CANADIAN EQUITY RISK PREMIUM, 1923 – 2001

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ABSTRACT

Canadian Equity Risk Premium, 1923 –2001

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Examinations of long-run trends in the stock market usually concentrate on markets in the United States. This paper builds on these studies by examining the equity risk premium in Canada over the 1923-2001 period. Two methodologies are used to gauge the expectations of investors with regard to the equity risk premium. The first is the one developed and implemented by Arnott and Bernstein (2002) for the United States. The second methodology estimates the equity risk premium implicit in the discount rate that equates forecasted dividend payments to present market valuations. The empirical results show that actual risk premiums either met or exceeded the future equity risk premium expectations of Canadian investors over the studied time period. On balance, it would appear that investors realized more than they expected in terms of risk premium over the studied period, although this excess does not appear to be as pronounced as that found by Arnott and Bernstein (2002) for the United States. Moreover, evidence is presented that the effect of the stock exchange (namely, the Toronto Stock Exchange and Montreal Exchange) used to measure stock returns is important when investors form their expectations regarding future equity premiums. However, the latter result may be due to the lower quality of the data available for the Montreal Exchange.

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1. INTRODUCTION

A number of articles have appeared recently in the academic journals on the long-run historical trend of the equity risk premium. Arnott and Ryan (2001) argue that an accurate estimate of this value is necessary for fund managers who need to make asset allocation decisions, and for corporate financial officers who must estimate the cost of capital for their firms. Unfortunately, most of the literature deals with the issue in the American context because of the readily available data. This thesis attempts to build on these studies by examining the historical performance of the equity risk premium in Canada from 1923 through 2001.

The model developed by Arnott and Bernstein (2002) first is used to derive expectations for stock and bond returns. The equity risk premium then is measured by taking the difference of these two expectations. An implied equity risk premium methodology also is used to supplement the estimates provided by the Arnott and Bernstein model. The interesting feature of both models is their ability to predict subsequent excess market returns. The equity risk premium estimates from 1956 for stocks traded on either of the two major Canadian stock exchanges (namely, the Toronto Stock Exchange and Montreal Exchange) are different, although this result may be due to the lower quality data available for the Montreal Exchange.

The results show evidence that actual excess returns either deliver the returns that investors expect or exceed investor expectations. The regressions performed in this thesis provide evidence that the intercept terms are significantly above zero and hence that actual excess returns systematically exceed investor expectations. However, the more conservative Bonferroni procedure indicates that actual excess returns do not differ significantly from risk premia expectations.

The remainder of this thesis is organized as follows: Section two reviews the literature. Section three describes the two models used herein to estimate the equity premium. Section four describes the data and empirical procedures to derive the equity premium. Section five presents and discusses the risk premium estimates. Section six analyzes the results. The thesis concludes with section seven.

2. LITERATURE REVIEW

The two seminal papers by Fisher and Lorie (1964, 1968) provide the impetus for subsequent investigations into the long-run returns to common stock investments. Ibbotson and Sinquefield (1976a, b) measure the returns to common stocks, long bonds, treasury bills, and the change in consumer prices over long historical periods. Their estimates of the returns to stocks since 1926 are perhaps the most quoted among academics, as noted by Claus and Thomas (2001) and Welch (2000). The methodologies used to construct the indexes employ different weighting schemes. Fisher and Lorie (1964, 1968) use an equal-weighted portfolio approach, whereas Ibbotson and Sinquefield (1976a, b) use a value-weighted scheme.

A recent attempt to examine long-run trends in asset returns in Canada is found in Dimson, Marsh, and Staunton (2002). In this case, the authors investigate the 1900-2000 period for equities, bonds, bills, and inflation and compute the corresponding equity risk premiums. The findings show that risk premia measured as the difference between equities and bills provide a geometric rate of 4.6% and an arithmetic rate of 5.9%. Risk premia measured as the difference between equities and bonds provide values of 4.5% and 6.0% for geometric and arithmetic rates, respectively. Although the estimates appear to be near those quoted by Ibbotson and Sinquefield, the authors warn that future excess returns may be much lower. This seems very plausible, as dividend growth has slowed over the twentieth century. Although dividend growth is positive in the first half of the century, growth has turned negative in the second half. Based on the results contained in the book, there is evidence that countries with high dividend growth also show higher real equity returns.

Other authors investigate the quality of the actual data used to build asset return estimates. Schwert (1990) questions the precision of the return estimates that incorporate stock returns during the Great Depression period. In an earlier paper, Schwert (1989) highlights evidence suggesting that stock market volatility is abnormally high during this period. Consequently, return estimates that encompass this period may be unduly influenced. In his 1990 paper, Schwert continues to compare and contrast the indexes that are available monthly from 1802-1925 and daily from 1885-1962. Schwert notes that the criteria for choosing the best index in a given period includes coverage, weighting method, point-sampled data, and the availability of dividends on a given series. Schwert makes an attempt to adjust time-averaged data so that it more closely approximates point-sampled observations. The procedure used keeps the mean estimate of stock returns unchanged relative to the original index.

Wilson and Jones (2002) build on Schwert (1990) and attempt to correct for time-averaged data through a 'companion index.' They note that the estimates of Schwert suffer a loss in accuracy because their sole purpose is to achieve desirable stochastic properties for the index. Through their use of the companion index, Wilson and Jones improve the accuracy of the estimates of Schwert while simultaneously correcting for the induced autocorrelation and reduced variance in the series. Wilson and Jones note the importance of the breadth of the coverage of the index by showing that the S&P 90 outperformed more broad-based market measures over the 1926-1956 period. This finding suggests that the commonly used Ibbotson series overstates the return to stock over this period because market performance is based on this more narrow definition of the index.

These studies illustrate the potential for improving the estimates of the data used by actuaries, fund managers, and corporate officers. It is encouraging that such efforts are being made, but it is also somewhat disheartening that the most reliable data, that of the United States, needs to be improved so dramatically.[1] The lack of precision in the data available, particularly for the earlier years, can perhaps partially explain the equity premium puzzle proposed by Mehra and Prescott (1985). The stock return estimates used by Mehra and Prescott are for the Standard and Poor's Composite Index, which is based on the S&P 90 series from 1926-1956.

Most attempts to date that try to resolve the puzzle are based on theoretical grounds, such as the disaster scenario analysis proposed by Rietz (1988). Mehra and Prescott respond (1988) that the severe drop in consumption that characterizes the disasters suggested by Rietz (1988) have not occurred even over the turbulent Great Depression era. Mehra and Prescott (1988) propose a habit formation model, which Constantinides

[1] A future goal of this author is to undertake such a project for Canada. However, this is a work-in-progress and will be available at a later point in time.

(1990) successfully develops. Other theoretical contributions that attempt to explain the puzzle include Epstein and Zin (1989), Weil (1990), Abel (1990), Campbell and Cochrane (1999), Mankiw (1986), Lucas (1994), Telmer (1993), Constantinides and Duffie (1996), Brav et al. (2002), and Constantinides et al. (1999). Since it is not the objective of this paper to explain the equity risk premium puzzle, these are not reviewed in further detail herein.

This thesis is concerned with empirical issues that are recently becoming popular in the literature. Some of the issues that must be addressed when conducting such studies are offered in Welch (2000). Welch points to a general lack of an accepted definition for the equity risk premium. Consensus on whether arithmetic or geometric growth rates should be used has not been reached, nor has there been agreement on whether short or long bonds should be subtracted from the return on equities to measure the premium. Depending on the specification used, equity premium estimates can differ substantially.

To illustrate, the use of a short maturity bond produces a higher estimate of the premium for a given time series than a methodology employing longer maturity bonds. Theoretically, long bonds may be a better choice since they are a closer substitute to stocks than are bills. The seminal paper of Mehra and Prescott (1985) defines the premium relative to short-term debt instruments, and perhaps unconsciously sets a standard for how the premium should be measured. The standard is reinforced in most investment textbooks that describe the premium in the same manner. As a result, many investors have based their expectations on an oft-quoted seven or eight percent premium, which is too optimistic.

Many recent studies find that the equity risk premium may be close to or even below zero. These include Arnott and Ryan (2001), Asness (2000), Bogle (1995), Reichenstein (2002), McGrattan and Prescott (2000), Siegel (1999), Fama and French (2002), Jagannathan, McGrattan, and Scherbina (2000), and Claus and Thomas (2001).

The reasons why these studies find a much lower estimate of the equity premium than was realized historically vary. Arnott and Ryan (2001), Asness (2000), and Bogle (1995) examine the components of stock returns to forecast future stock returns. The commonality between these studies is that they show, that given low dividend yields and earnings yields relative to bond yields available on long-term government debt, stock market levels are too high to justify a positive risk premium, especially one that hovers at what conventional wisdom dictates.

The growth in dividends provides little comfort for reversing this expectation. Moreover, the thought that stock repurchase programs are a substitute for dividends appears ill conceived. Bogle (1995) and Cole, Helwege, and Laster (1996) note that completed repurchases are much less than announced repurchases and that stock buybacks are offset by share issuances. Therefore, there seems little evidence to justify higher future growth rates in dividends and hence higher future returns on equities.

To justify future returns to equities in the seven or eight percent range, it is argued that potential technological advances justify higher future economic growth rates and hence higher returns to equities. However, Reichenstein (2002) and Siegel (1999) question this reasoning. Both authors argue that much of the growth in the economy comes from unlisted firms. Such investment opportunities are typically not available to the general public so investors who base their growth estimates on broader economic measures may be too optimistic. Moreover, Siegel (1999, p. 15) claims that "the returns to technological innovation have gone to workers in the form of higher real wages, while the return per unit of capital has remained essentially unchanged."

McGrattan and Prescott (2000) build a model that attempts to measure the value of corporate productive assets, or capital. However, the model gives particular attention to the role of intangibles since corporate profits are too high when only tangible assets are considered. Their findings indicate that the overall productive assets in the United States are equal to the value of corporate equity and that the equity risk premium is close to zero percent. The model also explains why the return per unit of capital has remained the same given the existence of technological innovation. In this case, the higher growth in earnings that would result from such innovation leads to higher expected payouts to shareholders. If a constant equity premium is assumed, then greater payments mean that more discounting takes place. The authors argue that higher after-tax profits could mean higher equity values in the future, but point out that tax rates rarely change. They conclude that the case for a positive equity premium appears weak.

Based on the above arguments, it is interesting to determine why the market has been priced to deliver such poor future performance. Fama and French (2002), Jagannathan, McGrattan, and Scherbina (2000), and Siegel (1999), among others, point to broader participation in the equity market because of the lower cost of obtaining diversified portfolios. In turn, the easier access to the equity market makes it easier for investors to buy into the market and bid up prices to relatively high levels.

Fama and French (2002) argue that the returns to equities in the 1951 to 2000 period are due to a drop in discount rates that results in a large unexpected capital gain. Large differences in estimates of the equity premium are obtained when different growth assumptions are made. Differences arise when dividend growth, earnings growth, and the average return to stocks are used. The dividend model, which is preferred because of the precision of its estimates, produces an equity premium of 2.55 percent. Fama and French suspect that the realized premium over the post-war era is much higher than the unconditional expected equity premium.

Jagannathan, McGrattan, and Scherbina (2000) conclude that the equity premium is at a reasonable level. They test their model with three different samples of stocks, as is done herein to test for the effect of the stock exchange from which the data are drawn. Jagannathan et al. use the S&P, CRSP, and Board of Governors (BOG) portfolios, where the value of the BOG is twice that of the CRSP stocks. The BOG portfolio includes stocks that are not publicly traded and all stocks held by U.S. residents. While the equity premium estimates calculated using the S&P and CRSP portfolios are almost identical over the entire sample period and various sub-periods, the estimates from the BOG data are higher on average by roughly two percent. Although their study focuses on the relatively low equity premium estimates obtained in 1999, the importance of the portfolio used to measure the premium provides further support for tests of robustness as are conducted herein.

Claus and Thomas (2001) use the implied risk premium methodology to derive an upper bound for the premium for stock markets in Canada, France, Germany, Japan, U.K., and the U.S. over the period from 1985-1998. Claus and Thomas find that their estimates of the premium are closer to three percent rather than the eight percent quoted by Ibbotson. The reason that they consider these estimates as being an upper bound relates to the fact that they use earnings forecasts of analysts, which are typically optimistic, to forecast the premiums.

Despite the evidence that suggests that the Ibbotson estimates are too high, Ibbotson and Chen (2003) decompose historical equity returns into supply factors. They build six models that include factors for inflation, earnings, dividends, P/E, dividend payout, book value, return on equity, and GDP per capita. The models derive the estimates by extrapolating how the equity premium participated in the real economy over the 1926-2000 period. The authors find that the arithmetic and geometric equity premium estimates are roughly six and four percent, respectively, where the former estimate is derived from the latter by assuming that returns are IID. Their response to the lower estimates provided by other authors is that the studies violate the Miller and Modigliani (1961) dividend theory. However, it seems illogical to modify the data to fit the theory rather than to question the theory based on what is actually observed in reality.

