

**BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH**

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<b>In the Matter of the</b>	)	<b>Docket No. 07-057-13</b>
<b>Application of Questar Gas</b>	)	<b>Surrebuttal</b>
<b>Company to Increase</b>	)	<b>Testimony of</b>
<b>Distribution Non-Gas Rates</b>	)	<b>Dr. J. Randall Woolridge</b>
<b>And Charges and Make</b>	)	<b>For the Committee of</b>
<b>Tariff Modifications</b>	)	<b>Consumer Services</b>

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May 12, 2008

**BEFORE THE  
PUBLIC SERVICE COMMISSION OF UTAH**

**DOCKET NO. 07-057-13**

**IN THE MATTER OF THE APPLICATION OF  
QUESTAR GAS COMPANY TO INCREASE DISTRIBUTION  
NON-GAS RATES AND CHARGES AND  
MAKE TARIFF MODIFICATIONS**

**CAPITAL STRUCTURE, RETURN ON EQUITY, AND  
OVERALL FAIR RATE OF RETURN**

**SURREBUTTAL TESTIMONY AND EXHIBIT**

**OF**

**DR. J. RANDALL WOOLRIDGE**

**ON BEHALF OF**

**THE UTAH COMMISSSTTE ON CONSUMER SERVICES**

**MAY 12, 2008**

1           **Q.   PLEASE STATE YOUR FULL NAME, ADDRESS, AND**  
2           **OCCUPATION.**

3           A.   My name is J. Randall Woolridge and my business address is 120 Haymaker  
4           Circle, State College, PA 16801. I am a Professor of Finance and the  
5           Goldman, Sachs & Co. and Frank P. Smeal Endowed University Fellow in  
6           Business Administration at the University Park Campus of the Pennsylvania  
7           State University.

8  
9           **Q.   HAVE YOU PREVIOUSLY FILED TESTIMONY IN THIS CASE?**

10          A.   Yes. I have provided direct testimony on the cost of capital of Questar  
11          Gas Company (QGC) on behalf of the Utah Committee on Consumer  
12          Services (CCS).

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14          **Q.   WHAT IS THE PURPOSE OF YOUR SURREBUTTAL**  
15          **TESTIMONY?**

16          A.   My surrebuttal testimony primarily focuses on issues discussed in the  
17          rebuttal testimony of QGC witness Mr. Robert B. Hevert. These issues  
18          include:

19               (1) Mr. Hevert's reliance on the results of an outdated and erroneous study  
20               and on anecdotal short-term earnings projections to justify his exclusive  
21               use of analysts' long-term EPS growth rate forecasts in developing a  
22               growth rate in his DCF model;'

23               (2) Mr. Hevert's challenge regarding the equity risk premium is based on

24 outdated and flawed methodology;

25 (3) Mr. Hevert's claims regarding recently approved ROEs ignores current

26 market indicators concerning capital cost rates; and

27 (4) Mr. Hevert's attempt to rebut the relationship of ROE and market to

28 book ratios ignores the clear signals provided in market prices about the

29 cost of equity capital.

30

31 **DCF Results**

32 **Q. PLEASE REVIEW MR. HEVERT'S ASSESSMENT OF YOUR DCF**

33 **ANALYSIS AS FOUND BETWEEN PAGES 63 AND 70 OF HIS**

34 **REBUTTAL TESTIMONY.**

35 A. Mr. Hevert has expressed concern in using the DCF model to estimate an

36 equity cost rate because, in his opinion, the dividend yields and expected

37 growth rates are too low. Therefore he has criticized my DCF results,

38 excluded WGL from his proxy group because of the low DCF equity cost

39 rate, and claims that the DCF understates the equity cost rate for gas

40 companies.

