positive now than it did just three months ago, according to 43 forecasters surveyed by the Federal Reserve Bank of Philadelphia. The panel expects real GDP to grow at an annual rate of 3.6 percent this quarter, up from the previous estimate of 2.4 percent. On an annual-average over annual-average basis, the forecasters predict faster real GDP growth in 2011 and 2012. The forecasters see real GDP growing 3.2 percent in 2011, up from their prediction of 2.5 percent in the last survey. The forecasters predict real GDP will grow 3.1 percent in 2012, higher than their prediction of 2.9 percent in the last survey. For 2013, the forecast for real GDP growth is unchanged from the last survey at 3.0 percent.

The positive revision to growth is accompanied by a brighter outlook for the unemployment rate. Unemployment is projected to be an annual average of 9.1 percent in 2011, 8.5 percent in 2012, and 7.8 percent in 2013. These estimates are lower than the projections in the last survey. On the employment front, the forecasters have revised upward the growth in jobs over the next four quarters. The forecasters see nonfarm payroll employment growing at a rate of 129,100 jobs per month this quarter and 188,300 jobs per month next quarter. The forecasters' projections for the annual-average level of nonfarm payroll employment suggest job gains at a monthly rate of 134,900 in 2011 and 226,100 in 2012, 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.)

	Real GDP (%)		Unemployment Rate (%)		Payrolls (000s/month)	
	Previous	New	Previous	New	Previous	New
<i>Quarterly data:</i>						
2011:Q1	2.4	3.6	9.5	9.3	104.2	129.1
2011:Q2	2.7	3.5	9.4	9.2	144.3	188.3
2011:Q3	3.3	3.1	9.2	9.0	139.8	201.1
2011:Q4	2.9	3.4	9.0	8.8	170.6	213.1
2012:Q1	N.A.	3.1	N.A.	8.7	N.A.	201.4
<i>Annual data (projections are based on annual-average levels):</i>						
2011	2.5	3.2	9.3	9.1	105.5	134.9
2012	2.9	3.1	8.7	8.5	N.A.	226.1

2013	3.0	3.0	7.9	7.8	N.A.	N.A.
2014	N.A.	3.4	N.A.	7.3	N.A.	N.A.

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 presents the forecasters' previous and current estimates of the probability that growth will fall into each of 11 ranges. The forecasters have revised upward their estimate of the probability that growth will fall into the range of 3.0 to 4.9 percent in 2011, 2012, and 2013.

- Mean Probabilities for Real GDP Growth in 2011 (chart)
- Mean Probabilities for Real GDP Growth in 2012 (chart)
- Mean Probabilities for Real GDP Growth in 2013 (chart)
- Mean Probabilities for Real GDP Growth in 2014 (chart)

The forecasters' density projections, as shown in the charts below, shed light on the odds of a recovery in the labor market over the next four years. Each chart presents the forecasters' previous and current estimates of the probability that unemployment will fall into each of 10 ranges. The forecasters have reduced the estimate of the probability that the annual average unemployment rate will be greater than 9.5 percent in 2011, 2012, and 2013 compared with their previous estimate.

- Mean Probabilities for Unemployment Rate in 2011 (chart)
- Mean Probabilities for Unemployment Rate in 2012 (chart)
- Mean Probabilities for Unemployment Rate in 2013 (chart)
- Mean Probabilities for Unemployment Rate in 2014 (chart)

**Little Change in the Long-Term Expectations for Inflation**

The forecasters expect current-quarter headline CPI inflation to average 2.5 percent, up from the last survey's estimate of 1.6 percent. The forecasters also predict a higher current-quarter headline PCE inflation of 2.0 percent, up from the last survey's estimate of 1.5 percent. However, the current outlook for the headline and core measures of CPI and PCE inflation during the next two years remains mostly unchanged. Measured on a fourth-quarter over fourth-quarter basis, headline CPI inflation is expected to average 1.7 percent in 2011 and 2.0 percent in 2012, slightly higher than the forecast of 1.6 percent and 1.9 percent, respectively, in the last survey. Forecasters expect fourth-quarter over fourth-quarter headline PCE inflation to average 1.6 percent in 2011, up from 1.4 percent in the last survey, and 1.8 percent in 2012, unchanged from the previous estimate.

Over the next 10 years, 2011 to 2020, the forecasters expect headline CPI inflation to average 2.30 percent at an annual rate. This estimate is up slightly from the last survey, when the forecasters thought headline CPI inflation over the 10-year period from 2010 to 2019 would average 2.20 percent.