Clearly, the above studies indicate dispersion in equity premium estimates going forward. However, more recently, the balance of the evidence appears to be in favor of a much lower estimate than what investors customarily have expected. In an attempt to help resolve the disagreement that exists regarding the equity premium estimates, it is useful to determine which model predicts best. This literature has a long history in finance and is typically associated with the forecasting ability of dividend ratios. Perhaps the most well-known of these studies is that of Fama and French (1988) according to Goyal and Welch (2001). It is useful to review some of this literature since the Arnott and Bernstein model that is used herein makes use of some of these ratios.

The main findings of Fama and French (1988) indicate that the predictive power of dividend yields increases with the return horizon. This work has been criticized on many fronts. Goyal and Welch (2001) show that the predictive power of dividend ratios is non-existent when out-of-sample tests are conducted. The authors indicate that the dividend ratios display non-stationarity. More specifically, Goyal and Welch find that the dividend-price ratio predicts itself better than the equity premium.

Several of the other critiques of the predictive power of dividend yields, which are found in Goyal and Welch (2001), point to the biased test statistics used in the predictive regressions. For example, Goetzmann and Jorion (1993) use a bootstrap methodology to show that the ordinary least squares test statistics are upward biased in the Fama and French (1988) paper. This is caused by the use of overlapping returns in the regressions. The authors also question whether the forecasting ability is contained in the price series or the dividend series.

Campbell and Shiller (1998), who assume that valuation ratios are mean reverting, provide an answer to this question. Specifically, Campbell and Shiller find that the dividend-price ratio is 4.73 percent over the 1872 –1997 period. More importantly, they regress dividend growth or price growth on the dividend-price ratio and find that the dividend-price ratio predicts future price changes rather than future dividend growth. The authors find similar evidence for other countries, including Canada.

This work confirms in part earlier work by Campbell and Shiller (1988) who demonstrate through a vector autoregressive methodology that the present value of future dividends is forecastable. If the present value model of stock prices is assumed, the authors show that excess volatility implies forecastability of stock returns over long horizons.

Other studies go beyond the dividend yield or dividend price ratios to investigate the predictive ability of other valuation ratios, including price-to-book and price-to-earnings or its reciprocal. Two studies that conduct this analysis are Philips (1999) and Sorensen and Arnott (1988). While the model of Philips is accounting-based, his analysis confirms that expected returns drop as the price-to-book and price-to-earnings ratios rise. Sorenson and Arnott (1988) find that the estimates of the equity risk premium provided by the earnings yield and dividend yield are more effective for asset allocation purposes when compared with the estimates suggested by the dividend discount model.

Although some studies use these alternative ratios to gauge valuation levels and still others use growth rates in earnings to proxy for growth in dividend discount models, this type of analysis is not conducted herein. The reason is that the theoretical argument behind these alternative ratios is not as strong as that of the dividend yield or dividend price ratio. Investors have no reason to expect that they will receive the entire earnings of the corporations in which they invest. Instead, it is only reasonable to expect that they be entitled to the dividends that are paid out by the corporations.

The last section of this literature review offers some background on the estimates of the equity risk premium based on the irrational markets or behavioral finance viewpoint. These types of explanations have gained popularity recently. Studies that deal with such explanations are Bernartzi and Thaler (1995), Samuelson (1994), Shiller (1981), Shiller (1990, 2002), and Statman (2002).

Shiller (1981) questions whether stock prices are too volatile to justify subsequent changes in dividends. His main conclusion is that the volatility of price changes is higher when information about dividends is revealed smoothly rather than in big lumps. For this case, Shiller shows that the distribution of stock returns has higher kurtosis but lower variance, and may in fact be forecasted. His article suggests that it would be tempting to attribute the high equity risk premium to market irrationality. However, Shiller points out that there may have been good reason to expect major events that could disturb the dividend process that would justify large movements in stock prices.

Other behavioral explanations include Samuelson (1994) and Shiller (1990, 2002). The underlying theme of these articles points to a general over-subscription by investors to conventional wisdom. Samuelson (1994) criticizes the idea that equities are a good choice for the long-term. The main assertion in his article is that investors rely too much on past experience when making investment decisions. Samuelson notes that many investors seem to believe that the risk of investing in equities is eliminated in the long-term, and he shows how this line of thinking goes against finance theory.

Because investors behave in this manner, they continue to buy into the stock market pushing up equity prices to ever-higher levels even though the fundamentals might not support these levels. As a result, over a long investment horizon, equities have continued to deliver the conventional seven or eight percent return over the risk-free rate.

Shiller (1990, 2002) discusses this feedback model where it is assumed that investors tend to follow a momentum strategy and buy into the market when the overall balance of news regarding the market is positive and vice versa. Shiller (2002) mentions the broad knowledge base that is required to understand the financial markets and states simply that no one actually has such knowledge. Moreover, the constant stream of information being communicated by the media makes it difficult to keep abreast of all of the relevant developments needed to make investment decisions. The result of this information overload is that people make judgment errors. The argument follows that investors and the people in the news media must refer back to the conventional wisdom of what is believed about the financial markets. Specifically, one could interpret this to mean the oft-quoted eight percent equity premium estimate.

Bernartzi and Thaler (1995) build a model with myopic loss aversion to explain the equity risk premium puzzle. The model provides a method for identifying the horizon at which investors might be indifferent between stocks and bonds based on historical data. The model also serves to explain why investors might believe that high-risk investments are acceptable over long horizons. In this case, they determine that the time horizon that makes investors indifferent between putting all their funds in stocks or bonds is 20 years if the equity premium is 1.4 percent.

The articles above that discuss behavioral explanations of the equity premium are becoming more important as many of the prescriptive models in finance fail to explain what we observe in reality. Some of the most fundamental relationships in finance are now being challenged. For example, Graham and Harvey (2001) conduct a survey of Chief Financial Officers of U.S. corporations and find that the relationship between the expected equity premium and expected risk is negative over one year horizons. However, this finding is reversed when the investment horizon is lengthened to ten years. Because of these peculiarities in the financial markets, Statman (2002) suggests that research should focus more on descriptive models rather than on prescriptive ones.

3. MODEL DEVELOPMENT

Two methodologies are employed in this thesis to gauge the expectations of investors over the 1923-2001 period in Canada. The first method is the one developed by Arnott and Bernstein (2002) where expectations first are developed individually for stocks, bonds, and inflation. The second methodology is a slight variation of the Williams (1938) dividend discount model and solves backwards for the equity premium that equates the present value of future dividends to the current market price. Each of these methodologies now is described in turn.

3.1 Arnott and Bernstein Model

The model of Arnott and Bernstein (2002) is theoretically appealing because it attempts to identify precisely the flows and growth rates (including inflation) that investors should use when forming their expectations regarding future returns on equities. However, stocks can provide an acceptable hedge against inflation provided that companies can raise the prices of their goods and services to compensate for any increases in their costs. For this reason, the variables included in the expectations for real stock returns are in real terms already and no explicit attempt is made to model inflation.

Inflation is a greater concern for bonds because there is no opportunity to adjust the flows received from these instruments, unless these flows are indexed to inflation. Moreover, the flows from bonds are easier to predict provided these instruments are held to maturity.

The equations that Arnott and Bernstein use to form their expectations regarding the returns to stocks, bonds, and inflation first are presented, and then the reasons provided in their paper for using these equations are reviewed. We begin with the expected return for stocks as:

$$ERSR(t) = EDY(t) + ERGDP(t) + EDGR\,(t) \tag{1}$$

where

ERSR(t)	is the expected percentage real stock return at time t,
EDY(t)	is the expected percentage dividend yield for stocks at time t,
	ERGDP(t) is the expected percentage real per capita GDP growth over the applicable span starting at time t, and
EDGR(t)	is the expected annual percentage dilution of real per capita GDP growth as it flows through to real dividends starting at time t.

The expected real return for bonds is as follows:

$$ERBR(t) = BY(t) - EINFL(t) \tag{2}$$

where

ERBR(t)	is the expected percentage real bond return at time t,
BY(t)	is the percentage bond yield at time t, and
EINFL(t)	is the expected percentage inflation over the applicable span starting at time t.

The equity risk premium, *ERP(t)*, then becomes:

$$ERP(t) = ERSR(t) - ERBR(t) \quad (3)$$

where all of the terms are as defined above.

Equation (1) for the expectation of real stock returns is very similar to what is used in a traditional dividend discount model in that it contains the dividend yield and a proxy for growth. In all cases, Arnott and Bernstein adjust the three constituent terms in equation (1) to correct for the effects of recessions. Arnott and Bernstein note that all of the terms are below their long-term trend values during such conditions so they use the last peak before a recession to adjust for the downward bias in these measures.[2] This adjustment is applied because Arnott and Bernstein note that the recessions in the earlier part of their sample period are more severe than those experienced more recently. Moreover, corporate managers are reluctant to increase dividends until it can be ascertained with a reasonable amount of certainty that dividend increases can be sustained in the future. Therefore, it appears that dividends generally do not deviate too far above the trend line. Since drops in dividends that occur with deep recessions should be counterbalanced by the strong rebound in subsequent dividend growth post-recession, we do not use the adjustment just described.

The *ERGDP(t)* term is proxied herein by the real per capita GDP growth of the economy. The reason for using real per capita GDP growth as opposed to simply growth in real GDP is due to the argument that higher population growth creates a larger availability of human capital and a greater demand for goods and services. It then follows naturally that "the pace of dilution [in the economy], both from the creation of

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[2] The authors point out that this creates an upward bias in the estimate of the dividend yield so they remove the 40-year average between the adjusted and true dividend yield series.

new enterprises and from secondary equity offerings, is faster when the population is growing faster." (Arnott and Bernstein, 2002, p. 74).

This also can be illustrated with an example. If GDP grows by five percent in a given year and population growth grows by ten percent, then the five percent economic growth rate seems less impressive. This is the effect that Arnott and Bernstein are attempting to capture in their model.

In addition, Arnott and Bernstein assume that investors base their expectations for this variable on an average of the growth rate for the most recent 40 years and that of the cumulative 200-year history. However, their dataset extends to 1802, while ours only goes back to 1923. As a result, we must use an average based on a smaller number of years to form our expectation for the growth in real per capita GDP.[3]

With regard to the *EDGR(t)* term, a similar argument to the one just presented above suggests that entrepreneurship and seasoned equity offerings or SEOs increases the number of shares outstanding. The result is that dividends per share grow more slowly than per capita GDP. As a result, the cash distributions that are available to investors grow more slowly than per capita GDP. In turn, investors should account for this when they form their expectations. This variable acts to reduce the expected real returns to stocks and is referred to by Arnott and Bernstein as the shortfall of dividends relative to GDP. For our analysis, we use the entire history of available data to measure this variable.

Equation (1) has no explicit term for valuation multiple shifts, although some authors use the dividend yield as a proxy. Although Arnott and Bernstein acknowledge that

[3] Graham and Dodd (1934) recommend that at least five years be used to form an average. In our case, we use three separate expectation formation periods of five, eight, and ten years.

valuation multiple shifts are important and that price-earnings multiples can change, they decide to make the simplifying assumption that valuation levels are fair. Kane, Marcus, and Noh (1996) indicate that the price-earnings multiple is affected by many variables, including market volatility, inflation, industrial production, and the default premium on bonds. Therefore, including the price-earnings multiple may complicate the analysis unnecessarily.

A similar assumption is made in equation (2) for the expectation of real bond returns, namely that valuation levels are fair. Through their equation (4), Arnott and Bernstein indicate that a realized bond return includes a term for the change in yield times the duration at time t. However, the focus of the model is to construct a measure of the expectation of real bond returns so this variable is excluded from the analysis in the interests of simplicity.

To obtain a measure of expected inflation, we directly follow Arnott and Bernstein and use the most recent five, eight, and ten year annual average inflation rate. Finally, once the expected real return on stocks and the expected real return on bonds are calculated, the difference between the two values provides the desired estimate of the equity risk premium.

3.2 The Implied Risk Premium Methodology

As another gauge of what investors expect, we use a slight variation of the Williams (1938) model to solve for the rate that equates the present value of future dividends to current market prices. The Williams (1938) model is:

$$P_0 = \frac{d_1}{(1+k)} + \frac{d_2}{(1+k)^2} + \frac{d_3}{(1+k)^3} + \ldots \qquad (4)$$

where

P_0	is the current market price of the index,
d_t	is the expected dividend at the end of year t, and
k	is the expected rate of return on the market index.

The model that we use solves directly for the equity premium based on the assumption that it is intertemporally constant. This assumption is used quite frequently in the literature based on its simplicity. The equation used herein to solve for the equity risk premium is based on the two-stage discounted dividend model or DDM, as given by:

$$P_0 = \frac{d_1}{(1+k+ep)} + \frac{d_2}{(1+k+ep)^2} + \ldots + \frac{d_5}{(1+k+ep)^5} + \frac{\frac{d_6}{(k+ep-g)}}{(1+k+ep)^5} \qquad (5)$$

where

ep	is the equity premium, and
g	is the long-term growth rate.