41

42 **Q. PLEASE REVIEW THE ISSUE OF THE EXPECTED GROWTH**

43 **RATE IN THE DCF MODEL.**

44 A. The major area of disagreement in the application of the DCF model

45 involves the estimation of the expected growth rate. Mr. Hevert has

46 relied on the forecasted earning per share (EPS) of Wall Street analysts

47 and/or the *Value Line Investment Survey* in determining a growth rate  
48 measure for the DCF model. I have used both historic and projected  
49 growth rate measures, and have evaluated growth in dividends, book  
50 value, and earnings per share. I have provided evidence in testimony that  
51 there is a positive bias to the EPS growth rate projections of both Wall  
52 Street analysts and *Value Line*. Especially with respect to the forecasts of  
53 Wall Street analysts, this is a well-known phenomenon in the markets and  
54 therefore investors would discount analysts' projections in arriving at an  
55 expected growth rate. Furthermore, due to this well known bias, it is also  
56 more likely that investors would look to historical growth rates, especially  
57 since historical growth is provided to investors by virtually all financial  
58 information services.

59  
60 **Q. MR. HEVERT CRITICIZES YOU FOR USING HISTORICAL**  
61 **GROWTH RATE MEASURES AS WELL AS EXPECTED**  
62 **DIVIDEND AND BOOK VALUE PER SHARE GROWTH. PLEASE**  
63 **RESPOND.**

64 A. Mr. Hevert claims that since analysts are aware of historic growth when  
65 they make their projections that investors ignore historic growth.  
66 However, the fact is that virtually all investor information services, such  
67 as *Yahoo!* and *Value Line*, provide historic as well as projected growth  
68 rates. Hence historic figures are provided to investors. If these were of no  
69 value to investors, there would be no reason to provide them.

70                   With respect to the argument that dividend and book value growth  
71                   are of no consequence to investors, Mr. Hevert must be aware that,  
72                   according to the DCF model, earnings, dividends, and book value should  
73                   all grow at the same rate. Furthermore, the cash flows in the DCF model  
74                   are dividends and not earnings. As shown in Exhibit JRW-6 of my  
75                   testimony, the average expected Dividends Per Share (DPS) growth rate  
76                   for my proxy group is 4.0%. All growth rate indicators other than projected  
77                   EPS growth have been ignored by Mr. Hevert.

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79                   **Q.    WHY HAS MR. HEVERT FOCUSED SOLELY ON ANALYSTS’**  
80                   **PROJECTED EPS GROWTH FOR HIS DCF MODEL?**

81                   A.    On page 64 of his rebuttal testimony Mr. Hevert supports focusing solely  
82                   on analysts’ projected EPS growth by referencing a study by Carleton and  
83                   Vander Weide.

84

85                   **Q.    PLEASE DISCUSS CARLETON AND VANDER WEIDE’S STUDY.**

86                   A.    In the study, Carleton and Vander Weide perform a linear regression of a  
87                   company’s stock price to earnings ratio (P/E) on the dividend yield payout  
88                   ratio (D/E), alternative measures of growth (g), and four measures of risk  
89                   (1) beta, (2) covariance, (3) r-squared, and the (4) standard deviation of  
90                   analysts’ growth rate projections. They perform the study for three one-  
91                   year periods – 1981-1982, and 1983 – and use a sample of approximately  
92                   65 companies. The results indicated that regressions measuring growth as

93 analysts' forecasted EPS growth were more statistically significant that  
94 those using various historic measures of growth. Consequently, they  
95 conclude that analysts' growth rates are superior measures of expected  
96 growth.

97

98 **Q. PLEASE CRITIQUE THE CARLETON AND VANDER WEIDE**  
99 **STUDY.**

100 A. Before highlighting the errors in the study, it is important to note that the  
101 study was published twenty years ago, used a sample of only sixty five  
102 companies, and evaluated a three-year time period (1981-83) that was over  
103 twenty-five years ago. Since that time, many more exhaustive studies  
104 have been performed using significantly larger data bases and, from these  
105 studies, much has been learned about Wall Street analysts and their stock  
106 recommendations and earnings forecasts.<sup>1</sup> Nonetheless, there are several  
107 errors that invalidate the results of the study.

