PEOPLES GAS SYSTEM

BEFORE THE

FLORIDA PUBLIC SERVICE COMMISSION

Docket No. 080318-GU

In Re: Petition for rate increase by Peoples Gas System

Submitted for Filing: January 30, 2009

REBUTTAL TESTIMONY AND EXHIBITS OF:

DONALD A. MURRY, Ph.D.
On Behalf of Peoples Gas System

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Donald A. Murry. My business address is 5555 North Grand Boulevard, Oklahoma City, Oklahoma 73112.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT POSITION?

A. I am a Vice President and economist with C. H. Guernsey & Company. I work out of the Oklahoma City, Oklahoma and the Tallahassee, Florida offices of the company. I am also a Professor Emeritus of Economics on the faculty of the University of Oklahoma.

Q. ARE YOU THE SAME DONALD A. MURRY WHO FILED DIRECT TESTIMONY IN THIS PROCEEDING?

A. Yes, I am.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. My testimony is in rebuttal to the testimonies of Dr. J. Randall Woolridge and Helmuth W. Schultz III, hired by the Office of Public Counsel ("OPC") and testifying on behalf of the Citizens of the State of Florida.

Q. WHAT IS THE NATURE OF YOUR REBUTTAL TESTIMONY?

A. Dr. Woolridge did not sufficiently adjust his testimony for the current financial market turmoil to compensate for the changed and changing costs of debt and common equity. For example, Dr. Woolridge inadequately recognized the market changes, thereby ignoring the *Hope Natural Gas* principle of determining the alternative, competitive cost of investments of similar risk. In addition, Dr. Woolridge made methodological errors in both his CAPM and DCF analyses. Together these inadequacies and errors resulted in his recommending a cost of common equity for Peoples Gas in this proceeding which is lower than

current alternative investments. For the most part, these errors are conceptual, and Dr. Woolridge's calculated results would have been unreliable for ratemaking even under more normal financial circumstances. In addition, in several instances he incorrectly criticized my prefiled direct testimony. Mr. Schultz's testimony provides no evidence to support his recommendation that the Commission should lower the allowed return on common equity to reflect certain tariff riders if the Commission approves such riders. Most, if not all, natural gas local distribution companies ("LDCs") have similar types of riders, and the benefits of such riders are reflected in the market prices used to determine the cost of equity. Therefore no additional adjustment is necessary.

Q. ARE YOU SPONSORING ANY EXHIBITS WITH YOUR REBUTTAL TESTIMONY?

A. Yes. I am sponsoring Exhibit Nos.____(DAM-26) through____(DAM-28), which were prepared under my direction and supervision.

CURRENT MARKET CONDITIONS

Q. CAN YOU CHARACTERIZE THE CHANGES TO THE FINANCIAL MARKETS THAT DR. WOOLRIDGE DID NOT ADEQUATELY RECOGNIZE?

A. Yes. In his analysis and recommended cost of capital, Dr. Woolridge did not adequately account for the recent and ongoing breakdown of the U.S. and global financial markets which is of a magnitude unseen since the 1930's. Dr. Woolridge's discussion of "...market volatility and the unprecedented actions by the U. S. government to resolve the financial

crisis...." at page 8, lines 28-29 of his testimony, is clearly inadequate in light of the market circumstances and the governmental actions. On the one hand, the financial crisis is clearly not yet resolved. On the other hand, calling the multiple and on-going federal efforts unprecedented is correct, but does not amply describe the wide ranging and historical efforts by the Federal Reserve and now two Congresses and federal administrations. From a broad economic perspective, the impacts of the breakdown include: the meltdown of the housing and mortgage markets; a significant slowdown in economic activity; a significant reduction in stock values – for example, the index of S&P Gas Utilities is down over 60 percent since June 30, 2008; a significant increase in the cost of debt for corporations including utilities; unprecedented intervention by the Federal Reserve Board ("Fed") to increase liquidity in funding markets by hundreds of billions of dollars to stave off financial and economic catastrophe; a complete restructuring of the investment banking industry; an internationally coordinated emergency rate cut by the Federal Reserve on October 8th of 50 basis points to both the federal funds rate and the discount rate; on October 29th, an additional 50 basis point reduction to both the federal funds rate and the discount rate and on December 16th, the reduction of the target federal funds rate to zero to 0.25 percent, the lowest level on record, and the reduction of the discount rate to 0.25 percent; the nationalization of the cornerstones of the U.S. mortgage market, Fannie Mae and Freddie Mac; the bankruptcy of Lehman Brothers, a major investment bank (the largest bankruptcy in history); a $700 billion bailout of Wall Street; the seizure or managed liquidation of several of the

nation's largest banking institutions; the $150 billion bailout of AIG, the nation's largest insurance company; and a $17.4 billion bailout of the automotive industry.

Q. CAN YOU PUT THE IMPLICATIONS OF THESE EVENTS INTO A BROAD PERSPECTIVE?

A. The breakdown of the U.S. and global financial markets is unprecedented and has serious, wide-reaching implications that affect borrowers, lenders, governments, consumers, workers and corporations. In fact, the Secretary of the U.S. Treasury, Henry Paulson, characterized the actions he took in response to the crisis as necessary to "save the free-market system." Although the extraordinary historic actions taken by the Fed and the U.S. Treasury appear to have stabilized the markets, one cannot say that the markets have returned to normal. Moreover, the length and breadth of the current recession are still indeterminate and the past and proposed monetary and fiscal policies will undoubtedly have unpredictable consequences. For example, the extraordinary monetary expansion associated with these monetary policies raises the specter of future inflationary pressures. Federal Reserve assets, as a measure of monetary growth, more than doubled in 16 weeks. The Fed will face a balancing act between monetary stimulus, to avoid economic contraction, and the need to quell future inflationary threats through monetary tightening and increasing interest rates. Still unwritten fiscal policies, which are expected to be at unprecedented levels of federal funding, and the associated fiscal deficits they will engender, can exacerbate this problem in the longer term. In the nearer-term, high long-term borrowing rates for non-financial-sector

corporations and deeply depressed stock prices reflect investor concerns and increase the cost of both debt and common equity. All other things being equal, the less an investor is willing to pay for a share of stock, the higher the cost of equity.

The current, and likely near-term, markets have changed structurally and they are undoubtedly of higher risk to investors than the market environment upon which Dr. Woolridge based his analysis and recommended return for Peoples Gas.