Before discussing the actual data used to obtain the equity risk premium estimates, it is important to understand the slight differences between the two DDMs presented above. The last term in our two-stage DDM growth rate model is the discounted terminal value of the index. In this case, d_6 is calculated as d_5 multiplied by $(1 + g)$. We decide to take the terminal value in year five simply because this is commonly done in practice. Furthermore, by assuming that the current market price, the expected future dividends, the long-term bond rate, and the long-term growth rate are known, we can solve backwards for the constant equity risk premium.

4. DATA AND ESTIMATION PROCEDURE

The data available to estimate the Canadian equity premium is of poorer quality than that available in the U.S.[4] We begin by describing the data provided by the Canadian Institute of Actuaries, and then proceed to describe the data provided by the Montreal Exchange. Since the data for the stock market variables provided by the CIA are identical to those provided by the Toronto Stock Exchange from 1956 to the present, no further explanations are required for the TSE data.

Before proceeding to that discussion, the Toronto Stock Exchange has always been the dominant exchange in Canada both in terms of number of shares traded and value of all shares traded. However, as reported in Urquhart and Buckley (1965), the Montreal and Canadian Stock Exchanges had a larger quoted market value than the TSE from the beginning of our sample period until 1950.

We implement two iterations of the two models described previously to obtain the estimates of the equity risk premium. The first iteration for each model uses the data provided by the CIA. The second iteration uses the data from the ME from 1956 in order to determine the robustness of the equity risk premium estimates to the choice of the exchange from which the stock sample is drawn. Each iteration for each model uses the same bond dataset.

4.1 Data from the Canadian Institute of Actuaries or CIA

The CIA is the data source for many of the variables used in both risk-premium estimation models. The variables included in equation (1) use the series described in

[4] The frequency of the data used in this study is monthly. However, in cases where data are available on an annual basis only, we interpolate to obtain monthly estimates.

table 1. The CIA describes its method for obtaining the dividend yield for the period prior to 1934 as follows (Canadian Institute of Actuaries, 2001, p. 34):

> The dividend yield used is a twelve month average. For the period January 1926-December 1933, Standard and Poor's US dividend yields were used (Ibbotson and Sinquefield, 1977). The values were adjusted by subtracting the average difference, .17% between the Standard and Poor's dividend yield index and the TSE dividend yield index over the period January 1956-December 1965. For the period January 1924-December 1925 the average Standard and Poor's yield over the period January 1926-December 1928 was used, 5.05% reduced by the .17% correction.

This adjustment methodology is rather crude and makes a very strong assumption regarding the dividend yields prior to 1956.[5]

The CIA obtains its series of real GDP per employed person figures as follows (Canadian Institute of Actuaries, 2001, 35):

> Change in ratio of fourth quarter GNP or GDP to December employed. For 1923-1953, the year-end number of employed was estimated as the geometric mean of the current and following year values; for 1966-1975, it was [increased] by 3.31% to give continuity from 1975 to 1976. For 1923-1947, the year-end GNP was calculated as the geometric mean of the current and following year values.

Unlike Arnott and Bernstein who use growth in real per capita GDP, growth in GDP per employed is used herein. We believe that this is a better measure of economic growth because it captures the effect of the growth in the population that is likely to be the primary contributors to GDP growth.

The data for the *EDGR(t)* term is calculated as the difference in the growth in dividends relative to the growth in the real GDP per employed. Since no series exists for

[5] We have identified three sources that contain information on dividends, earnings, and prices during this earlier period. Unfortunately, the data reports company specific values and no aggregate data on the overall market index. Due to the enormous amount of data entry required, we leave the development of an aggregate index to future research.

dividends per share for the 1934-1955 period, the appropriate price and dividend yield series are used to solve for dividends per share and for dividend growth. The dividend yield series H617 and the price series H641 from Urquhart & Buckley (1965) are used for these calculations.

The series used to calculate the expected real return estimates for bonds required for equation (2) are reported in table 1. The CIA describes its method for calculating annual bond returns as (Canadian Institute of Actuaries, 2001, p. 34) "assume purchase of a bond with 18 years to maturity in December, sell after one year".

The series used to derive the estimates of the expected inflation variable, *EINFL(t)*, also are reported in table 1. The CIA (Canadian Institute of Actuaries, 2001, p. 34) describes their calculation method as the "change in December-December period".

The implied risk premium methodology demands many of the same datasets required for the model of Arnott and Bernstein. The series for current prices and long-term bond rates are identical to those used for the previous model. The sum of the *ERGDP(t)* and *EDGR(t)* terms from equation (1) are used as the proxy of the long-term growth rate in the terminal value term of equation (5). The annual average of the actual growth in dividends based on the prior five, eight, and ten years is used to form the proxy for future growth in dividends over the subsequent year. A summary of the data sources used to construct the variables in this section is provided in Table 1.

4.2 Data from the Montreal Exchange

Since the procedures used to compute equations (1), (2), (3) and (5) are identical to those just described, this subsection only describes some of the peculiarities with this dataset. The data available from the ME is from 1956 until 1999 when all stock trading moved to the TSE.

Our series are not continuous over this period since the Montreal Industrial and Composite indexes are used from December 1956 until December 1983, and the Montreal Market Portfolio, XXM, is used from January 1984 to December 1999. Unfortunately, several of the variables are missing over certain periods. For example, the Montreal Industrial index records only prices from December 1956 to December 1961. Furthermore, data on the Industrial and Composite indices include only prices from January 1982 to December 1983. A similar problem arises for the XXM from January 1984 to December 1986. Earnings per share become available for the XXM in January 1987, and dividends per share are recorded beginning on February 1990. For all other time periods starting after 1956, dividends per share, earnings per share and prices are reported so price-earnings multiples, dividend yields, capital gains/losses, total returns, and payout ratios can be calculated.

A companion index similar to Wilson and Jones (2002) is used to bridge these gaps in the data. In such cases, the earnings and dividend growth rates from the TSE Composite index are used to obtain the data for the Montreal indices.

5. DESCRIPTIVE STATISTICS OF THE RISK PREMIUM ESTIMATES

Descriptive statistics for the risk premium estimates for the Arnott-Bernstein model and the implied risk premium methodology are reported in Tables 2 and 3, respectively. Based on the Arnott-Bernstein model, which uses monthly observations over the full sample period, investors, on average, realize a return over the subsequent year that exceeds their expected return. The excess ranges from 0.32 percent for the MCI dataset to 6.34 percent for the CIA dataset. This is based on the difference between the means of actual and expected returns across all iterations for which the regressions are run. Specifically, this refers to the use of three different indexes, three different assumptions regarding the number of years used to form an average, the type of average (arithmetic or geometric), and the use or omission of dilution from our calculation for expected real stock returns. The same inference follows if the median is used instead as the measure of central tendency.

However, when annual observations are employed in the implied risk premium methodology, the inferences change. When the Montreal Industrial or Composite Indexes are used to gauge the risk premium estimates, the difference between the medians of the actual and expected premiums is negative in many cases, implying that investors realize returns that fall short of their expectations. However, these realizations rarely make the difference between the actual and implied risk premium estimates fall below negative one percent, and never below negative two percent. Furthermore, the data for the Montreal exchange is of poorer quality than that for the TSE, and this may account for these results.

We next examine the seven ten-year periods starting with the 1930-1939 period and ending with the 1990-1999 period for the Arnott-Bernstein methodology. Based on unreported averages of the expectations produced by all the variations of our methodology (namely, stock index used, number of years used to calculate an average, type of average, and use or omission of dilution), the model generates negative risk premium of -2.34%, -0.24%, and -3.04% for the three decades of 1930-1939, 1980-1989, and 1990-1999, respectively.

The negative expectations for the 1930-1939 sub-period could be linked to the dramatic economic downturn of 1929 that induced fear towards the stock market. The negative expectations for the 1980-1989 period may be due to the aftermath of the second oil crisis in 1979-1980 that induced increased uncertainty regarding future stock market prospects. Although the negative expectations for last sub-period of the 1990s appears surprising at first glance, the short recession at the beginning of the decade coupled with the burst of the Internet bubble in the last two years of the decade makes the estimate seem more plausible.

The averages of the differences between the actual and expected returns across all of the permutations of the Arnott-Bernstein model discussed above are 5.25%, -1.69%, 3.12%, 4.50%, 7.61%, -0.82%, and 6.15% for the 1930-1939 through 1990-1999 sub-periods, respectively. Thus, investors received more than they expected in five of the seven decades (namely, the 1930-1939, 1950-1959, 1960-1969, 1970-79, 1990-1999 periods) and less than they expected in only two of the seven decades (the 1940-1949 and 1980-1989 periods).

The differences between realized and expected risk premium for the same seven decades based on the implied risk premium methodology are 3.46%, 1.24%, 1.69%, 4.02%, 7.74%, -2.76%, and 4.35%. The two methodologies provide similar inferences with the exception of the 1940-1949 period where expectations based on the Arnott-Bernstein model suggest that investors received more than they expected in terms of equity risk premium and expectations based on the implied risk premium methodology suggest that investors received less than they expected in terms of equity risk premium.

Because the descriptive statistics only provide some preliminary evidence regarding expectations, we avoid a discussion of the effects of the choice of stock exchange used to measure the premium, the number of years used to construct our averages, the type of average and the effects of dilution to the next section of the thesis where more rigorous statistical tests are conducted.

6. THE RELATIONSHIP BETWEEN RISK PREMIA EXPECTATIONS AND REALIZATIONS

In this section, the following regression models are estimated:

$$ARSR[t+0, t+1] = \beta_0 + \beta_1 ERSR(t) + \varepsilon(t) \qquad (6)$$

$$ARBR[t+0, t+1] = \beta_0 + \beta_1 ERBR(t) + \varepsilon(t) \qquad (7)$$

$$ARP[t+0, t+1] = \beta_0 + \beta_1 ERP(t) + \varepsilon(t) \qquad (8)$$

where ARSR[t+0, t+1], ARBR[t+0, t+1] and ARP[t+0, t+1] are the actual stock market return, bond market return, and risk premium over the subsequent year, respectively, and *ERSR(t)*, *ERBR(t)*, and *ERP(t)* are the forward-looking stock market return, bond market return and equity risk premium at time $\tau+0$ for the next year. The stock and bond return estimates are derived using the Arnott and Bernstein methodology, and the equity risk premium estimates are derived using both the Arnott and Bernstein and implied risk premium methodologies.

In addition, we perform the same regressions as those indicated in equations (6), (7), and (8), except that the investment horizon is lengthened to five years, so that both the actuals and the expectations are for this longer five-year investment horizon. Specifically, the following regression models are estimated:

$$ARSR[t+0, t+5] = \beta_0 + \beta_1 ERSR(t) + \varepsilon(t) \quad (9)$$

$$ARBR[t+0, t+5]= \beta_0 + \beta_1 ERBR(t) + \varepsilon(t) \quad (10)$$

$$ARP[t+0, t+5]= \beta_0 + \beta_1 ERP(t) + \varepsilon(t) \quad (11)$$

where all variables are as defined previously. In this case, actual and expected returns for the equations presented above are average annual returns over a five-year horizon.

While the same actual and expected bond return series are always used, three separate series for stock market returns are used. The first stock market returns series is based on the data from the Canadian Institute of Actuaries for the full period. The second series of stock market returns is derived by switching over to the Montreal Industrial Index in 1956, to the Montreal Market Portfolio from 1983 until 1999, and then back to the Toronto Stock Exchange index from 1999 to 2001. The third series is almost identical to the previous series, except that the Montreal Composite Index is used instead of the Montreal Industrial Index for the period of 1956 to 1983.

For each of the series discussed above, the growth rates are estimated in both the Arnott and Bernstein model and the implied risk premium methodologies with three different assumptions regarding the number of years used to form the growth estimate over the subsequent year. Specifically, three iterations are performed for each stock market series where annual growth rates are based on the previous five, eight, and ten years of actual growth. Moreover, the regressions are performed using arithmetic and using geometric means. Each regression also allows for two different assumptions regarding the estimate of dilution introduced in the Arnott and Bernstein model. The first assumption is no dilution and the second is the dilution based on the entire history of the shortfall of dividends relative to GDP.

Thus, 72, 12 and 108 regressions are estimated for equations (6), (7), and (8), respectively. The same number of regressions are estimated for equations (9), (10), and (11). Our original regressions for equations (6), (7), (9), (10) and those from the Arnott and Bernstein model for equation (8) and (11) violate the error term independence assumption of the ordinary least squares procedure. To deal with this statistical problem, we follow directly the procedure of Arnott and Bernstein and use non-overlapping samples in our regression equations. Overlapping samples result from computing one-year subsequent returns on a monthly basis. To create non-overlapping samples, annual subsequent returns are regressed on their corresponding expectations every 12 months as opposed to every month. With non-overlapping samples, we also correct for non-normality and heteroscedasticity violations that are prevalent in the original estimations of the regression equations. These problems do not occur in equation (8) and (11) when the implied risk premium methodology is used to obtain the parameter estimates.