108 The primary error in the study is that the regression model is mis-  
109 specified. As a result, the authors cannot conclude whether one growth  
110 rate measure is better than the other. The misspecification results from the  
111 fact that the authors did not actually employ the DCF model. Instead, they  
112 used a "linear approximation" of the DCF model. They used the  
113 approximation so that they did not have to measure k, investors' required

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<sup>1</sup> Two recent studies provide a broad summary of the research. See Easton, Peter D. and Sommers, Gregory A., "Effect of Analysts' Optimism on Estimates of the Expected Rate of Return Implied By Earnings Forecasts" . Journal of Accounting Research, Vol. 45, No. 5, pp. 983-1015, December 2007, and Hong, Harrison and Kacperczyk, "Competition and Bias," (March 2008).

114 return, directly, but instead they used proxy variables for risk. The error in  
115 this approach is that there can be an interaction between growth (g) and  
116 investors' required return (k) which could lead to the false or  
117 unsubstantiated conclusion that one growth rate measure is superior to  
118 others. Furthermore, due to this problem, analysts' EPS forecasts could be  
119 upwardly biased yet still appear to provide better measures of expected  
120 growth.

121 There are other errors in the study as well that further invalidate  
122 the results. Carleton and Vander Weide do not use both historic and  
123 analysts' projections growth rate measures in the same regression to assess  
124 if both historic and forecasts should be used together to measure expected  
125 growth. In addition, they did not perform any tests to determine if the  
126 difference between historic and projected growth measures is statistically  
127 significant. Without such tests, they cannot make any conclusions about  
128 the superiority of one measure versus the other.

129

130 **Q. WHAT IS YOUR CONCLUSION ABOUT MR. HEVERT'S**  
131 **RELIANCE ON THE CARLETON AND VANDER WEIDE STUDY**  
132 **TO IGNORE HISTORIC GROWTH AS WELL AS OTHER**  
133 **MEASURES OF GROWTH?**

134 A. Mr. Hevert has erred since the basis for his decision to ignore historic  
135 growth as well as other growth rate measures is a study that is outdated  
136 and seriously flawed.



137           **Q.    IS IT GENERALLY RECOGNIZED IN THE MARKETS THAT**  
138                       **THERE IS AN UPWARD BIAS TO ANALYSTS' LONG-TERM EPS**  
139                       **GROWTH RATE FORECASTS?**

140           A.    Yes. Exhibit JRW-1S provides a copy of a recent *Wall Street Journal*  
141                       article highlighting the bias.

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143           **Q.    ON PAGES 67 AND 68 OF HIS REBUTTAL TESTIMONY, MR.**  
144                       **HEVERT ATTEMPTS TO REFUTE YOUR EVIDENCE THAT**  
145                       **THERE IS AN UPWARD BIAS TO THE EPS GROWTH RATE**  
146                       **FORECASTS OF WALL STREET ANALYSTS AND VALUE LINE.**  
147                       **PLEASE RESPOND.**

148           A.    Both of Mr. Hevert's analyses are incorrect. With respect to the *Value*  
149                       *Line* results, Mr. Hevert has misinterpreted and therefore misrepresented  
150                       the data for natural gas distribution companies. His comparisons on page  
151                       67 are between the current 3-5 year EPS forecasts for the gas companies to  
152                       their historic 5-year EPS growth rate. As such, these are not forecasting  
153                       errors as he presumes, but they are simply the differences between *Value*  
154                       *Line's* forecasted EPS growth rates and the EPS growth rates that these  
155                       companies achieved over the previous five years.