Q. YOU MENTIONED "EXTRAORDINARY" ACTIONS BY THE FEDERAL RESERVE. CAN YOU BE MORE SPECIFIC?

A. I was referring to actions that have occurred since September 1, 2008. These include such actions as the following:

- On September 7th, through unprecedented interventions, the federal government effectively nationalized Fannie Mae and Freddie Mac in an attempt to strengthen the housing market and stabilize the financial system.
- On September 14th, the Federal Reserve announced initiatives to provide financial support and liquidity to the markets by expanding the collateral eligible for the Primary Dealer Credit Facility and the Term Securities Lending Facility.
- On September 16th, the Federal Reserve authorized the Federal Reserve Bank of New York to lend up to $85 billion to AIG, so it could sell certain parts of its businesses in an orderly fashion with less disruption to the economy. The amount for AIG was later increased by an additional $65 billion.

- On September 18th and 19th, the Federal Reserve ("Fed") announced programs to inject hundreds of billions of dollars of liquidity into the financial system to alleviate pressures in the term funding markets.
- On September 21st, the Fed approved applications to allow Goldman Sachs and Morgan Stanley, both investment banks, to become bank holding companies.
- On September 22nd, the Fed announced the approval of a policy statement regarding "investments in banks and bank holding companies, minority interests, and control" for purposes of the Bank Holding Company Act.
- On September 25th, the Federal Deposit Insurance Corporation (FDIC) seized Washington Mutual Inc. (WaMu), the nation's largest savings and loan institution, and sold its assets to J.P. Morgan. This was the largest bank seizure in U.S. history.
- On October 6th, the Fed announced it will pay interest on depository institutions' required and excess reserves and announced further substantial increases in the Term Auction Facility auctions. It also announced an exemption to allow limited bank purchases of assets from money market mutual funds.
- On October 8th, the Federal Open Market Committee ("FOMC") announced an emergency reduction in the federal funds rate of 50 basis points to 1.5 percent, coordinated with other central banks. The Board of Governors of the Federal Reserve approved a cut of 50 basis points in the discount rate to 1.75 percent. It was the first time in history that the FOMC coordinated a rate cut with other central banks.

- On October 29th, the FOMC lowered the federal funds rate an additional 50 basis points to 1.0 percent, and the Board of Governors lowered the discount rate an additional 50 basis points to 1.25 percent.
- On November 23rd, the U.S. Treasury, the Federal Reserve, and the FDIC issued a joint statement announcing an agreement to provide Citigroup with protection against unusually large losses on $306 billion of loans and securities backed by residential and commercial real estate and other such assets.
- On November 25th, the Fed announced approval for American Express Company and American Express Travel Related Services Company, Inc. to become bank holding companies.
- On November 25th, the Fed announced the creation of the Term Asset-Backed Securities Loan Facility under which the Federal Reserve Bank of New York will lend up to $200 billion to facilitate the issuance of asset-backed securities collateralized by student loans, auto loans, credit card loans, and loan guarantees by the Small Business Administration.
- On November 26th, the Fed announced approval for Bank of America to acquire Merrill Lynch & Company.
- On December 16th, the FOMC lowered the target range for the federal funds rate to zero to 0.25 percent. The Board of Governors decreased the discount rate 75 basis points to 0.50 percent.
- On December 24th, the Fed announced approval for GMAC LLC and IB Finance, both of Detroit, Michigan, to become bank holding companies.

- On December 30th, the Federal Reserve announced it would begin purchasing mortgage-backed securities issued by Fannie Mae, Freddie Mac and Ginnie Mae to support the mortgage and housing markets.

Taken together, such actions demonstrate the extraordinary federal efforts to stabilize the capital markets and stimulate the contracting economy. These actions also highlight the significant risks now facing investors.

Q. HOW HAVE THESE EFFORTS BY THE FEDERAL GOVERNMENT AFFECTED THE FINANCIAL MARKETS TO DATE?

A. These extraordinary federal measures appear to have "freed-up" the financial markets, at least for the highest quality borrowers. Accessibility to the credit markets has improved slightly. Among the results are lower mortgage rates available to well-qualified borrowers, and narrower consumer and corporate spreads from the high levels reached in November and December 2008. In early January 2009, the Federal Reserve began an unprecedented program to directly purchase mortgage-backed securities backed by Fannie Mae, Freddie Mac, and Ginnie Mae to support the mortgage and housing markets and the financial markets in general. However, the current credit markets can only be described as tight. Although non-financial corporate borrowing costs retreated somewhat from December's record highs, the spreads on non-financial corporate debt over similar maturities of Treasury securities remain approximately triple normal spreads, and yields are higher than the previous year. Even so, analysts show concerns that yields on corporate debt will go higher as the U.S. and other governments issue large amounts of debt associated

with financial recovery and economic stimulus plans. This will be important to the capital-intensive utility sector and corporations overall as they compete with governments for finite investor funds.

Q. HOW HAVE THESE MARKET CONDITIONS AFFECTED THE LEVEL OF INTEREST RATES?

A. During this market turmoil, a "flight-to-quality" has lowered the yields on Treasury securities to historically low levels. For example, as of January 27, 2009, the current yield on the 10-year Treasury is 2.53 percent, and the yield on the 30-year Treasury is 3.24 percent. However, despite the monetary expansion policies, analysts and investors apparently do not expect rates to stay at these levels. *Blue Chip Financial Forecasts* predicts the yield on 10-year Treasuries will rise to 3.5 percent and the yield on 30-year Treasuries will rise to 4.0 percent by the second quarter of 2010. As representative of the cost of current borrowings, the average yield on Baa-rated corporate bonds for the week ending January 23, 2009 was approximately 8.00 percent, according to *Blue Chip Financial Forecasts.*

Q. WHAT IS THE SIGNIFICANCE OF THESE EVENTS TO THE COST OF CAPITAL ISSUES IN THIS PROCEEDING?

A. In the near term, the credit problems exacerbate capital formation and the access to capital and increase borrowing costs to replace maturing debt and for new issuances. For determining the cost of common equity in this proceeding, the significant events and extraordinary actions by the federal government characterize the increased risk to investors. They also reveal the increased cost of permanent capital as it once again becomes

accessible.

As a summary of utility industry consequences of these market conditions, Fitch Ratings stated in a December 22, 2008 report, as follows:

> Higher cost capital and tight credit availability will nag U.S. power and gas utilities in 2009, and maybe longer... the ratings of utilities operating in states with relatively low authorized [return on equity] and significant regulatory lag are more likely to suffer credit deterioration.[1]

Q. CAN YOU EXPLAIN FURTHER THE RELATIONSHIP BETWEEN THE CONSEQUENCES OF THE GOVERNMENT EFFORT TO INCREASE LIQUIDITY IN THE SHORT-TERM MARKET AND THE COST OF CAPITAL TO UTILITIES?