The parameter estimates along with all the regression output statistics and diagnostic measures used to assess the validity of the ordinary least squares procedure for equation (6) are found in Table 4. The same output for equations (7) and (8) are found in Tables 5 and 6, respectively. However, Table 6 only includes the estimates for the Arnott and Bernstein model, and those for the implied risk premium methodology are found in Table 7. The regression output for those equations estimated with non-overlapping samples is shown immediately below their equivalent overlapping sample counterparts in the tables.

The results that investigate the relationship between expectations and the subsequent five-year horizon are presented in Tables 8 through 11. Specifically, the results for equation (9) are reported in Table 8, those for equation (10) are reported in Table 9, those for the Arnott and Bernstein model for equation (11) are found in Table 10, and those for the implied risk premium methodology are found in Table 11.

Before proceeding further, it should be noted that if the expectations of investors are correct, on average, about future returns over the subsequent period, then the intercept term in each of the regressions should not be significantly different than zero and the beta coefficient in each of the regressions should not be significantly different than one. In other words, this provides a test of whether investors get more or less than they expected from equities over the period.

In the event where the test of the intercept shows that the parameter is indeed significantly different than zero, then there is a systematic effect regarding the realization of asset returns. For example, an intercept that is positive and significant for stock returns indicates that stock returns are systematically higher than what was expected. In the case where the intercept is not significantly different than zero, then it is correct to proceed and test whether the slope coefficients are different than one.

The test of the slope parameters is developed as follows when the intercept term is not significantly different from zero. From those regressions that are valid under the OLS procedure, one (the expected value of the estimate) is subtracted from the slope parameter estimate, and the resulting value is divided by the standard error of the estimate to obtain the t-statistic. These t-values are reported in the tables with the other regression output. In equation form, this becomes:

$$t^* = \frac{b_1 - 1}{s\{b_1\}}$$

However, as will become apparent below, many of the intercept terms are significantly different than zero. As a result, it is somewhat difficult to interpret the corresponding beta coefficient.

In order to make the correct interpretation, a joint test must be conducted to test the parameter estimates. In this case, the Bonferroni Joint Confidence Intervals are computed. This is a very conservative test that computes the intervals as follows:

$$b_0 \pm Bs\{b_0\} \qquad\qquad b_1 \pm Bs\{b_1\}$$

where $$B = t(1\text{-}\alpha/4;\ n\text{-}2)$$

In this case, if the intervals for the intercept and the slope coefficient contain zero and one, respectively, then we can infer at the appropriate confidence level that investor expectations were realized. The intervals for the parameter estimates for the regressions that consider investment returns over the subsequent year are found in Tables 12, 13, 14, and 15 for equations (6), (7), (8) (Arnott and Bernstein model), and (8) implied risk premium methodology, respectively. Tables 16, 17, 18, and 19 show the intervals for the parameter estimates for equations (9), (10), (11) (Arnott and Bernstein model), and (11) implied risk premium methodology, respectively, for the regressions that consider investment returns over the subsequent five years.

We examine the results in the context of the effects mentioned earlier, namely, the stock exchange, the number of years used to form an average, the type of average, and the effect of dilution. That is, for each variation of the equations that we estimate, we test for the effect of the stock exchange used to measure stock returns and equity premium. The Chow test is used to test whether the coefficients estimated using data from the

Toronto Stock Exchange are different from those estimated with data from the Montreal Exchange.

To conduct the Chow test, two separate regressions are run for each exchange, namely the Toronto Stock Exchange and Montreal Exchange. It is important to note that the regressions run use the same assumptions to form an expectation of future returns. Therefore, both of the aforementioned regressions will use the same number of years to calculate averages, the same type of average, and the same assumption regarding dilution. Only the stock exchange used differs. From each regression, the error sum of squares is obtained and added to arrive at the error sum of squares of the unrestricted regression, or ESS_{UR}. The data used in the two previous regressions are pooled and used in a third regression to obtain the error sum of squares of the restricted regression, or ESS_R. Finally, the calculated F statistic is calculated as follows:

$$F_{k,N+M-2k} = \frac{(ESS_R - ESS_{UR})/k}{ESS_{UR}/(N+M-2k)}$$

where k is the number of restrictions in the regressions, and N and M are the number of observations used in each of the two separate regressions used to calculate ESS_{UR}. In this case, the null hypothesis is a joint hypothesis that states that the intercept terms from each separate regression are equal and that the slope coefficients from each regression are equal. If the calculated test statistic is greater than its critical value, then it may be inferred that the coefficients are significantly different from one another.

One last word of caution is in order before proceeding to a presentation and discussion of these regression results. In the cases where the estimated regression equations violate the OLS procedure, we interpret the results from the regressions estimated with non-overlapping samples. One resulting problem from using the regressions with non-overlapping samples is the reduction in sample size, which is only somewhat problematic for the regressions investigating returns over the subsequent five years because the number of observations falls below 30 and the central limit theorem is not valid in this case and so it becomes difficult to draw inferences.

6.1 Real Stock Returns

6.1.1 One-Year Horizon

The results in Table 4 for the CIA dataset and subsequent one-year returns indicate that 16 of the 24 intercept terms are positive and significant, implying that returns systematically exceed investor expectations in these cases. However, 12 of these regressions use data with overlapping samples and suffer from a highly autocorrelated error term. As a result, the standard errors of the regression coefficients are smaller and create upwardly biased t-statistics. The four cases that do not violate this assumption arise when five years of data are used to form expectations. Unfortunately, the slope parameter estimates in this case are negative and significantly different than zero, providing evidence that the non-constant portion of actual returns decreases (and not increases) as investor return expectations increase. In the remaining cases where the intercept terms are not significant, the slope coefficients are not significantly different than one. Therefore, there is some evidence in the stock return model that returns meet investor expectations over a one-year horizon.

The joint test of the coefficients using the Bonferroni confidence intervals indicates that the confidence intervals containing zero for the intercept term also are those that contain a slope of one. These results obtain when the non-overlapping samples are used with either eight or ten years of data to form averages. The intervals for those regressions using only five years of data show that zero and one are outside the lower and upper limits of the interval for the intercept and slope terms, respectively. In sum, the intervals provide some evidence that returns meet investor expectations based on longer periods of historical data.

When examining these results for robustness, the Chow test is used to test whether the slope coefficients are different when a different stock index is used to measure stock returns over a one-year horizon. The F statistics computed indicate that the regression coefficients estimated with the CIA dataset are different from those estimated with data from the Montreal Exchange when overlapping samples are used with five and ten year averages and when overlapping and non-overlapping samples are used with eight year averages. Since the coefficients estimated with data from the Montreal Exchange show the same general pattern as that described above for the CIA dataset, it may be inferred, based on the Chow test, that there is a statistically significant difference between the coefficients estimated with data from the two separate exchanges.

6.1.2 Five-Year Horizon

The results in Table 8 for the CIA dataset and subsequent five-year returns produce the same inferences that are drawn for the one-year returns. Specifically, the table shows that 18 of the 24 intercept terms are positive and significant, implying that returns systematically exceed investor expectations in these cases. However, 12 of these regressions use data with overlapping samples and suffer from a highly autocorrelated error term. As a result, the standard errors of the regression coefficients are smaller and create upwardly biased t-statistics. The six cases that do not violate this assumption arise when five or ten years of data are used to form expectations. The slope parameter estimates are positive when five years of data are used and negative when ten years of data are used, although none are significantly different than one, providing evidence that the non-constant portion of returns vary on a one-to-one basis with investor expectations. In the remaining cases where the intercept terms are not significant, the slope coefficients are not significantly different than one.

The joint test of the coefficients using the Bonferroni confidence intervals indicates that the intervals containing zero for the intercept term also have confidence intervals which contain a slope coefficient of one. These results obtain when the non-overlapping samples are used with five, eight, or ten years of data to form averages. In sum, the intervals provide some evidence that returns meet investor expectations.

The Chow tests, which are conducted to examine robustness, produce calculated F statistics that exceed their critical values when overlapping samples are used with five, eight and ten year averages. Although the coefficients estimated with data from the Montreal Exchange show the same general pattern as that described above for the CIA dataset, it may be inferred, based on the Chow test, that there is a statistically significant difference between the coefficients estimated with data from the two separate exchanges. Again this may be caused by the poorer quality of the data associated with the Montreal Exchange.

6.2 Real Bond Returns

6.2.1 One-Year Horizon

The intercepts for the bond return model developed by Arnott and Bernstein are negative and significant for those regressions employing overlapping samples and hence there is evidence that bond returns systematically underperform relative to investor expectations. However, the regressions using non-overlapping samples and eight or ten years of data to form averages produce intercept coefficients that are positive, although statistically indistinguishable from zero. For the latter case, the slope parameter estimates intercepts are greater than one and statistically significant at conventional levels. Therefore, there is some evidence that bond returns exceed expectations. The joint test that uses the Bonferroni procedure indicates that every permutation of the equation employed herein shows that zero is contained within the confidence intervals. The confidence intervals for the slopes contain one in all cases except when overlapping samples are used in conjunction with five and eight years of data to construct averages. As a result, these tests provide evidence that indicates that bond returns meet investor expectations.

6.2.2 Five-Year Horizon

At the five-year horizon, the intercepts of the regressions are positive and significant and provide evidence that bond returns systematically exceed investor expectations. However, regressions using non-overlapping samples produce negative intercept coefficients although they are statistically indistinguishable from zero. For these cases, the slope parameter estimates are greater than one and statistically significant for those regressions employing five and eight years of data. Therefore, the overall balance of the evidence provided by these tests shows that bond returns generally exceed expectations. However, the Bonferroni procedure indicates that the intervals for the intercept term contain zero for all variations of the equations that we estimate for the bond return model. Moreover, the intervals for the slope coefficient contain one when non-overlapping samples are used. Therefore, the joint test provides evidence that bond returns meet investor expectations.

6.3 Equity Premiums

6.3.1 One-Year Horizon (Arnott and Bernstein)

The intercepts for the regressions analyzing the equity premiums are positive and significant for overlapping samples using five, eight, and ten years of data to form averages. They are also positive and significant for the non-overlapping samples using only five years of data to form averages. Therefore, actual excess returns systematically surpass investor expectations in this case. The intercepts for the non-overlapping samples employing eight and ten years of data to form averages are insignificant and so it is valid to interpret the slope coefficients in this case. Based on the results, the slope coefficients are greater than one although statistically different than one for eight-year averages and not statistically different from one for ten-year averages. Therefore, the latter would indicate that actual excess returns meet investor expectations and the former would indicate that actual excess returns outperform expectations. The joint test using the Bonferroni procedure show that zero is contained in the confidence interval for the intercept for all the choices of the number of years used to construct averages at conventional levels of significance for non-overlapping samples. One exception arises with the regressions using five-year averages in that only the 99% confidence interval contains zero. For the slope coefficients, the value of one is contained in the intervals for all non-overlapping samples and the overlapping samples using ten years of data to form averages. Based on these tests, there is some evidence that actual excess returns meet investor expectations.

For robustness, the Chow tests indicate that there is a difference between the coefficients estimated with data from the Toronto Stock Exchange and those estimated with data from the Montreal Exchange when overlapping samples are used. The calculated F statistics fail to exceed their critical values when non-overlapping samples are used.

6.3.2 Five-Year Horizon (Arnott and Bernstein)

The intercepts are all positive and significant except for those regressions that use non-overlapping samples with eight years of data to construct averages. As a result, the actual excess returns at this horizon systematically exceed investor risk premium expectations. For those cases where the intercept term is statistically insignificant from zero, the slope coefficients are greater than one although statistically indistinguishable from one. Therefore, these cases provide evidence that actual excess returns did not deviate significantly from investor expectations. When the results from the application of the Bonferroni procedure are examined, the confidence intervals for the intercept generally contain the zero value except for those regressions using overlapping samples. For the slopes, the confidence intervals all contain one except for the regressions using overlapping data with five-year averages. Therefore, the Bonferroni procedure generally produces evidence that indicates that actual excess returns did not deviate significantly from investor expectations.

The Chow test is used to test whether the slope coefficients are different for the regressions using data from the Montreal exchange. In this case, only the regressions using overlapping data produce calculated F statistics that are greater than their critical values. These are the only tests that imply that the coefficients estimated with data from the Toronto Stock Exchange are statistically different from those estimated with data from the Montreal Exchange.