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>								
2011:Q1	1.6	2.5	1.1	1.0	1.5	2.0	1.1	1.0

2011:Q2	1.3	1.3	1.3	1.2	1.2	1.3	1.1	1.3
2011:Q3	1.8	1.8	1.3	1.3	1.4	1.5	1.2	1.3
2011:Q4	1.8	1.8	1.5	1.4	1.6	1.5	1.3	1.4
2012:Q1	N.A.	2.0	N.A.	1.6	N.A.	1.8	N.A.	1.5
<i>Q4/Q4 Annual Averages</i>								
2011	1.6	1.7	1.3	1.3	1.4	1.6	1.2	1.3
2012	1.9	2.0	1.7	1.7	1.8	1.8	1.6	1.6
2013	N.A.	2.1	N.A.	1.9	N.A.	1.9	N.A.	1.7
<i>Long-Term Annual Averages</i>								
2010-2014	2.00	N.A.	N.A.	N.A.	1.80	N.A.	N.A.	N.A.
2011-2015	N.A.	2.10	N.A.	N.A.	N.A.	1.91	N.A.	N.A.
2010-2019	2.20	N.A.	N.A.	N.A.	2.00	N.A.	N.A.	N.A.
2011-2020	N.A.	2.30	N.A.	N.A.	N.A.	2.10	N.A.	N.A.

The charts below show the median forecasts (the red line) and the associated interquartile ranges (the gray area around the red line) for the projections for the 10-year annual-average CPI and PCE inflation. The forecast begins in Q4 1991 for 10-year CPI inflation and in Q1 2007 for 10-year PCE inflation.

- Projections for the 10-Year Annual-Average Rate of CPI Inflation (chart)
- Projections for the 10-Year Annual-Average Rate of PCE Inflation (chart)

The figures below show the probabilities that the forecasters are assigning to the possibility that fourth-quarter over fourth-quarter core PCE inflation in 2011 and 2012 will fall into each of 10 ranges. For 2011, the forecasters assign a higher chance than previously that core PCE inflation will fall in the range of 0.5 to 1.9 percent.

- Mean Probabilities for Core PCE Inflation in 2011 (chart)
- Mean Probabilities for Core PCE Inflation in 2012 (chart)

### Small Risk of a Negative Quarter

The forecasters have revised downward the chance of a contraction in real GDP in any of the next four quarters. For the current quarter, they predict a 6.3 percent chance of negative growth, down from 12.9 percent in the survey of three months ago. As the table below shows, the panelists have also made downward revisions to their forecasts for the following three quarters.

#### Risk of a Negative Quarter (%)

Previous

New

#### Quarterly data:

2011: Q1	12.9	6.3
2011: Q2	13.6	7.1
2011: Q3	13.2	9.3

2011: Q4	13.8	10.7
2012: Q1	N.A.	11.4

**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 of growth in 2011 and 2012.

Twenty-five panelists answered the special question. Some panelists provided projections for more than one index. The table below provides a summary of the forecasters' responses. For some indices, the number of responses (N) is very small. The median estimates for the seven house-price indices listed in the table below range from -3.3 percent to 0.4 percent in 2011 and 1.4 percent to 3.7 percent in 2012.

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

Index	2011 (Q4/Q4 Percent Change)			2012 (Q4/Q4 Percent Change)		
	N	Mean	Median	N	Mean	Median
S&P/Case-Shiller: U.S. National	13	-0.6	0.4	13	1.3	2.0
S&P/Case-Shiller: Composite 10	2	-0.9	-0.9	2	2.1	2.1
S&P/Case-Shiller: Composite 20	6	-0.9	-0.6	6	1.0	1.4
FHFA: U.S. Total	6	-1.0	-1.3	6	3.5	3.7
FHFA: Purchase Only	6	-1.1	-2.3	6	2.1	1.8
CoreLogic: National HPI, incl Distressed Sales (Single Family Combined)	4	-0.4	-0.2	3	1.1	2.3
NAR Median: Total Existing	2	-3.3	-3.3	2	2.6	2.6

**Upward Revisions to Long-Term Output Growth and Stock Returns**

In 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 increased their long-run estimates for the annual-average rate of growth in real GDP. Currently, the forecasters expect real GDP to grow 2.84 percent per year over the next 10 years, up from 2.70 percent in the survey of 2010 Q1. The forecasters predict the S&P 500 returning 7.25 percent per year, up from 7.00 percent. A downward revision to bond returns accompanies the current outlook. The forecasters see 10-year Treasuries returning 4.88 percent per year, down from 4.95 percent. The forecasters continue to expect that three-month Treasury bills will return 3.0 percent per year over the next 10 years. Productivity growth is also expected to remain unchanged at 2.0 percent per year.

Long-Term (10-year) Forecasts (%)

First Quarter 2010	Current Survey
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Real GDP Growth	2.70	2.84
Productivity Growth	2.00	2.00
Stock Returns (S&P 500)	7.00	7.25
Bond Returns (10-year)	4.95	4.88
Bill Returns (3-month)	3.00	3.00

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

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

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