A. Long-term corporate bond rates, which investors look to as competitive investments to utility common stock, have risen despite a drop in Treasury yields. I have illustrated the recent changed relationship between short-term and the long-term security costs in Exhibit___(DAM-26). This schedule clearly shows how the recent monetary policy has sharply lowered short-term Treasury rates. The flight-to-quality has also lowered the rates for long-term Treasury securities. However, despite the decline in Treasury yields, corporate bond rates have increased sharply during this period. As the graph in Exhibit___(DAM-26) shows, the spread between corporate bonds and 30-year U.S. Treasuries has nearly tripled over the past year. Consequently, using very low, federal policy driven Treasury

[1] Fitch Ratings, "Access to Capital will Challenge Power and Gas sectors in 2009 and Beyond" December 22, 2008.

rates in any determination of the appropriate cost of equity is not valid.

Q. ALTHOUGH THE COST OF SHORT-TERM DEBT HAS DECLINED BECAUSE OF FEDERAL ACTION, HOW HAS THAT AFFECTED THE COST OF PERMANENT CAPITAL FOR GAS DISTRIBUTION UTILITIES?

A. The decline in the cost of short-term debt has had no direct impact on gas utilities' cost of permanent capital. Instead, recent debt offerings by utilities reflect the higher capital costs of long-term securities. Corporate industrial bonds, rated BBB, are trading over 8.00 percent. These capital costs are significantly higher than issues in previous months. Although these increased capital costs are obvious market signals, Dr. Woolridge's testimony did not show that he had taken these costs into account.

Q. CAN YOU PUT THE CURRENT CORPORATE BOND RATES INTO LONGER-TERM PERSPECTIVE?

A. Yes, as I have illustrated in Exhibit___(DAM-27), BBB corporate bond rates are the highest they have been in five years.

Q. HOW ARE THE BOND MARKET RATES RELEVANT TO THE COST OF CAPITAL OF PEOPLES?

A. The interest rates of the BBB-rated, higher-cost bonds are relevant to the determination of the cost of equity in this proceeding. Tampa Electric, of which Peoples Gas is an operating division, carries a Standard & Poor's bond rating of BBB-. This is the bottom of the investment grade range. Consequently, there is little room for error regarding the allowed return on common equity and the resulting coverage ratios and financial metrics.

Q. WHAT IS THE RELATIONSHIP BETWEEN THE COST OF

RECENT DEBT ISSUES AND THE COST OF UTILITIES' COMMON STOCK?

A. Common stock is of higher risk and higher cost than debt instruments, which require contractual interest payments and repayment of principal. A premium return over the cost of a utility's debt is a measure of the cost of a utility's common stock. The rising cost of debt puts upward pressure on the cost of equities and reveals higher equity costs.

Q. HOW WILL THE MARKET TURMOIL AFFECT THE COMMON STOCK EQUITY INVESTORS OF NATURAL GAS LOCAL DISTRIBUTION COMPANIES?

A. The financial market turmoil and credit risks are significant uncertainties that raise the perceived risks to utility common stock investors. Notably, this increase in risk is behind the sharp decline in utility common equity prices and equity prices in general. Of course, these perceived investor risks come through the well-documented uncertainties in the financial markets, and this raises the cost of common equity.

Q. CAN YOU DETERMINE WHEN INVESTORS' PERCEPTIONS OF RISK WILL PERMIT THE PRICE OF UTILITY COMMON STOCK TO RECOVER?

A. No. The financial markets are unsettled and the economic recession is world-wide. At this time, investors are uncertain about the length and depth of the recession, and this is a risk to investment. The outcomes of the federal programs are still uncertain.

MARKET CONDITIONS AND DR. WOOLRIDGE'S TESTIMONY

Q. YOU STATED THAT DR. WOOLRIDGE MISSED OBVIOUS

SIGNS THAT HIS RECOMMENDED ALLOWED RETURNS WERE INADEQUATE IN THE CURRENT MARKET CIRCUMSTANCES. CAN YOU EXPLAIN WHAT YOU MEANT BY THAT STATEMENT?

A. Despite the obvious current market conditions and higher market costs, Dr. Woolridge recommended an allowed return on common equity of 9.25 percent for Peoples. This is inconsistent with current debt costs. His recommended allowed return is not adequately higher than current utility bond rates, which have been generally in the neighborhood of eight percent or more for new issues. Although the recent markets have been volatile, which makes a direct measure of the cost of common equity of utilities more difficult than in normal markets, the cost of industrial and utility debt is a reliable estimate of the cost of permanent utility capital. Surprisingly, Dr. Woolridge did not report, and apparently did not consider, this fundamental current market information.

Q. WHY IS THE COST OF UTILITY BOND ISSUES IMPORTANT TO DR. WOOLRIDGE'S TESTIMONY?

A. The costs of these debt issues are reliable market estimates of the cost of permanent utility capital. Because common equity is relatively more risky than debt instruments, the cost of Peoples' common equity must be somewhat greater than these debt costs. By ignoring this current market information, Dr. Woolridge's recommended allowed return is so low that it does not pass the basic market test of the *Hope* and *Bluefield* standard, namely, setting an allowed return "commensurate with returns on investments in other enterprises having corresponding risks."

Q. YOU STATED THAT DR. WOOLRIDGE DID NOT ADEQUATELY ADDRESS THE CHANGED MARKET CIRCUMSTANCES. CAN YOU EXPLAIN THIS STATEMENT?

A. Dr. Woolridge prepared direct testimony that did not adequately consider the consequences of the changed financial and economic circumstances of the financial market meltdown and the worldwide economic crises. In fact, significant portions of Dr. Woolridge's testimony are virtually verbatim from rate cases in other states pre-dating the current crisis. This confirms that he has not considered specific issues related to this docket in his direct testimony.

Q. CAN YOU DEMONSTRATE THAT DR. WOOLRIDGE DID NOT ADEQUATELY CONSIDER THE CONSEQUENCES OF THE CHANGED FINANCIAL AND ECONOMIC CIRCUMSTANCES?

A. Although he filed testimony dated December 18, 2008, much of his analysis predates the recent economic turmoil. Updated data would greatly alter the perspective, and I presume the conclusions, of his analysis.

Q. CAN YOU PROVIDE ANY SPECIFIC INSTANCES WHERE DR. WOOLRIDGE USED DATA THAT PREDATED THE ECONOMIC TURMOIL THAT MIGHT HAVE ALTERED THE PERSPECTIVE OF HIS ANALYSIS?