156  
157           **Q.    PLEASE DISCUSS MR. HEVERT REVIEW OF ANALYSTS' 2007**  
158                       **EPS ESTIMATES FOR THE GAS COMPANIES.**

159 A. Mr. Hevert uses anecdotal evidence on quarterly EPS forecasts to refute  
160 the scientific evidence regarding the upward bias in analysts' long-term  
161 EPS growth rate forecasts. Both Mr. Hevert and myself have used  
162 analysts' long-term EPS growth rate forecasts in establishing an expected  
163 DCF growth rate. I provide evidence that analysts' long-term EPS  
164 forecasts are overly optimistic. To counter this evidence, Mr. Hevert notes  
165 that the quarterly (not long-term) EPS forecasts of analysts for the gas  
166 companies in the year 2007 were below the EPS the companies actually  
167 achieved by 2.19%. First, it must be noted that neither Mr. Hevert nor I  
168 used short-term quarterly EPS growth rate estimates but we both used  
169 long-term EPS growth rate forecasts. Second, Mr. Hevert is presenting  
170 anecdotal evidence on the short-term EPS forecasts to attempt to refute the  
171 science evidence on the accuracy of analysts' long-term EPS growth rate  
172 forecasts. As the old academic saying goes, "For example is not proof."

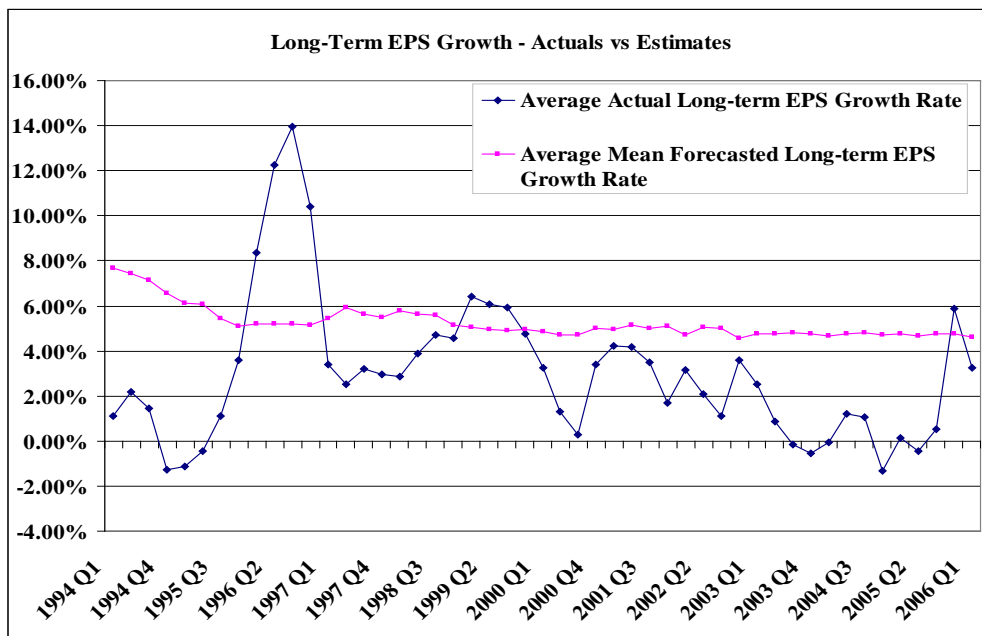
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174 **Q. MR. HEVERT PRESUMES THAT THE RESULTS YOU PRESENT**  
175 **DO NOT APPLY TO NATURAL GAS DISTRIBUTION**  
176 **COMPANIES. HAVE YOU STUDIED WHETHER ANALYSTS'**  
177 **EPS GROWTH RATE FORECASTS ARE LIKEWISE UPWARDLY**  
178 **BIASED FOR NATURAL GAS DISTRIBUTION COMPANIES?**

179 A. Yes. To evaluate whether analysts' EPS growth rate forecasts are  
180 upwardly biased for a group of natural gas distribution companies, I  
181 applied the methodology I used on page 63 of my direct testimony to a

182 group of gas distribution companies. As shown in the graph below, the  
 183 projected EPS growth rates, which were in the 7-8 percent range in the  
 184 early 1990s, have steadily declined over the past decade to the 4 percent  
 185 range today. Actual EPS growth has been volatile, and pretty consistently  
 186 below projected EPS growth rates. Over the entire period, the average  
 187 quarterly projected and actual EPS growth rates are 5.25% and 3.01%,  
 188 respectively. Hence, analysts' projected EPS growth rate forecasts are  
 189 likewise upwardly biased for natural gas distribution companies.