6.3.3 One-Year Horizon (Implied Risk Premium Methodology)

The intercepts for the regressions that use the implied risk premium methodology are positive and significant in five of the twelve cases that use the data from the Toronto Stock Exchange. In all cases, the slope coefficients are positive and significant, but indistinguishable from one. When the Bonferroni confidence intervals are used, similar inferences are made. Specifically, all of the confidence intervals for all of the permutations of the equations that are estimated contain the zero value for the intercept term and one for the slope term. Therefore, it can be inferred that actual excess returns do not deviate significantly from investor expectations when the implied risk premium methodology is used to gauge investor expectations. The Chow test is used next to check for the robustness of the coefficient estimates with respect to the stock exchange used to measure the premia. This test shows that the coefficients are similar across all permutations of the equation that we estimate. Therefore, in this case, the effect of the stock exchange is not significant.

6.3.4 Five-Year Horizon (Implied Risk Premium Methodology)

The intercept terms in this case are positive and significant in four out of the twelve cases using data from the Toronto Stock Exchange. Therefore, it may be inferred that actual excess returns are systematically higher, on average, than investor expectations. In all cases, the slope parameter estimates are positive and significant at conventional levels although they are statistically indistinguishable from one. Thus, for the cases that show an intercept term that is statistically insignificant, there is evidence indicating that actual excess returns do not deviate significantly from investor expectations. Furthermore, this inference is confirmed by the confidence intervals from the Bonferroni procedure. Specifically, the intervals contain zero with respect to the intercept term and one for the slope term. The robustness check used to test the effect of the stock exchange used to measure the premia shows that the coefficients estimated with data from the Montreal Exchange are similar to those estimated with data from the Toronto Stock Exchange.

7. CONCLUSIONS

We have measured the equity risk premium in Canada over a period that includes a period that has been neglected to date. Specifically, we investigate the equity risk premium over the 1923-2001 period with data from both the Toronto Stock Exchange and the Montreal Exchange. We use two methodologies to obtain estimates of the expectations of investors regarding the equity risk premium. The first is the model developed by Arnott and Bernstein (2002) and the second is an implied risk premium methodology. Variations in our methodology include the specific index used to proxy for the market portfolio, the number of years used to form an expectation for our growth variables, the type of average, and the effect of dilution.

There is somewhat conflicting evidence on whether actual excess returns deliver the returns that investors expect. Because many of the intercept terms in our regressions are significantly greater than zero, there is evidence of actual excess returns systematically outperforming investor expectations. However, the joint test employing the more conservative Bonferroni procedure shows that actual excess returns do not deviate significantly from equity risk premium expectations.

The effect of the stock exchange used to measure the premium also provides mixed results. When overlapping samples are used with the Arnott and Bernstein model, the effect is significant. However, the effect becomes statistically unimportant when non-overlapping samples or the implied risk premium methodology are used.

Bagwell and Shoven (1989) propose that estimates of returns to shareholders should include cash received via acquisitions and share repurchases. However, as pointed out by others, the number of shares repurchased is usually much smaller than what management originally intends to buy back. Moreover, share repurchases are offset by share issuances. Based on these arguments it seems plausible that the effect of these cash flows may be overestimated. However, the investigation of this effect is left to future research.

As was mentioned earlier in the paper, we are in the process of augmenting this study with newer data that track the performance of the Canadian market in the earlier part of our sample period. This should help to improve the estimates derived since the data reported by the Canadian Institute of Actuaries uses U.S. data for dividends based on a very crude approximation method.

Finally, as another avenue of investigation, we propose the assessment of investors' expectations through the use of survey techniques. This method is beginning to find acceptance in the U.S. as Graham and Harvey (2001) are conducting multiple surveys of Chief Financial Officers of U.S. corporations. A similar study in Canada would help fill a void in the literature that may permit new insights about how investors form their expectations.

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Table 1: Data Sources Used to Build the Data Provided by the Canadian Institute of Actuaries

Variable	Time Period	Data Source
Dividend Yield, Annual Averages [EDY(t)]	January 1923-December 1933	Ibbotson & Sinquefield (1977)
	January 1934-December 1955	Urquhart & Buckley H617
	January 1956-December 2001	CANSIM B4245
GNP, GDP [ERGDP(t)]	1923-1927 (GNP)	Firestone
	1926-1947 (GNP)	CANSIM D31295
	1947-4th Q 1960 (GDP)	CANSIM D20011
	1960-4th Q 2001 (GDP)	CANSIM D14840
Employed [ERGDP(t)]	1923-1953	Urquhart & Buckley C51
	December 1953-December 1965	CANSIM D755002
	December 1966-December 1975	CANSIM D767286
	December 1976-December 2001	CANSIM D980595
Government of Canada Long Bond Index [BY(t)]	December 1923-December1936	Bank of Canada (1979)
	December 1936-December 2001	CANSIM B14013
Consumer Price Index [EINFL(t)]	December 1923-December 2001	CANSIM P100000

Table 2: Descriptive Statistics for the Arnott and Bernstein Model

The numbers of observations, mean, median, minimum, and maximum values for each series for which regressions are performed are shown in this table. The values under the ARP column are the actual risk premia obtained during the year after the expectations are formed using the Arnott and Bernstein model. These expected equity risk premia are reported under the column headed by ERP. Columns (1)-(4) are based on the arithmetic means, and columns (5)-(8) are based on the geometric means. Columns (1), (2), (5) and (6) have dilution, and columns (3), (4), (7) and (8) have no dilution.

Statistic	Arithmetic Mean				Geometric Mean			
	Dilution		No Dilution		Dilution		No Dilution	
Panel A: Overlapping with 5 year averages and CIA data								
	ARP	ERP	ARP	ERP	ARP	ERP	ARP	ERP
# obs.	865	865	865	865	865	865	865	865
Mean	6.20	1.81	6.20	3.24	6.20	1.26	6.20	3.18
Median	6.43	1.62	6.43	3.06	6.43	1.12	6.43	3.05
Min	-43.20	-9.67	-43.20	-8.24	-43.20	-10.36	-43.20	-8.43
Max	69.01	15.03	69.01	16.46	69.01	14.47	69.01	16.39
Panel B: Overlapping with 8 year averages and CIA data								
# obs.	829	829	829	829	829	829	829	829
Mean	7.79	2.02	7.79	3.46	7.79	1.45	7.79	3.37
Median	7.29	1.78	7.29	3.21	7.29	1.27	7.29	3.20
Min	-43.20	-5.46	-43.20	-4.03	-43.20	-6.16	-43.20	-4.24
Max	69.01	11.43	69.01	12.86	69.01	10.85	69.01	12.77
Panel C: Overlapping with 10 year averages and CIA data								
# obs.	805	805	805	805	805	805	805	805
Mean	7.55	2.25	7.55	3.68	7.55	1.67	7.55	3.59
Median	7.18	1.81	7.18	3.24	7.18	1.31	7.18	3.24
Min	-43.20	-4.34	-43.20	-2.91	-43.20	-4.85	-43.20	-2.92
Max	69.01	10.66	69.01	12.09	69.01	9.90	69.01	11.82

Table 2. Continued

Statistic	Arithmetic Mean				Geometric Mean			
	Dilution		No Dilution		Dilution		No Dilution	
Panel D: Overlapping with 5 year averages and MII data								
	ARP	ERP	ARP	ERP	ARP	ERP	ARP	ERP
# obs.	865	865	865	865	865	865	865	865
Mean	3.77	1.81	3.77	3.29	3.77	1.14	3.77	3.23
Median	3.34	1.52	3.34	3.01	3.34	0.89	3.34	2.98
Min	-48.97	-9.72	-48.97	-8.24	-48.97	-10.52	-48.97	-8.43
Max	80.22	14.98	80.22	16.46	80.22	14.31	80.22	16.39
Panel E: Overlapping with 8 year averages and MII data								
# obs.	829	829	829	829	829	829	829	829
Mean	5.25	2.01	5.25	3.49	5.25	1.32	5.25	3.41
Median	3.89	1.67	3.89	3.16	3.89	1.05	3.89	3.14
Min	-48.97	-5.51	-48.97	-4.03	-48.97	-6.32	-48.97	-4.24
Max	80.22	11.38	80.22	12.86	80.22	10.68	80.22	12.77
Panel F: Overlapping with 10 year averages and MII data								
# obs.	805	805	805	805	805	805	805	805
Mean	4.94	2.23	4.94	3.71	4.94	1.54	4.94	3.62
Median	3.64	1.69	3.64	3.18	3.64	1.09	3.64	3.17
Min	-48.97	-4.08	-48.97	-2.60	-48.97	-4.88	-48.97	-2.79
Max	80.22	10.61	80.22	12.09	80.22	9.74	80.22	11.82
Panel G: Overlapping with 5 year averages and MCI data								
# obs.	865	865	865	865	865	865	865	865
Mean	3.73	2.02	3.73	3.40	3.73	1.47	3.73	3.34
Median	3.53	1.91	3.53	3.29	3.53	1.39	3.53	3.27
Min	-46.86	-9.62	-46.86	-8.24	-46.86	-10.31	-46.86	-8.43
Max	61.66	15.08	61.66	16.46	61.66	14.52	61.66	16.39
Panel H: Overlapping with 8 year averages and MCI data								
# obs.	829	829	829	829	829	829	829	829
Mean	5.21	2.23	5.21	3.61	5.21	1.65	5.21	3.53
Median	4.32	1.94	4.32	3.32	4.32	1.43	4.32	3.30
Min	-46.86	-5.41	-46.86	-4.03	-46.86	-6.11	-46.86	-4.24
Max	61.66	11.49	61.66	12.86	61.66	10.90	61.66	12.77
Panel G: Overlapping with 10 year averages and MCI data								
# obs.	805	805	805	805	805	805	805	805
Mean	4.89	2.45	4.89	3.83	4.89	1.87	4.89	3.74
Median	4.13	1.98	4.13	3.36	4.13	1.47	4.13	3.35
Min	-46.86	-3.98	-46.86	-2.60	-46.86	-4.67	-46.86	-2.79
Max	61.66	10.72	61.66	12.09	61.66	9.95	61.66	11.82

Table 3: Descriptive Statistics for the Implied Risk Premium Methodology

The numbers of observations, mean, median, minimum, and maximum values for each series for which regressions are performed are shown in this table. The values under the ARP column are the actual risk premia obtained during the year after the expectations are formed using the implied risk premium methodology. These expected equity risk premia are reported under the column headed by ERP. Columns (1)-(4) are based on the arithmetic means, and columns (5)-(8) are based on the geometric means. Columns (1), (2), (5) and (6) have dilution, and columns (3), (4), (7) and (8) have no dilution.

Statistic	Arithmetic Mean				Geometric Mean			
	Dilution		No Dilution		Dilution		No Dilution	
Panel A: Overlapping with 5 year averages and CIA data								
	ARP	ERP	ARP	ERP	ARP	ERP	ARP	ERP
# obs.	73	73	73	73	73	73	73	73
Mean	6.62	3.06	6.62	4.05	6.62	2.29	6.62	3.83
Median	4.64	2.74	4.64	3.58	4.64	1.67	4.64	3.31
Min	-29.57	-6.44	-29.57	-5.51	-29.57	-7.95	-29.57	-6.47
Max	51.41	15.77	51.41	16.60	51.41	15.11	51.41	16.39
Panel B: Overlapping with 8 year averages and CIA data								
# obs.	70	70	70	70	70	70	70	70
Mean	7.86	3.10	7.86	4.09	7.86	2.31	7.86	3.85
Median	6.28	2.79	6.28	3.83	6.28	2.19	6.28	3.79
Min	-27.01	-4.74	-27.01	-3.59	-27.01	-5.82	-27.01	-4.27
Max	51.41	12.60	51.41	13.51	51.41	11.62	51.41	13.04
Panel C: Overlapping with 10 year averages and CIA data								
# obs.	68	68	68	68	68	68	68	68
Mean	7.33	3.02	7.33	4.02	7.33	2.22	7.33	3.78
Median	6.28	2.50	6.28	3.52	6.28	1.89	6.28	3.42
Min	-27.01	-4.54	-27.01	-3.41	-27.01	-5.19	-27.01	-3.44
Max	51.41	11.93	51.41	12.83	51.41	11.00	51.41	12.37

Table 3. Continued.