A. From the information available to me, I cannot identify the data he used at every stage of his analysis. However, from the data and statements provided in his testimony, I can identify a number of significant instances when he relied on data that predate the economic turmoil. For example, at page 6, lines 4-5, he stated, "Long-term capital cost rates for U. S.

corporations are currently at their lowest level in more than four decades." Low corporate interest rates are a major predicate throughout his testimony, and it is simply wrong. As noted previously, the recent long-term bond rates have increased over the past three years, returning to levels of nearly two decades ago. Although he discussed risk premiums of common stock returns and government bond rates extensively, at no place in Dr. Woolridge's testimony did he review or consider the current utility market bond rates or current risk premiums. At several points in his testimony, the statements clearly describe an earlier period and are not relevant in this case.

Q. CAN YOU BE MORE SPECIFIC REGARDING SOME OF THE INSTANCES WHEN DR. WOOLRIDGE'S STATEMENTS INDICATE THAT HE USED INFORMATION THAT IS NO LONGER RELEVANT TO THIS PROCEEDING?

A. At several places in his testimony, his statements reveal that he relied on outdated capital costs, market valuations and risk premiums as predicates to his analysis. As to capital costs, for example, at page 52, lines 5-7, he stated, "First as discussed above, current capital costs are low by historical standards, with interest rates at a cyclical low not seen since the 1960s." This is incredibly wrong. First, industrial and corporate interest rates are not "low by historical standards." Instead of being low, they have increased over recent years, and they have increased dramatically with the market turmoil. In discussing his Exhibit JRW-7, at page 17, lines 7-17, Dr. Woolridge discusses the history of utility bond rates; however, despite the recent increases in corporate bond rates, he reports no market rates

more recent than 2007 in his study (Exhibit JRW-7, page 1 of 3) .

Q. CAN YOU GIVE SOME EXAMPLES FROM DR. WOOLRIDGE'S TESTIMONY WHERE HE MISREPRESENTED CURRENT MARKET VALUES?

A. As to market values, for example, at page 7, lines 14-16, he cited a 1999 article that describes "...the very high level of equity prices." In yet another instance, at page 49, lines 4-6, he stated, "One implication of this development was that stock prices had increased higher than would be suggested by the historical relationship between valuation levels and interest rates." These statements obviously describe a market prior to the 30 to 40 percent decline in common stock values over the past year. Any analysis predicated on these market observations is clearly wrong.

Q. CAN YOU PROVIDE SOME EXAMPLES WHERE DR. WOOLRIDGE MISREPRESENTED CURRENT EQUITY RISK PREMIUMS?

A. As to equity risk premiums, he quoted a six-year old McKinsey & Company study that applied to a much earlier, no longer relevant, economic period, as follows:

> We attribute this decline [in equity risk premiums] not to equities becoming less risky (*the inflation-adjusted cost of equity has not changed*) but to investors demanding higher returns in real terms on government bonds after the inflation shocks of the late 1970s and early 1980s. [Emphasis added.][Woolridge, page 50, lines 16-24.]

The conclusions in this citation, which obviously predates the 30 to

40 percent decline in common equity values over the past year, have no relevance to the common equities market of the past year. Dr. Woolridge has no analytical basis for using these outdated risk premiums to current Treasury rates as a current measure of the cost of common equity. From the start, his analysis was fundamentally, conceptually flawed given the low Treasury rates that currently are driven by federal monetary policy.

Q. YOU STATED THAT DR. WOOLRIDGE REPEATED VIRTUALLY VERBATIM TESTIMONY IN THIS CASE THAT HE GAVE IN EARLIER RATE CASES. WHY IS THAT IMPORTANT IN THIS DOCKET?

A. Dr. Woolridge based this previous testimony on earlier financial markets, which are irrelevant to the cost of capital of Peoples in the current, post liquidity-crisis financial market. In Dr. Woolridge's testimony, he relied extensively on observations of conditions that predated the financial market crises and the current recession. For example, Dr. Woolridge repeated virtually verbatim text regarding "Capital Costs in Today's Markets," analysis of "Market-to-Book Ratios," "Economic Factors that have Affected the Cost of Equity for Public Utilities," and "Equity Risk Premiums" from testimonies filed in October of 2006 and March of 2007."[2] Because of the unprecedented financial market changes, it is unrealistic to presume that these analyses of earlier markets are relevant to the cost of capital of Peoples Gas in this proceeding. In fact, probably

[2] For example, see "Application of Public Service Company of Oklahoma Corporation for an Adjustment in its Rates and Charges for Electric Service," Cause No. 200600285, filed March 2007, and Railroad Commission of Texas, Docket No. 9670, October 2006.

because of the mixture of analyses of financial markets at different points in time, Dr. Woolridge's testimony was, at times, internally inconsistent and contradictory. This was, for example, the case in his discussion of market volatility and risk premiums.

Q. WHAT DID YOU MEAN WHEN YOU SAID DR. WOOLRIDGE'S ANALYSIS OF MARKET VOLATILITY AND RISK PREMIUMS WAS INTERNALLY INCONSISTENT AND CONTRADICTORY?

A. On page 8, line 29 of his testimony, Dr. Woolridge states, "To assess the impact of recent market volatility on the equity risk premium and the equity cost rate, one must look to the volatility of stocks relative to bonds." Dr. Woolridge then presents a study he conducted that concludes, "Current market conditions suggest that stock volatility is high relative to bonds." (Woolridge, page 9, line 22) However, at various other places in his testimony, he contradicts this conclusion regarding common stock volatility and states that risk premiums have narrowed, and capital costs have declined. For example, on page 8, line 19 of his testimony, Dr. Woolridge says, "In sum, the relatively low interest rates in today's market as well as the lower risk premiums required by investors indicate that capital costs for U.S. companies are the lowest in decades."[3] In a similar vein, on page 46, line 20, Dr. Woolridge states, "As discussed above in the development of the expected market return, stock prices are relatively high at the present time in relation to earnings and dividends, and interest rates are relatively low." In these statements, Dr. Woolridge has the current relationship between common equity values, which have

[3] Of note, OPC Witness Woolridge cites a ten-year old study to make this conclusion.

declined considerably, and debt costs, which have increased sharply, exactly backward.

DR. WOOLRIDGE'S CAPM ANALYSIS

Q. WHAT ARE YOUR CONCERNS ABOUT DR. WOOLRIDGE'S CAPM ANALYSIS IN HIS PRE-FILED TESTIMONY?

A. He makes some conceptual mistakes in his CAPM analysis that lead to his extremely low estimate of the cost of common equity for Peoples in this proceeding. Among these mistakes are his use of geometric rather than arithmetic averages to represent expected returns, and his miscomprehension of the importance of the size adjustment in a CAPM analysis.