190 **Analysts' Forecasted 3-5-Year Forecasted Versus Actual EPS Growth Rates**  
 191 **Natural Gas Distribution Companies**  
 192 **1990-2006**  
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196 **Q. FINALLY, PLEASE COMMENT OF MR. HEVERT'S USE OF**  
 197 **VALUE LINE' DATA TO DEVELOP HIS SUSTAINABLE**

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**GROWTH RATE WHICH HE DISCUSSES ON PAGES 65-66 OF HIS REBUTTAL TESTIMONY**

A. In my testimony I demonstrated that Mr. Hevert’s sustainable growth calculation is incorrect because, whereas his calculation showed sustainable growth of 6.01% for his proxy group, *Value Line* had predicted sustainable growth, or book value per share growth, of 4.2%. Since Mr. Hevert has employed *Value Line*’s data to measure a sustainable growth rate, and yet arrives at a figure that is 50% higher than *Value Line*’s own projected measure of sustainable growth, it is clear than he has misused the data. Had Mr. Hevert employed *Value Line*’s projection for sustainable growth, he would have come to a lower DCF equity cost rate.

**Equity Risk Premium**

**Q. PLEASE DISCUSS THE EQUITY RISK PREMIUM ISSUE IN THIS PROCEEDING.**

A. The biggest cost of capital issue in this proceeding is the magnitude of the equity risk premium (ERP). This issue goes beyond the appropriate ERP for the CAPM analyses performed by Mr. Hevert and myself. Mr. Hevert has put less weight on his DCF results (and even eliminated WGL Holdings due to low DCF), because he believes the results are too low. Implicit in this evaluation is his presumption of the appropriate equity risk premium. Mr. Hevert’s assessment of the appropriate ROE, given

221 authorized ROEs over the past three years, is also based on his  
222 presumption of the appropriate equity risk premium. Hence, the equity  
223 risk premium in this proceeding provides a very significant role in Mr.  
224 Hevert's evaluation of the appropriate return on equity for QGC and his  
225 recommendation.

226

227 **Q. PLEASE DISCUSS MR HEVERT'S EQUITY RISK PREMIUM?**

228 A. Mr. Hevert has employed the historical equity risk premium of 7.1% as  
229 provided by Morningstar (formerly Ibbotson Associates). This represents  
230 the difference between arithmetic mean annual stock returns and bond  
231 income returns over the 1926-2006 time period. This is how equity risk  
232 premiums were estimated in the 1980s. Over the past twenty years there  
233 have been literally hundreds of studies performed on the equity risk  
234 premium.

235 As discussed in my testimony, the use of historical return to  
236 estimate an expected risk premium can be erroneous because (1) ex post  
237 returns are not the same as ex ante expectations, (2) market risk premiums  
238 can change over time, increasing when investors become more risk-averse,  
239 and decreasing when investors become less risk-averse, and (3) market  
240 conditions can change such that ex post historical returns are poor  
241 estimates of ex ante expectations. Furthermore, there are a number of flaws  
242 in using historical returns over long time periods to estimate expected  
243 equity risk premiums. These issues, as discussed in my testimony, include:

244 (1) biased historical bond returns; (2) the arithmetic versus the geometric  
245 mean return; (3) unattainable and biased historical stock returns; (4)  
246 survivorship bias; (5) the “Peso Problem;” (6) market conditions today are  
247 significantly different than the past; and (7) changes in risk and return in the  
248 markets. Mr. Hevert has not provided any rebuttal against these issues and  
249 the studies that I cite as evidence.