Statistic	Arithmetic Mean				Geometric Mean			
	Dilution		No Dilution		Dilution		No Dilution	
Panel D: Overlapping with 5 year averages and MII data								
	ARP	ERP	ARP	ERP	ARP	ERP	ARP	ERP
# obs.	73	73	73	73	73	73	73	73
Mean	4.12	2.88	4.12	3.67	4.12	1.84	4.12	3.39
Median	1.46	2.63	1.46	3.32	1.46	1.06	1.46	2.55
Min	-36.93	-6.44	-36.93	-5.51	-36.93	-7.95	-36.93	-6.47
Max	53.81	15.77	53.81	16.60	53.81	15.11	53.81	16.39
Panel E: Overlapping with 8 year averages and MII data								
# obs.	70	70	70	70	70	70	70	70
Mean	5.25	2.92	5.25	3.70	5.25	1.84	5.25	3.41
Median	2.45	2.50	2.45	3.19	2.45	1.33	2.45	2.96
Min	-36.93	-4.58	-36.93	-3.59	-36.93	-5.82	-36.93	-4.27
Max	53.81	12.60	53.81	13.51	53.81	11.62	53.81	13.04
Panel F: Overlapping with 10 year averages and MII data								
# obs.	68	68	68	68	68	68	68	68
Mean	4.65	2.84	4.65	3.62	4.65	1.74	4.65	3.32
Median	2.45	2.62	2.45	3.29	2.45	1.51	2.45	3.12
Min	-36.93	-3.90	-36.93	-2.99	-36.93	-4.73	-36.93	-3.03
Max	53.81	11.93	53.81	12.83	53.81	11.00	53.81	12.37
Panel G: Overlapping with 5 year averages and MCI data								
# obs.	73	73	73	73	73	73	73	73
Mean	4.10	2.87	4.10	3.75	4.10	2.03	4.10	3.52
Median	1.46	2.32	1.46	3.16	1.46	1.56	1.46	3.08
Min	-33.31	-6.44	-33.31	-5.51	-33.31	-7.95	-33.31	-6.47
Max	51.35	15.77	51.35	16.60	51.35	15.11	51.35	16.39
Panel H: Overlapping with 8 year averages and MCI data								
# obs.	70	70	70	70	70	70	70	70
Mean	5.23	2.92	5.23	3.79	5.23	2.06	5.23	3.54
Median	2.34	2.74	2.34	3.56	2.34	2.00	2.34	3.50
Min	-33.31	-4.58	-33.31	-3.59	-33.31	-5.82	-33.31	-4.27
Max	51.35	12.60	51.35	13.51	51.35	11.62	51.35	13.04
Panel G: Overlapping with 10 year averages and MCI data								
# obs.	68	68	68	68	68	68	68	68
Mean	4.62	2.84	4.62	3.72	4.62	1.97	4.62	3.47
Median	2.34	2.47	2.34	3.28	2.34	1.70	2.34	3.20
Min	-33.31	-3.90	-33.31	-2.99	-33.31	-4.62	-33.31	-3.03
Max	42.69	11.93	42.69	12.83	42.69	11.00	42.69	12.37

Table 4: Regression Output of the Relationship Between Actual and Expected Real Stock Returns, (One-Year Horizon)

This table presents the results of the regression ARSR[t+0, t+1] = β_0 + β_1ERSR(t) + ε(t). Under the Regression heading, 'over' refers to the use of an overlapping sample, 'non-over' to an non-overlapping sample, 'diltn' to an adjustment for dilution, 'no diltn' to no adjustment for dilution, 'arith' for an arithmetic average, 'geom' for a geometric average, and '5yr,' '8yr,' and '10yr' refer to the number of years used to form the arithmetic or geometric average. 'SW' refers to the Shapiro-Wilk test statistic to assess the normality of the error terms in the regressions. 'DW' refers to the Durbin-Watson statistic to determine autocorrelation, and $\chi 2$ is the Chi-Square statistic from the Breusch-Pagan test used to assess the presence of heteroscedasticity. 'Slope Test' is the calculated t-statistic used to assess whether the slope coefficients differ significantly from one. The standard errors of the parameter estimates are found under the values of the estimated coefficients. *, **, and *** indicates significance at the ten, five, and one percent level, respectively.

Regression	Intercept	Slope	N	Model Sign. (Pr>F)	Adj. R2	SW (Pr<W)	DW	χ^2	Slope Test
Panel A: CIA stock returns									
Over; dilutn; arith.; 5yr	11.40309*** 1.05356	-0.44011** 0.18446	865	0.0172	0.0054	0.005	0.107	16.61	7.81***
non-over dilutn arith. 5yr	16.97242*** 5.38408	-1.25493 0.91556	37	0.1792	0.0238	0.9256	2.302	0.005	2.46**
over no dilutn arith. 5yr	12.03346*** 1.28106	-0.44011** 0.18446	865	0.0172	0.0054	0.005	0.107	16.61	7.81***
non-over no dilutn arith. 5yr	18.76983*** 6.50966	-1.25493 0.91556	37	0.1792	0.0238	0.9256	2.302	0.005	2.46**
over dilutn geom. 5yr	11.16085*** 0.97757	-0.43728** 0.1852	865	0.0184	0.0053	0.0049	0.107	16.82	7.76***
non-over dilutn geom. 5yr	16.29247*** 5.00491	-1.25261 0.92034	37	0.1822	0.0231	0.9299	2.303	0.008	2.45**
over no dilutn geom. 5yr	12.00215*** 1.27993	-0.43728** 0.1852	865	0.0184	0.0053	0.0049	0.107	16.82	7.76***
non-over no dilutn geom. 5yr	18.70243*** 6.50243	-1.25261 0.92034	37	0.1822	0.0231	0.9299	2.303	0.008	2.45**
over dilutn arith. 8yr	13.55591*** 1.17464	-0.61483*** 0.21162	829	0.0038	0.0089	0.0053	0.122	14.34	7.63***
non-over dilutn arith. 8yr	7.03011 5.32474	0.27904 0.95728	35	0.7725	-0.0277	0.6445	2.47	0.376	0.75
over no dilutn arith. 8yr	14.43652*** 1.44663	-0.61483*** 0.21162	829	0.0038	0.0089	0.0053	0.122	14.34	7.63***
non-over no dilutn arith. 8yr	6.63045 6.55371	0.27904 0.95728	35	0.7725	-0.0277	0.6445	2.47	0.376	0.75
over dilutn geom. 8yr	13.27272*** 1.08425	-0.6256*** 0.21358	829	0.0035	0.0091	0.0053	0.122	14.21	7.61***

Table 4. Continued.

Regression	Intercept	Slope	N	Model Sign. (Pr>F)	Adj. R2	SW (Pr<W)	DW	χ^2	Slope Test
non-over dilutn geom. 8yr	7.24342 4.9161	0.26501 0.96873	35	0.7861	-0.028	0.6472	2.469	0.376	0.76
over no dilutn geom. 8yr	14.47635*** 1.4492	-0.6256*** 0.21358	829	0.0035	0.0091	0.0053	0.122	14.21	7.61***
non-over no dilutn geom. 8yr	6.73355 6.56942	0.26501 0.96873	35	0.7861	-0.028	0.6472	2.469	0.376	0.76
over dilutn arith. 10yr	10.82113*** 1.26982	-0.17103 0.22978	805	0.4569	-0.0006	0.0014	0.127	20.4	5.1***
non-over dilutn arith. 10yr	5.61409 5.90629	0.62144 1.06854	34	0.5649	-0.0205	0.6666	2.449	0.111	0.35
over no dilutn arith. 10yr	11.0661*** 1.57056	-0.17103 0.22978	805	0.4569	-0.0006	0.0014	0.127	20.4	5.1***
non-over no dilutn arith. 10yr	4.72402 7.30466	0.62143 1.06854	34	0.5649	-0.0205	0.6666	2.449	0.111	0.35
over dilutn geom. 10yr	10.70445*** 1.17215	-0.16551 0.23286	805	0.4774	-0.0006	0.0014	0.127	20.4	5.01***
non-over dilutn geom. 10yr	5.96163 5.45198	0.62063 1.08603	34	0.5717	-0.0208	0.6654	2.448	0.107	0.35
over no dilutn geom. 10yr	11.02289*** 1.57825	-0.16551 0.23286	805	0.4774	-0.0006	0.0014	0.127	20.4	5.01***
non-over no dilutn geom. 10yr	4.76756 7.34588	0.62063 1.08603	34	0.5717	-0.0208	0.6654	2.448	0.107	0.35
Panel B: MII stock returns									
over dilutn arith. 5yr	7.66059*** 1.06951	-0.1631 0.18818	865	0.3863	-0.0003	0.1141	0.11	23.09	6.18***
non-over dilutn arith. 5yr	13.0351** 5.54235	-0.94046 0.94644	37	0.3272	-0.0003	0.6251	2.361	0.203	2.05**
over no dilutn arith. 5yr	7.90269*** 1.31114	-0.1631 0.18818	865	0.3863	-0.0003	0.1141	0.11	23.09	6.18***
non-over no dilutn arith. 5yr	14.43105** 6.75458	-0.94046 0.94644	37	0.3272	-0.0003	0.6251	2.361	0.203	2.05**
over dilutn geom. 5yr	7.55882*** 0.9751	-0.16345 0.18893	865	0.3872	-0.0003	0.1143	0.11	23.2	6.16***
non-over dilutn geom. 5yr	12.43736** 5.06395	-0.94217 0.95113	37	0.3287	-0.0005	0.6315	2.362	0.218	2.04**
over no dilutn geom. 5yr	7.89967*** 1.30996	-0.16345 0.18893	865	0.3872	-0.0003	0.1143	0.11	23.2	6.16***
non-over no dilutn geom. 5yr	14.40214** 6.74546	-0.94217 0.95113	37	0.3287	-0.0005	0.6315	2.362	0.218	2.04**

Table 4. Continued.

Regression	Intercept	Slope	N	Model Sign. (Pr>F)	Adj. R2	SW (Pr<W)	DW	χ^2	Slope Test
over dilutn arith. 8yr	9.20082***	-0.2399	829	0.2745	0.0002	0.0184	0.122	22.37	5.65***
	1.20991	0.21941							
non-over dilutn arith. 8yr	3.24656	0.51112	35	0.6186	-0.0225	0.645	2.445	0.195	0.48
	5.62533	1.01704							
over no dilutn arith. 8yr	9.55692***	-0.2399	829	0.2745	0.0002	0.0184	0.122	22.37	5.65***
	1.50322	0.21941							
non-over no dilutn arith. 8yr	2.48789	0.51112	35	0.6186	-0.0225	0.645	2.445	0.195	0.48
	6.985	1.01704							
over dilutn geom. 8yr	9.11111***	-0.25547	829	0.2491	0.0004	0.0188	0.122	22.19	5.67***
	1.09545	0.22148							
non-over dilutn geom. 8yr	3.67137	0.48995	35	0.6373	-0.0233	0.6457	2.443	0.198	0.5
	5.09541	1.02972							
over no dilutn geom. 8yr	9.64386***	-0.25547	829	0.2491	0.0004	0.0188	0.122	22.19	5.67***
	1.50625	0.22148							
non-over no dilutn geom. 8yr	2.64964	0.48995	35	0.6373	-0.0233	0.6457	2.443	0.198	0.5
	7.00541	1.02972							
over dilutn arith. 10yr	5.82086***	0.3147	805	0.1827	0.001	0.0109	0.13	29.63	2.9***
	1.29442	0.23597							
non-over dilutn arith. 10yr	1.2913	0.94474	34	0.4128	-0.0095	0.8504	2.417	0.034	0.05
	6.25119	1.13847							
over no dilutn arith. 10yr	5.35374***	0.3147	805	0.1827	0.001	0.0109	0.13	29.63	2.9***
	1.61543	0.23597							
non-over no dilutn arith. 10yr	-0.11101	0.94474	34	0.4128	-0.0095	0.8504	2.417	0.034	0.05
	7.80166	1.13847							
over dilutn geom. 10yr	6.01207***	0.31782	805	0.1844	0.001	0.0108	0.13	29.53	2.85***
	1.17126	0.23922							
non-over dilutn geom. 10yr	1.95403	0.93621	34	0.4248	-0.0106	0.8505	2.415	0.033	0.06
	5.6583	1.15812							
over no dilutn geom. 10yr	5.3493***	0.31782	805	0.1844	0.001	0.0108	0.13	29.53	2.85***
	1.62396	0.23922							
non-over no dilutn geom. 10yr	0.00169	0.93621	34	0.4248	-0.0106	0.8505	2.415	0.033	0.06
	7.85274	1.15812							
Panel C: MCI stock returns									
over dilutn arith. 5yr	7.6924***	-0.17034	865	0.3551	-0.0002	0.0434	0.106	21.01	6.36***
	1.07495	0.1841							
non-over dilutn arith. 5yr	12.62263**	-0.89901	37	0.3376	-0.0015	0.5767	2.303	0.207	2.05**
	5.55513	0.92473							
over no dilutn arith. 5yr	7.92714***	-0.17034	865	0.3551	-0.0002	0.0434	0.106	21.01	6.36***
	1.29692	0.1841							
non-over no dilutn arith. 5yr	13.86159**	-0.89901	37	0.3376	-0.0015	0.5767	2.303	0.207	2.05**
	6.66671	0.92473							

Table 4. Continued.