Q. WHAT IS WRONG WITH USING GEOMETRIC MEANS WHEN CALCULATING RISK PREMIUMS, AS DR. WOOLRIDGE DID IN HIS TESTIMONY?

A. Although geometric means are appropriate growth measures when determining the necessary rate of growth from one level to another, they are not a representative measure of investor expectations. Dr. Woolridge is wrong to use them in his CAPM analysis. The arithmetic average is the unbiased measure of the expected value of repeated observations of a random variable; this is similar to the investors' expectations of future returns. In other words, an arithmetic average is an approximation of the probability distribution of return expectations of investors. On the other hand, the geometric average is the single, constant rate measuring the difference in the actual returns over several periods of time. Although appropriate for calculating the return necessary to grow a return from one

level to another, it is not a measure of investors' analysis and expectations of future returns.

Q. WHAT ARE THE CONSEQUENCES OF DR. WOOLRIDGE USING A GEOMETRIC AVERAGE IN HIS CAPM ANALYSIS?

A. Because he averaged these biased geometric mean estimates into his risk premium calculations, his entire risk premium analysis is biased downward and not useful for determining the cost of capital of a utility for purposes of ratemaking. In the same vein, at page 71, lines 3 to 5, he incorrectly criticized my use of the arithmetic mean in my CAPM analysis for precisely the same reason.

Q. YOU STATED THAT DR. WOOLRIDGE MISCOMPREHENDED THE IMPORTANCE OF THE SIZE ADJUSTMENT IN A CAPM ANALYSIS. WHY?

A. Dr. Woolridge criticized me for applying an adjustment in my CAPM analysis to compensate for the generally recognized size bias in the CAPM methodology. I was especially surprised given the explanation in my direct testimony regarding the size bias, at page 40, line 6, to page 42, line 20 and, additionally, my citation of some of the extensive literature regarding the empirical findings of a size bias in the CAPM. In light of the more recent findings regarding CAPM size bias, I was also surprised that Dr. Woolridge would cite Annie Wong's 1993 article from the *Midwest Journal of Finance.* She only reported in this article that she could not find a size bias in utilities; that is hardly proof that one does not exist.

Q. CAN YOU PROVIDE EMPIRICAL EVIDENCE THAT SMALL

UTILITIES EARN HIGHER RETURNS THAN LARGE UTILITIES?

A. Exhibit___(DAM-28) shows a table from Ibbotson verifying that more recent, reputable empirical studies show that smaller utilities generally earn returns on the order of 3.02 percent higher than larger utilities. These higher returns reflect the higher risk associated with smaller firms relative to larger firms.

Q. HOW DID YOU COMPENSATE FOR THE SIZE DIFFERENTIAL IN YOUR ANALYSIS OF THE COST OF CAPITAL IN THIS PROCEEDING?

A. As I stated in my direct testimony, I applied the size adjustment as estimated by, and in a manner consistent with, Ibbotson's recommendation for a CAPM analysis of an electric utility to compensate for the inherent size bias. As an illustration that this CAPM size adjustment applies to calculations of cost of equity of regulated utilities, I included, as Exhibit___(DAM-20) to my direct testimony, the example calculation from Ibbotson's extensive empirical work showing how to apply the size adjustment in a CAPM calculation for an electric utility. As I stated in my direct testimony, this is the size adjustment method that I followed.

Q. ARE YOU AWARE OF REGULATORY COMMISSIONS THAT HAVE RECOGNIZED THE DIFFERENTIAL RETURNS MERITED BY SMALLER UTILITIES?

A. Yes. In my direct testimony, I cited a decision in the Minnesota Public Utilities Commission that recognized that size was an important determinant of common equity returns. Of course, I am not aware of all

regulatory commission decisions regarding common stock earnings and company size. However, I am aware that the Pennsylvania Public Utility Commission in Rulemaking Proceeding 00061398 specifically applied a size adjustment and the Indiana Utility Regulatory Commission in Cause No. 40382 applied a size adjustment to the return of a small natural gas utility.

DR. WOOLRIDGE'S DCF ANALYSIS

Q. WHAT ARE YOUR CONCERNS WITH DR. WOOLRIDGE'S DCF ANALYSIS?

A. Dr. Woolridge inappropriately adjusts the growth rate used in his DCF model and, in criticizing my DCF analysis, apparently has a conceptual misunderstanding regarding the nature of the Discounted Cash Flow methodology. This conceptual misunderstanding seemed to underlie his criticism of my DCF calculations as he incorrectly claimed that I applied flotation and market pressure adjustments. As to his DCF, he used a biased estimate of the growth rate expectations of investors.

Q. DOES THE ADJUSTMENT TO THE GROWTH RATE APPLIED BY DR. WOOLRIDGE IN HIS DCF ANLAYSIS (WOOLRIDGE, PAGE 27, LINE 2) PROPERLY REFLECT EXPECTED DIVIDEND INCREASES?

A. No, it does not. Increasing the dividend for one-half year of growth only approximates the average dividend that will be paid in the next year. This method of increasing the dividend in an annual model does not reflect the actual timing of the payment of dividends, when dividends will be increased or, therefore, the time value of money associated with the

payment of dividends. Dividends are paid quarterly; Dr. Woolridge's model does not accurately reflect the timing or amount of expected dividends.

Q. HOW DOES DR. WOOLRIDGE'S REDUCING THE ANNUAL DIVIDENDS BY ONE-HALF AFFECT HIS DCF ANALYSIS?

A. Dr. Woolridge's use of a "half-year convention," represented by his use of only one-half of the expected growth rate, understates investors' expectations regarding dividend growth. An appropriately derived DCF model reflects investors' actual expectations, not only one-half of the expected dividend growth rate. In fact, the DCF formula cited by Dr. Woolridge, on page 32, line 3, of his testimony, does not reflect only one-half of the expected growth rate.

Q. YOU SAID THAT DR. WOOLRIDGE INCORRECTLY CLAIMED THAT YOU ADJUSTED YOUR COST OF CAPITAL RECOMMENDATION FOR FLOTATION AND MARKET PRESSURE. PLEASE EXPLAIN.

A. Dr. Woolridge incorrectly stated in his direct testimony that I had applied flotation and market pressure adjustments in my DCF analysis. In fact, at page 29, line 19, and page 31, line 13 of my direct testimony, I specifically stated that I did not apply these adjustments in my analysis.

Q. WHY WOULD DR. WOOLRIDGE MAKE THESE ASSERTIONS IF YOU DID NOT MAKE SUCH ADJUSTMENTS?

A. Dr. Woolridge apparently took my testimony out of context. In my direct testimony, I pointed out the importance of understanding the theoretical basis of the DCF methodology and noted that it produces a marginal cost

of capital estimate. That is, it produces a marginal cost rather than an average estimate of the cost of capital. This becomes critically important when applying the DCF in a situation such as determining the cost of capital for setting future utility rates. In my testimony, I noted that many analysts commonly apply such factors as flotation and market pressure adjustments in a real-world situation to compensate, at least in part, for the marginal cost nature of the DCF. Although I did not apply such factors in my analysis, as I explained in my direct testimony, I took into account the theoretical, marginal cost basis of the DCF methodology. In his testimony, Dr. Woolridge did not acknowledge the marginal cost nature of DCF estimates, and if he applied the results of his DCF calculations without recognizing what they represented, he did so incorrectly.