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251 **Q. ON PAGES 73 AND 74 OF HIS REBUTTAL TESTIMONY, MR.**  
252 **HEVERT CITES THE UPDATED RESULTS OF THE IBBOTSON –**  
253 **CHEN ‘BUILDING BLOCKS’ APPROACH IN SUPPORT OF HIS**  
254 **EQUITY RISK PREMIUM. PLEASE RESPOND.**

255 A. The updated results cited by Mr. Hevert with reference to the Ibbotson-Chen  
256 ‘Building Blocks’ approach refer to their use of historical inputs in obtaining  
257 an equity risk premium. These updated Ibbotson-Chen results are included  
258 among the findings of the thirty studies that I have used in arriving at my  
259 equity risk premium. However, there is an issue with the Ibbotson-Chen  
260 results which is highlighted in my testimony. The primary problem is the  
261 Ibbotson-Chen results are based on inputs which are historic norms and not  
262 current market conditions. For example, the historical dividend yield used  
263 by Ibbotson and Chen was 4.3%. However, the current market dividend  
264 yield, which reflects the dividend yield that investors expect to earn going  
265 forward from today, is only 2.2%.

266

267 **Q. PLEASE CONTRAST YOUR APPROACH TO ESTIMATING AN**

268

**EQUITY RISK PREMIUM TO MR. HEVERT’S?**

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A. As I discuss in my testimony, I have employed an equity risk premium of 4.51% that reflects the results of thirty professional and academic studies and surveys. These studies incorporate the three approaches to estimating the equity risk premium: (1) using historical stock and bond returns, (2) developing ex-ante expected market returns and equity risk premiums from fundamental data (primarily earnings and dividends), and (3) employing surveys of financial professionals. Therefore, I have used the historic results used by Mr. Hevert as one of my inputs, but I have also included the results of many other studies and forecasts to build an equity risk premium.

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**Q. IS MR HEVERT’S HISTORIC EQUITY RISK PREMIUM REFLECTIVE OF THE EQUITY RISK PREMIUM USED BY FINANCIAL PROFESSIONALS?**

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A. No. Mr. Hevert’s approach to estimating the equity risk premium is outdated as he has ignored twenty years of academic and professional research on the equity risk premium.<sup>2</sup> This research includes the results on the equity risk premium as discovered in studies from leading scholars in finance, investment banks and consulting firms as well as surveys of CFOs, academics, and financial forecasters. His equity risk premium is inconsistent with the equity risk premiums employed by investment banks, consulting

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<sup>2</sup> For a review of the research on the equity risk premium, see Pablo Fernandez, “Equity Premium: Historical, Expected, Required, and Implied,” IESE Business School Working Paper, 2007.

289 firms, and CFOs. These financial professionals, who use the equity risk  
290 premium every day in making financing, investment, and valuation  
291 decisions, are well aware of the annual Morningstar historic risk premium  
292 results that Mr. Hevert has employed. Nonetheless, the results of studies and  
293 surveys of financial professionals indicate an equity risk premium in the 4  
294 percent range and not in the 7 percent range. Hence, Mr. Hevert's equity  
295 risk premium approach is outdated and is not reflective of how financial  
296 professionals view and employ the equity risk premium.

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299 **Recent Authorized ROEs and Current Market Conditions**

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301 **Q. MR. HEVERT CLAIMS THAT YOUR RECOMMENDATION IS NOT**  
302 **IN LINE WITH THE RECENT AUTHORIZED RETURNS ON**  
303 **EQUITY. PLEASE RESPOND.**

304 **A.** There are several problems with Mr. Hevert's assessment. First, Mr.  
305 Hevert's analysis of recent authorized returns on equity includes data from  
306 2005 through the third quarter of 2007. As I also noted in my direct  
307 testimony, if you only consider the authorized returns during 2007, the  
308 average authorized ROE is only 10.25%. In addition, as I also discussed  
309 in my direct testimony: (1) gas companies have been selling at market-to-  
310 books in excess of 1.0 for some time which is evidence that authorized  
311 ROEs have been in excess of the returns required by investors, and (2)



312 many of these authorized ROEs are the result of settlements which may  
313 involve other negotiated rate case elements beyond the announced ROE.  
314 Finally, interest rates have fallen significantly since the middle of last  
315 summer which means that even the 2007 authorized returns reflect market  
316 conditions with higher interest rates and capital costs.