Regression	Intercept	Slope	N	Model Sign. (Pr>F)	Adj. R2	SW (Pr<W)	DW	χ^2	Slope Test
over dilutn geom. 5yr	7.60409*** 0.99659	-0.17068 0.1848	865	0.356	-0.0002	0.0434	0.106	21.19	6.33***
non-over dilutn geom. 5yr	12.14685** 5.1584	-0.90071 0.92915	37	0.339	-0.0017	0.583	2.304	0.225	2.05**
over no dilutn geom. 5yr	7.92391*** 1.29566	-0.17068 0.1848	865	0.356	-0.0002	0.0434	0.106	21.19	6.33***
non-over no dilutn geom. 5yr	13.83461** 6.6573	-0.90071 0.92915	37	0.339	-0.0017	0.583	2.304	0.225	2.05**
over dilutn arith. 8yr	9.45512*** 1.22398	-0.28784 0.21547	829	0.182	0.0009	0.0129	0.119	19.81	5.98
non-over dilutn arith. 8yr	4.00107 5.69887	0.41574 1.00062	35	0.6805	-0.0249	0.657	2.428	0.237	0.58
over no dilutn arith. 8yr	9.8518*** 1.49412	-0.28784 0.21547	829	0.182	0.0009	0.0129	0.119	19.81	5.98***
non-over no dilutn arith. 8yr	3.42813 6.95323	0.41574 1.00062	35	0.6805	-0.0249	0.657	2.428	0.237	0.58
over dilutn geom. 8yr	9.37562*** 1.12965	-0.30467 0.21747	829	0.1616	0.0012	0.0133	0.119	19.68	6***
non-over dilutn geom. 8yr	4.33686 5.26221	0.3922 1.01289	35	0.7011	-0.0256	0.6613	2.427	0.238	0.6
over no dilutn geom. 8yr	9.94652*** 1.49711	-0.30467 0.21747	829	0.1616	0.0012	0.0133	0.119	19.68	6***
non-over no dilutn geom. 8yr	3.60194 6.97358	0.3922 1.01289	35	0.7011	-0.0256	0.6613	2.427	0.238	0.6
over dilutn arith. 10yr	5.86706*** 1.3155	0.28361 0.23255	805	0.223	0.0006	0.012	0.128	28.01	3.08***
non-over dilutn arith. 10yr	2.07235 6.38733	0.82874 1.12839	34	0.468	-0.0142	0.8482	2.397	0.027	0.15
over no dilutn arith. 10yr	5.47621*** 1.61204	0.28361 0.23255	805	0.223	0.0006	0.012	0.128	28.01	3.08***
non-over no dilutn arith. 10yr	0.93023 7.82748	0.82874 1.12839	34	0.468	-0.0142	0.8482	2.397	0.027	0.15
over dilutn geom. 10yr	6.01194*** 1.21489	0.28569 0.23577	805	0.226	0.0006	0.012	0.128	28.05	3.03***
non-over dilutn geom. 10yr	2.59165 5.9018	0.81628 1.14791	34	0.4822	-0.0152	0.8471	2.395	0.024	0.16
over no dilutn geom. 10yr	5.47661*** 1.62093	0.28569 0.23577	805	0.226	0.0006	0.012	0.128	28.05	3.03***
non-over no dilutn geom. 10yr	1.0621 7.8808	0.81628 1.14791	34	0.4822	-0.0152	0.8471	2.395	0.024	0.16

Table 5. Regression Output for the Relationship Between Actual and Expected Real Bond Returns, (One-Year Horizon)

This table presents the results of the regression ARBR[t+0, t+1] = $\beta_0 + \beta_1$ERBR(t) + ε(t). Under the Regression heading, "overlapping" refers to the use of overlapping data, "non-overlapping" to the use of not overlapping data; "arithmetic" to the use of an arithmetic average, "geometric" to the use of a geometric average, and "5yr", "8yr" and "10yr" refer to the number of years used to form the respective average. "SW" refers to the Shapiro-Wilk test statistic to assess the normality of the error terms in the regressions. "DW" refers to the Durbin-Watson statistic to determine autocorrelation. "χ^2" is the Chi-Square statistic from the Breusch-Pagan test used to assess the presence of heteroscedasticity. "Slope Test" is the calculated t-statistic used to assess whether the slope coefficients differ significantly from one. The standard errors of the parameter estimates are found under the values of the estimated coefficients. *, **, and *** indicate significance at the ten, five, and one percent levels, respectively.

Regression	Intercept	Slope	N	Model Sign. (Pr>F)	Adj. R^2	SW (Pr<W)	DW	χ^2	Slope Test
Overlapping; arithmetic; 5yr	-0.80958**	1.34583***	865	<.0001	0.2413	<0.0001	0.024	0.183	4.268***
	0.34532	0.08103							
Non-overlapping; arithmetic; 5yr	-2.59195	1.41708***	37	0.0056	0.1764	0.2705	1.606	2.4	0.869
	2.03519	0.48021							
Overlapping; geometric; 5yr	-0.87345**	1.35283***	865	<.0001	0.2424	<0.0001	0.024	0.159	4.344***
	0.34737	0.08122							
Non-overlapping; geometric; 5yr	-2.66097	1.42518***	37	0.0055	0.1771	0.2757	1.603	2.483	0.882
	2.04879	0.48183							
Overlapping; arithmetic; 8yr	-0.89286**	1.3075***	829	<.0001	0.1872	<0.0001	0.021	0.466	3.256***
	0.37538	0.09443							
Non-overlapping; arithmetic; 8yr	0.66198	1.28559**	35	0.0359	0.1002	0.3521	2.083	0.899	0.486
	2.33023	0.58772							
Overlapping; geometric; 8yr	-0.95695**	1.31178***	829	<.0001	0.1869	<0.0001	0.021	0.488	3.287***
	0.37893	0.09485							
Non-overlapping; geometric; 8yr	0.5838	1.29448**	35	0.0354	0.1009	0.3399	2.085	0.97	0.499
	2.35156	0.58997							
Overlapping; arithmetic; 10yr	-0.71991*	1.1749***	805	<.0001	0.1322	<0.0001	0.021	0.051	1.654*
	0.39307	0.10574							
Non-overlapping; arithmetic; 10yr	0.79557	1.10612*	34	0.094	0.0566	0.319	2.169	0.812	0.166
	2.39229	0.64083							
Overlapping; geometric; 10yr	-0.77072*	1.17566***	805	<.0001	0.1308	<0.0001	0.021	0.025	1.65*
	0.39781	0.10645							
Non-overlapping; geometric; 10yr	0.74111	1.10847*	34	0.0951	0.056	0.3058	2.168	0.889	0.168
	2.42027	0.64457							

Table 6: Regression Output of the Relationship Between Actual and Expected Equity Premia (Arnott and Bernstein), (One-Year Horizon)

This table presents the results of the regression ARP[t+0, t+1]= $\beta_0 + \beta_1$ERP(t) + ε(t). Under the Regression heading, 'over' refers to the use of an overlapping sample, 'diltn' to an adjustment for dilution, 'arith' for an arithmetic average, 'geom' for a geometric average, and '5yr,' '8yr,' and '10yr' refer to the number of years used to form an average. 'SW' refers to the Shapiro-Wilk test statistic to assess the normality of the error term in the regressions. 'DW' refers to the Durbin-Watson statistic to determine autocorrelation and $\chi 2$ is the Chi-Square statistic from the Breusch-Pagan test used to assess the presence of heteroscedasticity. 'Slope Test' is the calculated t-statistic used to assess whether the slope coefficients differ significantly from one. The standard errors of the parameter estimates are found under the values of the estimated coefficients and *, **, and *** indicates significance at the ten, five, and one percent level, respectively.

Regression	Intercept	Slope	N	Model Sign. (Pr>F)	Adj. R^2	SW (Pr<W)	DW	χ^2	Slope Test
Panel A: CIA stock returns									
over dilutn arith. 5yr	5.32746***	0.4801***	865	<.0001	0.0193	0.0223	0.097	19.67	4.59***
	0.66102	0.11318							
non-over dilutn arith. 5yr	9.26166***	-0.00574	37	0.992	-0.0286	0.7636	2.312	1.827	1.78*
	3.31818	0.56641							
over no dilutn arith. 5yr	4.63983***	0.4801***	865	<.0001	0.0193	0.0223	0.097	19.67	4.59***
	0.72779	0.11318							
non-over no dilutn arith. 5yr	9.26988**	-0.00574	37	0.992	-0.0286	0.7636	2.312	1.827	1.78*
	3.6606	0.56641							
over dilutn geom. 5yr	5.59378***	0.48036***	865	<.0001	0.0192	0.0235	0.097	19.56	4.58***
	0.64444	0.11355							
non-over dilutn geom. 5yr	9.26077***	-0.00752	37	0.9895	-0.0286	0.7654	2.312	1.891	1.77*
	3.23025	0.56899							
over no dilutn geom. 5yr	4.66959***	0.48036***	865	<.0001	0.0192	0.0235	0.097	19.56	4.58***
	0.72481	0.11355							
non-over no dilutn geom. 5yr	9.27524**	-0.00752	37	0.9895	-0.0286	0.7654	2.312	1.891	1.77*
	3.64361	0.56899							
over dilutn arith. 8yr	6.63664***	0.56901***	829	<.0001	0.0262	0.0002	0.117	6.968	3.65***
	0.64054	0.11801							
non-over dilutn arith. 8yr	1.55843	1.25253**	35	0.0452	0.0893	0.1606	2.412	0.273	0.42
	3.25095	0.6016							
over no dilutn arith. 8yr	5.82167***	0.56901***	829	<.0001	0.0262	0.0002	0.117	6.968	3.65***
	0.72083	0.11801							
non-over no dilutn arith. 8yr	-0.23554	1.25253**	35	0.0452	0.0893	0.1606	2.412	0.273	0.42
	3.66297	0.6016							
over dilutn geom. 8yr	6.96255***	0.57014***	829	<.0001	0.0259	0.0002	0.117	6.684	3.62***
	0.61884	0.11884							

Table 6. Continued.

Regression	Intercept	Slope	N	Model Sign. (Pr>F)	Adj. R^2	SW (Pr<W)	DW	χ^2	Slope Test
non-over dilutn geom. 8yr	2.29277	1.2553**	35	0.0465	0.0879	0.154	2.412	0.29	0.421
	3.13927	0.60696							
over no dilutn geom. 8yr	5.86563***	0.57014***	829	<.0001	0.0259	0.0002	0.117	6.684	3.62***
	0.71689	0.11884							
non-over no dilutn geom. 8yr	-0.12236	1.2553**	35	0.0465	0.0879	0.154	2.412	0.29	0.421
	3.64183	0.60696							
over dilutn arith. 10yr	5.72001***	0.81214***	805	<.0001	0.0478	<0.0001	0.122	6.204	1.49
	0.65721	0.12631							
non-over dilutn arith. 10yr	1.94742	1.32078**	34	0.0483	0.0888	0.2356	2.483	0.15	0.499
	3.32913	0.64318							
over no dilutn arith. 10yr	4.5568***	0.81214***	805	<.0001	0.0478	<0.0001	0.122	6.204	1.49
	0.75337	0.12631							
non-over no dilutn arith. 10yr	0.0557	1.32078**	34	0.0483	0.0888	0.2356	2.483	0.15	0.499
	3.81895	0.64318							
over dilutn geom. 10yr	6.17057***	0.82539***	805	<.0001	0.0484	<0.0001	0.122	5.882	1.37
	0.62941	0.12753							
non-over dilutn geom. 10yr	2.72195	1.32933**	34	0.0494	0.0877	0.2342	2.481	0.169	0.506
	3.18781	0.65074							
over no dilutn geom. 10yr	4.58256***	0.82539***	805	<.0001	0.0484	<0.0001	0.122	5.882	1.37
	0.7489	0.12753							
non-over no dilutn geom. 10yr	0.16439	1.32933**	34	0.0494	0.0877	0.2342	2.481	0.169	0.506
	3.79531	0.65074							
Panel B: MII stock returns									
over dilutn arith. 5yr	2.80476***	0.5319***	865	<.0001	0.0235	0.0052	0.102	25.29	4.1***
	0.65646	0.11404							
non-over dilutn arith. 5yr	6.65582*	0.09608	37	0.8682	-0.0278	0.1589	2.393	2.139	1.57
	3.32237	0.57489							
over no dilutn arith. 5yr	2.01524***	0.5319***	865	<.0001	0.0235	0.0052	0.102	25.29	4.1***
	0.72758	0.11404							
non-over no dilutn arith. 5yr	6.5132*	0.09608	37	0.8682	-0.0278	0.1589	2.393	2.139	1.57
	3.69044	0.57489							
over dilutn geom. 5yr	3.16176***	0.52891***	865	<.0001	0.023	0.0057	0.102	25.17	4.12***
	0.63696	0.11443							
non-over dilutn geom. 5yr	6.72645**	0.09132	37	0.8753	-0.0278	0.1585	2.393	2.207	1.57
	3.21738	0.57755							
over no dilutn geom. 5yr	2.0588***	0.52891***	865	<.0001	0.023	0.0057	0.102	25.17	4.12***
	0.72464	0.11443							

Table 6. Continued.