REBUTTAL OF CITIZENS' WITNESS HELMUTH SCHULTZ

Q. WHAT ISSUE RAISED BY CITIZENS' WITNESS HELMUTH SCHULTZ DO YOU WISH TO REBUT?

A. On page 15, line 19 of his direct testimony, Mr. Schultz states:

> If the Commission should decide that the two clauses would be beneficial to the Company and its shareholders, then the Commission should also factor that in their determination of what constitutes a reasonable rate of return. The shareholders' financial risks would be reduced because of the automatic pass-through; therefore a similar reduction would need to be made to the allowed rate of return to account for the reduced risk.

If Mr. Schultz's assertion regarding the cost-recovery clause and risk has any meaning at all, he must be referring to business risk. Mr. Schultz has

performed no analysis and has provided no empirical evidence to support his recommendation. Cost recovery clauses cannot affect financial risk which one associates with the amount of leverage, or in other words, fixed cost securities, with the capital structure financing the company. Cost recovery clauses do not affect financial risk. If Mr. Schultz intended to state that cost recovery clauses affect business risk, and, therefore, the Commission should adjust the return on common equity, that is a different matter. Cost recovery clauses affect the timing of cost recovery, and this can favorably affect business risk of a gas distribution system. However, in current markets and with current natural gas distribution practices, cost recovery clauses do not merit a special adjustment to return on equity by the Commission in this instance.

Q. WHY DO RECOVERY CLAUSES NOT MERIT A SPECIAL RETURN ON EQUITY ADJUSTMENT?

A. I have accounted for such provisions in my cost of capital methodology. Most regulated natural gas companies, including the comparable LDCs that I used in my analysis, have some type of cost-recovery clauses, and any benefits associated with such clauses are reflected in the market prices used to estimate the cost of equity in my analysis.

Q. DID YOU REVIEW THE COMPARABLE COMPANIES IN YOUR ANALYSIS TO DETERMINE IF THEY HAD COST RECOVERY CLAUSES SIMILAR TO THOSE PROPOSED BY THE COMPANY IN THIS DOCKET?

A. Yes. In analyzing the cost of capital of a group of LDCs as proxies for Peoples Gas, I reviewed the tariffs of the comparable LDCs. Many of the

comparable LDCs have provisions in their tariffs that are likely to have similar impacts on potential investors' perceptions of business risk, and investors generally expect such provisions. No special compensation in the allowed return is merited.

Q. WHAT WERE SOME OF THE RELEVANT FINDINGS THAT YOU NOTED WHEN YOU REVIEWED THE TARIFFS OF THE COMPARABLE LDCs?

A. I found similar relevant provisions in virtually all of the comparable companies. For example, in Laclede Gas' 2007 rate case, the Missouri Public Service Commission approved rate design changes allowing Laclede Gas to better ensure the recovery of the utility's fixed costs and margins despite variations in sales volumes due to the impact of weather and other factors that affect customer usage.[4] New Jersey Natural Gas has a Conservation Incentive Program (CIP) and a Weather Normalization Clause (WNC).[5] The Oregon Public Utility Commission renewed Northwest Natural Gas' Conservation Tariff and Weather normalization mechanism.[6] South Jersey Natural Gas has a tariff that provides for a Temperature Adjustment Clause (TAC) and a Conservation Incentive Program (CIP).[7] The California division of Southwest Gas has the Core Fixed Cost Adjustment Mechanism (CFCAM), which accounts for weather deviations from normal and customer conservation.[8] Additionally, each of the comparable companies has a Purchased Gas

[4] Laclede Group 2007 10-K Report, page 24.
[5] New Jersey Resource 2007 10-K Report, page 3-4.
[6] Northwest Natural Gas 10-Q Report for the Quarter Ending September 30, 2007, page 19.
[7] South Jersey Industries 10-Q Report for the Quarter Ending September 30, 2007, page 22.
[8] Cal. PUC Sheets 6001-G and 6559-G.

Adjustment (PGA) clause. Such clauses are common in the natural gas industry and are becoming even broader in their depth as many commissions across the country adopt various decoupling mechanisms. The cost/benefit implications of these clauses are reflected in market prices used to determine the cost of equity and no further adjustment is necessary.

REBUTTAL SUMMARY

Q. HOW DO DR. WOOLRIDGE'S MISPERCEPTIONS OF CURRENT MARKET CONDITIONS AFFECT HIS CONCLUSIONS?

A. Dr. Woolridge's risk premium, CAPM and DCF analyses, and consequently, his resulting conclusions, are out of touch with current market realities. First, as cited previously, interest rates for corporations, including utilities, have risen substantially in recent months. Second, stock prices have fallen dramatically, indicating that the cost of capital for the market, in general, and for utilities, in particular, has increased, not decreased. Third, Dr. Woolridge stated that he determined in his own study that the volatility of stocks has increased relative to bonds; this indicates a higher risk premium for stocks relative to bonds. Finally, comparing Dr. Woolridge's expected market return of 8.90 percent (Woolridge, pg.48, line 2) to the current yield on 10-year Treasury bonds (2.53 percent as of 1/27/09), which is Dr. Woolridge's usual practice, (Woolridge, pg. 49, line 12) indicates a risk premium of 6.37 percent (8.90 percent minus 2.53 percent) which is well above the 4.56 percent risk premium used in his CAPM analysis. Consequently, Dr. Woolridge's CAPM analysis is unsound, does not reflect current market conditions, and