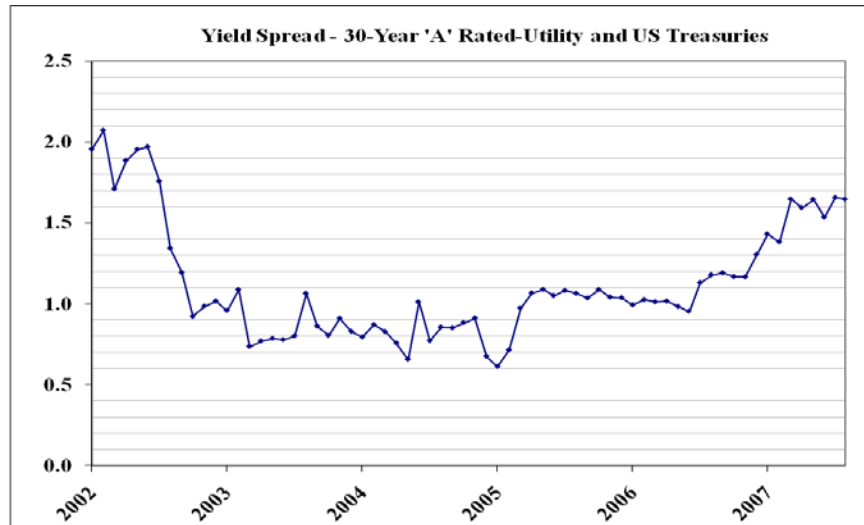
317

318 **Q. ON PAGE 86 OF HIS TESTIMONY, MR. HEVERT CLAIMS THAT**  
319 **YOUR ASSESSMENT OF THE CURRENT MARKET**  
320 **ENVIRONMENT, WITH LOWER INTEREST RATES AND**  
321 **CAPITAL COSTS, IS INCORRECT. PLEASE RESPOND.**

322 A. Mr. Hevert refers to a graph he presents on page 55 of his rebuttal  
323 testimony in which he shows the credit spreads between Moody's A and  
324 10-Year U.S. Treasury yields. The error in this analysis is that Mr. Hevert  
325 has not held constant the maturities of the two bond series. Much of the  
326 spread widening he presents reflects the fact that the yields on 10-Year  
327 bonds have declined at a faster rate than the yields on longer maturity  
328 bonds. In the graph below I provide the yield spread between 30-year 'A'  
329 rated utility bonds and 30-year U.S. Treasury bonds. By holding the  
330 maturity level constant, you can assess the impact of the increase in credit  
331 spreads. The credit spread has increased from the 1.0% range in 2005 to  
332 the 1.5% range in 2007, but most of that occurred before the year 2007.  
333 Therefore, correcting for the maturity mismatch in Mr. Hevert's analysis,

334 you can see that credit spreads for utility bonds have not increased to the  
335 levels claimed by Mr. Hevert.

336 **Credit Spread- 30-Year Utility and U.S. Treasury Bonds**



Source: Bloomberg

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340 **Market-to-Book Ratios**

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342 **Q. ON PAGE 79 OF HIS REBUTTAL TESTIMONY MR. HEVERT**  
343 **ATTEMPTS COUNTER YOUR DISCUSSION OF THE RELATIONSHIP**  
344 **BETWEEN RETURNS ON EQUITY AND MARKET-TO-BOOK RATIOS.**  
345 **PLEASE RESPOND.**

346 **A.** I have referred to the average market-to-book ratios for the proxy group of gas  
347 companies to: (1) demonstrate that recent authorized ROEs have been above  
348 investor return requirements which, I believe, is due to the fact that regulatory  
349 commissions have been slow to recognize the lower equity risk premium in the  
350 markets; and (2) highlight the reasonableness of my 9.0% recommendation.