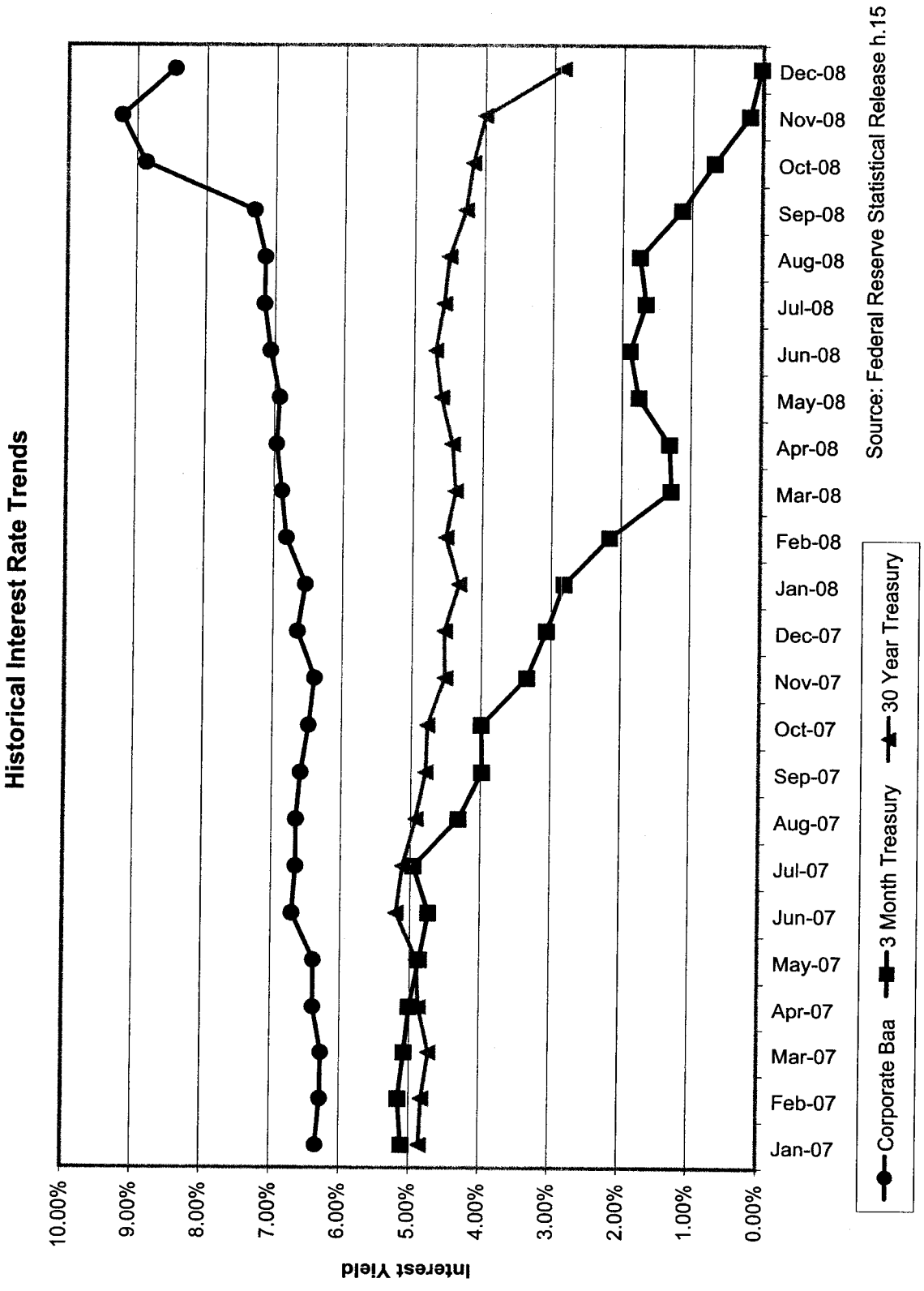
should be ignored for the purpose of setting the required return on equity in this docket.

Q. IS THERE ANYTHING ASSOCIATED WITH THE MARKET TURMOIL AND THE INCREASES IN MARKET-BASED COST OF CAPITAL ESTIMATES THAT HAS CAUSED YOU TO CHANGE YOUR RECOMMENDED ALLOWED RETURN IN THIS PROCEEDING?

A. Although the current market conditions, overlooked by Dr. Woolridge, bolster the case for my recommended allowed return of 11.5 percent, I am not recommending an increase at this time. The economic and market uncertainties continue. Although the risks to investors obviously have increased as demonstrated by collapsed market values, the financial markets remain unsettled. Moreover, at this time, further changes in federal programs are still unclear, which also means that investors cannot be certain of the consequences of these programs. Nonetheless, these calculations emphasize that market uncertainties cannot be ignored in a careful analysis of market costs. Finally, these results prove that the recommended allowed return of Dr. Woolridge, which is, at best, inadequate given equivalent debt costs, is not a realistic measure of the cost of common equity for Peoples.

Q. DOES THIS COMPLETE YOUR REBUTTAL TESTIMONY?

A. Yes. It does.


Historical Interest Rate Trends
Interest Yield
10.00%
9.00%
8.00%
7.00%
6.00%
5.00%
4.00%
3.00%
2.00%
1.00%
0.00%
Dec-08
Nov-08
Oct-08
Sep-08
Aug-08
Jul-08
Jun-08
May-08
Apr-08
Mar-08
Feb-08
Jan-08
Dec-07
Nov-07
Oct-07
Sep-07
Aug-07
Jul-07
Jun-07
May-07
Apr-07
Mar-07
Feb-07
Jan-07
Corporate Baa
3 Month Treasury
30 Year Treasury
Source: Federal Reserve Statistical Release h.15

Baa-rated Corporate Bonds
January 2004 to December 2008

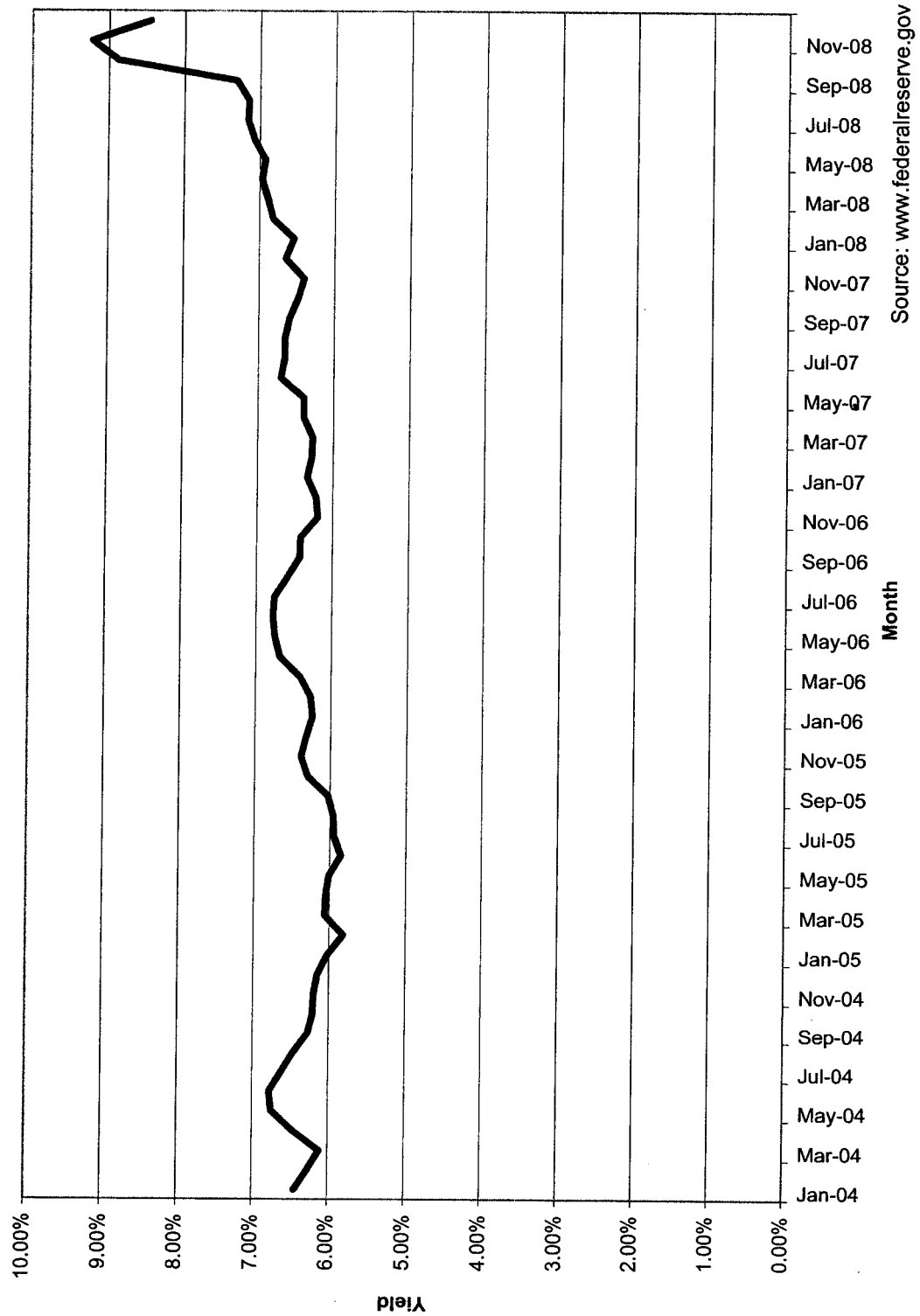


Table 7-14 (continued)
Size Effect within Industries
Summary Statistics and Excess Returns

(Through Year-end 2007)

SIC Code	Description	Small Company Group Geometric Mean	Arithmetic Mean	Standard Deviation	Excess Return
10	Metal Mining	8.74%	16.57%	45.51%	4.38%
13	Oil and Gas Extraction	12.37%	20.28%	45.67%	5.50%
15	Building Construction-General Contractors & Op. Builders	3.58%	13.35%	44.06%	-3.25%
16	Hvy. Construction Other than Bldg. Construction-Contractors	18.60%	23.37%	36.44%	10.22%
20	Food and Kindred Spirits	12.57%	16.09%	29.80%	3.44%
22	Textile Mill Products	9.25%	14.76%	34.44%	3.26%
23	Apparel & other Finished Products Made from Fabrics & Similar	5.69%	11.38%	37.52%	-0.72%
24	Lumber and Wood Products, Except Furniture	10.80%	20.58%	52.46%	9.24%
25	Furniture and Fixtures	7.83%	11.94%	29.50%	-0.55%
26	Paper & Allied Products	15.10%	20.45%	41.47%	6.04%
27	Printing, Publishing and Allied Products	14.94%	17.85%	25.20%	6.15%
28	Chemicals and Allied Products	12.85%	18.29%	39.37%	4.45%
29	Petroleum Refining & Related Industries	13.53%	17.93%	31.63%	4.05%
30	Rubber & Miscellaneous Plastics Products	12.28%	16.74%	32.90%	3.06%
31	Leather & Leather Products	10.50%	15.46%	34.02%	-0.83%
32	Stone, Clay, Glass & Concrete Products	10.01%	14.75%	32.84%	1.98%
33	Primary Metal Industries	13.63%	19.32%	38.17%	6.52%
34	Fabricated Metal Products, Except Machinery & Trans. Equip.	11.88%	17.40%	36.99%	5.06%
35	Industrial & Commercial Machinery & Computer Equipment	12.20%	17.47%	35.22%	3.26%
36	Electrical Equipment & Components, Except Computer	11.83%	19.64%	45.39%	6.15%
37	Transportation Equipment	12.04%	18.20%	37.94%	2.92%
38	Measuring, Analyzing & Controlling Instruments	12.90%	17.73%	34.61%	3.57%
39	Miscellaneous Manufacturing Industries	7.59%	11.92%	31.37%	-0.02%
40	Railroad Transportation	8.80%	15.02%	35.94%	2.31%
42	Motor Freight Transportation & Warehousing	6.48%	12.32%	38.44%	-0.21%
45	Transport by Air	8.67%	16.87%	47.63%	5.76%
48	Communications	17.00%	24.85%	45.23%	13.10%
49	Electric, Gas & Sanitary Services	10.56%	14.11%	29.34%	3.02%
50	Wholesale Trade-Durable Goods	10.97%	16.01%	35.70%	3.66%
51	Wholesale Trade-Nondurable Goods	8.34%	11.86%	28.05%	-0.74%
53	General Merchandise Stores	8.92%	16.26%	42.81%	3.45%
54	Food Stores	10.42%	14.11%	28.99%	0.58%
56	Apparel & Accessory Stores	11.13%	17.31%	38.88%	-0.27%
57	Home Furniture, Furnishings, and Equipment Stores	14.63%	24.80%	50.41%	2.16%
58	Eating and Drinking Places	1.72%	7.50%	36.30%	-7.79%
59	Miscellaneous Retail	11.59%	16.97%	35.97%	1.32%
60	Depository Institutions	14.21%	16.90%	25.13%	3.86%
61	Nondepository Credit Institutions	12.74%	16.67%	29.94%	1.83%
62	Security and Commod. Brokers, Dealers, Exchanges	14.85%	21.70%	41.62%	-2.29%
63	Insurance Carriers	12.77%	15.56%	23.78%	3.08%
65	Real Estate	6.42%	11.22%	34.37%	-0.24%
67	Holding & Other Investment Offices	11.07%	15.24%	30.91%	2.13%
70	Hotels, Rooming Houses, Camps, & Other Lodging	6.16%	12.03%	36.49%	-4.50%
72	Personal Services	17.90%	22.10%	31.96%	9.36%
73	Business Services	13.84%	23.17%	58.64%	8.26%
78	Motion Pictures	5.38%	13.10%	45.16%	-3.08%
79	Amusement and Recreation Services	10.03%	13.85%	31.27%	-2.44%
80	Health Services	14.76%	20.93%	39.89%	2.75%