351 In response, Mr. Hevert makes two observations that prove my point. First,  
352 he presents a graph on page 78 of his rebuttal testimony which demonstrates that the  
353 market-to-book ratios for gas companies have been above 1.0 for a number of years.  
354 Second, he also notes on page 79 that the average projected ROE for my gas group  
355 is 11.8%. The reason that these companies are selling at market-to-book ratios of  
356 almost 2.0 is that the projected ROE of 11.8% is well above the return investors  
357 require, which is the equity cost rate. As I highlighted in my Direct Testimony, this  
358 standard financial theory is summarized in a classic Harvard Business School case  
359 study.<sup>3</sup>

360 For a given industry, more profitable firms – those able to  
361 generate higher returns per dollar of equity – should have  
362 higher market-to-book ratios. Conversely, firms which are  
363 unable to generate returns in excess of their cost of equity  
364 should sell for less than book value.

365

<u>Profitability</u>	<u>Value</u>
<i>If ROE &gt; K</i>	<i>then Market/Book &gt; 1</i>
<i>If ROE = K</i>	<i>then Market/Book = 1</i>
<i>If ROE &lt; K</i>	<i>then Market/Book &lt; 1</i>

370

371 **Q. PLEASE SUMMARIZE YOUR SURREBUTTAL TESTIMONY.**

372 A. My surrebuttal testimony rebuts a number of issues covered in the rebuttal  
373 testimony of QGC witness Mr. Robert B. Hevert. These issues include  
374 Mr. Hevert’s justification for his excessive reliance on analysts’ long-term  
375 projected EPS growth rates in his DCF model, the appropriate equity risk  
376 premium to determine an equity cost rate, recently authorized ROEs

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<sup>3</sup> Benjamin Esty, “A Note on Value Drivers,” Harvard Business School, Case No. 9-297-082, April 7, 1997.

377 granted by regulatory agencies and capital cost rates in the current market  
378 environment, and the interpretation of the relationship between equity cost  
379 rates and of market-to-book ratios.

380

381 **Q. DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?**

382 A. Yes.

# THE WALL STREET JOURNAL.

## Study Suggests Bias in Analysts' Rosy Forecasts

By **ANDREW EDWARDS**

*March 21, 2008; Page C6*

Despite an economy teetering on the brink of a recession -- if not already in one -- analysts are still painting a rosy picture of earnings growth, according to a study done by Penn State's Smeal College of Business.

The report questions analysts' impartiality five years after then-New York Attorney General Eliot Spitzer forced analysts to pay \$1.5 billion in damages after finding evidence of bias.

"Wall Street analysts basically do two things: recommend stocks to buy and forecast earnings," said J. Randall Woolridge, professor of finance. "Previous studies suggest their stock recommendations do not perform well, and now we show that their long-term earnings-per-share growth-rate forecasts are excessive and upwardly biased."

The report, which examined analysts' long-term (three to five years) and one-year per-share earnings expectations from 1984 through 2006 found that companies' long-term earnings growth surpassed analysts' expectations in only two instances, and those came right after recessions.

Over the entire time period, analysts' long-term forecast earnings-per-share growth averaged 14.7%, compared with actual growth of 9.1%. One-year per-share earnings expectations were slightly more accurate: The average forecast was for 13.8% growth and the average actual growth rate was 9.8%.

"A significant factor in the upward bias in long-term earnings-rate forecasts is the reluctance of analysts to forecast" profit declines, Mr. Woolridge said. The study found that nearly one-third of all companies experienced profit drops over successive three-to-five-year periods, but analysts projected drops less than 1% of the time.

The study's authors said, "Analysts are rewarded for biased forecasts by their employers, who want them to hype stocks so that the brokerage house can garner trading commissions and win underwriting deals."

They also concluded that analysts are under pressure to hype stocks to generate trading commissions, and they often don't follow stocks they don't like.

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