Regression	Intercept	Slope	N	Model Sign. (Pr>F)	Adj. R^2	SW (Pr<W)	DW	χ^2	Slope Test
non-over no dilutn geom. 5yr	6.53601* 3.673	0.09132 0.57755	37	0.8753	-0.0278	0.1585	2.393	2.207	1.57
over dilutn arith. 8yr	3.96639*** 0.64307	0.63992*** 0.12032	829	<.0001	0.0319	<0.0001	0.122	12.36	2.99***
non-over dilutn arith. 8yr	-1.04353 3.28956	1.22571* 0.61836	35	0.0558	0.0793	0.3714	2.397	0.047	0.365
over no dilutn arith. 8yr	3.01653*** 0.72922	0.63992*** 0.12032	829	<.0001	0.0319	<0.0001	0.122	12.36	2.99***
non-over no dilutn arith. 8yr	-2.86289 3.73706	1.22571* 0.61836	35	0.0558	0.0793	0.3714	2.397	0.047	0.365
over dilutn geom. 8yr	4.40991*** 0.6174	0.63597*** 0.12122	829	<.0001	0.031	<0.0001	0.121	11.97	3***
non-over dilutn geom. 8yr	-0.18234 3.15612	1.2223* 0.62427	35	0.0587	0.0769	0.374	2.394	0.056	0.356
over no dilutn geom. 8yr	3.08367*** 0.72541	0.63597*** 0.12122	829	<.0001	0.031	<0.0001	0.121	11.97	3***
non-over no dilutn geom. 8yr	-2.73128 3.717	1.2223* 0.62427	35	0.0587	0.0769	0.374	2.394	0.056	0.356
over dilutn arith. 10yr	2.88617*** 0.65635	0.92003*** 0.12815	805	<.0001	0.0591	<0.0001	0.128	11.87	0.62
non-over dilutn arith. 10yr	-0.75569 3.3889	1.3115* 0.66547	34	0.0575	0.0804	0.3631	2.435	0.021	0.468
over no dilutn arith. 10yr	1.52054** 0.75871	0.92003*** 0.12815	805	<.0001	0.0591	<0.0001	0.128	11.87	0.62
non-over no dilutn arith. 10yr	-2.70239 3.92275	1.3115* 0.66547	34	0.0575	0.0804	0.3631	2.435	0.021	0.468
over dilutn geom. 10yr	3.50954*** 0.62363	0.92823*** 0.12948	805	<.0001	0.059	<0.0001	0.128	11.4	0.55
non-over dilutn geom. 10yr	0.16872 3.2189	1.31289* 0.67389	34	0.0602	0.0781	0.358	2.43	0.03	0.464
over no dilutn geom. 10yr	1.57384** 0.75454	0.92823*** 0.12948	805	<.0001	0.059	<0.0001	0.128	11.4	0.55
non-over no dilutn geom. 10yr	-2.56915 3.90077	1.31289* 0.67389	34	0.0602	0.0781	0.358	2.43	0.03	0.464
Panel C: MCI stock returns									
over dilutn arith. 5yr	2.64451*** 0.636	0.53462*** 0.10937	865	<.0001	0.0258	0.1654	0.1	33.1	4.26***
non-over dilutn arith. 5yr	6.20681* 3.20244	0.10936 0.54842	37	0.8431	-0.0274	0.4162	2.373	3.134	1.62

Table 6. Continued.

Regression	Intercept	Slope	N	Model Sign. (Pr>F)	Adj. R^2	SW (Pr<W)	DW	χ^2	Slope Test
over no dilutn arith. 5yr	1.90773*** 0.70283	0.53462*** 0.10937	865	<.0001	0.0258	0.1654	0.1	33.1	4.26***
non-over no dilutn arith. 5yr	6.0561* 3.54511	0.10936 0.54842	37	0.8431	-0.0274	0.4162	2.373	3.134	1.62
over dilutn geom. 5yr	2.9483*** 0.61765	0.53139*** 0.10974	865	<.0001	0.0253	0.1731	0.1	33.11	4.27***
non-over dilutn geom. 5yr	6.27724* 3.10505	0.10402 0.55089	37	0.8513	-0.0275	0.4158	2.373	3.236	1.63
over no dilutn geom. 5yr	1.95257*** 0.69993	0.53139*** 0.10974	865	<.0001	0.0253	0.1731	0.1	33.11	4.27***
non-over no dilutn geom. 5yr	6.08232* 3.52816	0.10402 0.55089	37	0.8513	-0.0275	0.4158	2.373	3.236	1.63
over dilutn arith. 8yr	3.80536*** 0.62085	0.62991*** 0.11475	829	<.0001	0.034	0.0017	0.121	17.06	3.23***
non-over dilutn arith. 8yr	-0.90759 3.21713	1.2161** 0.59712	35	0.0498	0.0847	0.1069	2.367	0.067	0.362
over no dilutn arith. 8yr	2.93726*** 0.70103	0.62991*** 0.11475	829	<.0001	0.034	0.0017	0.121	17.06	3.23***
non-over no dilutn arith. 8yr	-2.58354 3.6382	1.2161** 0.59712	35	0.0498	0.0847	0.1069	2.367	0.067	0.362
over dilutn geom. 8yr	4.17796*** 0.59722	0.62536*** 0.11559	829	<.0001	0.033	0.0019	0.121	16.71	3.24***
non-over dilutn geom. 8yr	-0.1799 3.09285	1.2125* 0.60272	35	0.0525	0.0822	0.1067	2.364	0.076	0.353
over no dilutn geom. 8yr	3.00615*** 0.69735	0.62536*** 0.11559	829	<.0001	0.033	0.0019	0.121	16.71	3.24***
non-over no dilutn geom. 8yr	-2.4519 3.61855	1.2125* 0.60272	35	0.0525	0.0822	0.1067	2.364	0.076	0.353
over dilutn arith. 10yr	2.65618*** 0.6339	0.91177*** 0.12206	805	<.0001	0.0638	0.0002	0.128	15.07	0.72
non-over dilutn arith. 10yr	-0.59737 3.32179	1.28866* 0.64296	34	0.0536	0.0838	0.1161	2.41	0.034	0.449
over no dilutn arith. 10yr	1.39964* 0.72866	0.91177*** 0.12206	805	<.0001	0.0638	0.0002	0.128	15.07	0.72
non-over no dilutn arith. 10yr	-2.37332 3.82251	1.28866* 0.64296	34	0.0536	0.0838	0.1161	2.41	0.034	0.449
over dilutn geom. 10yr	3.17641*** 0.60434	0.91926*** 0.1233	805	<.0001	0.0636	0.0003	0.128	14.64	0.65
non-over dilutn geom. 10yr	0.17584 3.16604	1.28937* 0.65098	34	0.0563	0.0814	0.1112	2.404	0.044	0.445
over no dilutn geom. 10yr	1.45389** 0.72464	0.91926*** 0.1233	805	<.0001	0.0636	0.0003	0.128	14.64	0.65
non-over no dilutn geom. 10yr	-2.2402 3.80117	1.28937* 0.65098	34	0.0563	0.0814	0.1112	2.404	0.044	0.445

Table 7: Regression Output of the Relationship Between Actual and Expected Equity Premia (Implied Risk Premium Methodology), (One-Year Horizon)

This table presents the results of the regression ARP[t+0, t+1]= $\beta_0 + \beta_1$ERP(t) + ε(t). Under the Regression heading, 'over' refers to the use of an overlapping sample, 'diltn' to an adjustment for dilution, 'arith' for an arithmetic average, 'geom' for a geometric average, and '5yr,' '8yr,' and '10yr' refer to the number of years used to form an average. 'SW' refers to the Shapiro-Wilk test statistic to assess the normality of the error term in the regressions. 'DW' refers to the Durbin-Watson statistic to determine autocorrelation and $\chi 2$ is the Chi-Square statistic from the Breusch-Pagan test used to assess the presence of heteroscedasticity. 'Slope Test' is the calculated t-statistic used to assess whether the slope coefficients differ significantly from one. The standard errors of the parameter estimates are found under the values of the estimated coefficients and *, **, and *** indicates significance at the ten, five, and one percent level, respectively.

Regression	Intercept	Slope	N	Model Sign. (Pr>F)	Adj. R^2	SW (Pr<W)	DW	χ^2	Slope Test
Panel A: CIA stock returns									
over dilutn arith. 5yr	3.90699	0.77907*	72	0.0658	0.0339	0.968	1.898	0.051	0.53
	2.615	0.4169							
over no dilutn arith. 5yr	3.14948	0.77588*	72	0.0693	0.0327	0.9704	1.897	0.07	0.53
	2.8542	0.42058							
over dilutn geom. 5yr	4.52009*	0.77297*	72	0.0696	0.0326	0.9672	1.902	0.076	0.54
	2.47414	0.41953							
over no dilutn geom. 5yr	3.35727	0.76711*	72	0.0754	0.0308	0.9692	1.899	0.112	0.55
	2.81011	0.42506							
over dilutn arith. 8yr	5.15341**	0.89662**	69	0.0372	0.0492	0.4883	2.042	0.306	0.25
	2.51786	0.42181							
over no dilutn arith. 8yr	4.26489	0.89639**	69	0.039	0.0481	0.4926	2.04	0.282	0.24
	2.77572	0.42575							
over dilutn geom. 8yr	5.83029**	0.90963**	69	0.0364	0.0497	0.5013	2.045	0.293	0.21
	2.36059	0.42605							
over no dilutn geom. 8yr	4.43658	0.90813**	69	0.0394	0.0478	0.5093	2.041	0.257	0.21
	2.72628	0.43213							
over dilutn arith. 10yr	4.57559*	0.93103**	67	0.0371	0.0508	0.7678	2.061	0.247	0.16
	2.49797	0.43745							
over no dilutn arith. 10yr	3.61038	0.93907**	67	0.0371	0.0508	0.7735	2.062	0.24	0.14
	2.77157	0.44114							
over dilutn geom. 10yr	5.26154**	0.95604**	67	0.0346	0.0525	0.7682	2.065	0.281	0.1
	2.32942	0.44295							
over no dilutn geom. 10yr	3.73028	0.96807**	67	0.0346	0.0525	0.7763	2.066	0.267	0.07
	2.7183	0.44864							
Panel B: MII stock returns									
over dilutn arith. 5yr	1.2297	0.87449**	72	0.0457	0.0423	0.8578	1.957	0.058	0.29
	2.58825	0.42986							
over no dilutn arith. 5yr	0.66843	0.84124*	72	0.0521	0.0393	0.8632	1.954	0.056	0.37
	2.76382	0.42583							
over dilutn geom. 5yr	2.2677	0.81311*	72	0.061	0.0357	0.8715	1.952	0.084	0.44
	2.40384	0.42708							

Table 7. Continued.

Regression	Intercept	Slope	N	Model Sign. (Pr>F)	Adj. R^2	SW (Pr<W)	DW	χ^2	Slope Test
over no dilutn geom. 5yr	1.03723 2.7132	0.80367* 0.43196	72	0.067	0.0335	0.8585	1.95	0.126	0.45
over dilutn arith. 8yr	2.24624 2.50912	1.03791** 0.43613	69	0.0202	0.0642	0.6458	2.058	0.111	0.087
over no dilutn arith. 8yr	1.53518 2.69317	1.01251** 0.43149	69	0.0219	0.0622	0.6577	2.058	0.108	0.029
over dilutn geom. 8yr	3.41443 2.29773	1.01616** 0.43348	69	0.022	0.062	0.6609	2.058	0.075	0.037
over no dilutn geom. 8yr	1.85375 2.63398	1.00939** 0.43923	69	0.0247	0.0592	0.6376	2.055	0.062	0.021
over dilutn arith. 10yr	1.55253 2.47183	1.0924** 0.44959	67	0.0179	0.0692	0.902	2.108	0.114	0.206
over no dilutn arith. 10yr	0.78029 2.66547	1.07072** 0.44468	67	0.0189	0.0678	0.9076	2.11	0.107	0.159
over dilutn geom. 10yr	2.77815 2.24704	1.08095** 0.44811	67	0.0187	0.068	0.9153	2.109	0.093	0.181
over no dilutn geom. 10yr	1.05537 2.60031	1.08719** 0.45328	67	0.0193	0.0672	0.9145	2.11	0.092	0.192
Panel C: MCI stock returns									
over dilutn arith. 5yr	1.29073 2.47005	0.85122** 0.4078	72	0.0405	0.0451	0.9804	1.946	0.165	0.36
over no dilutn arith. 5yr	0.62889 2.66109	0.83056** 0.40689	72	0.045	0.0427	0.9809	1.943	0.17	0.42
over dilutn geom. 5yr	2.05675 2.32718	0.82782** 0.40931	72	0.047	0.0417	0.9807	1.946	0.217	0.42
over no dilutn geom. 5yr	0.88799 2.62122	0.81164* 0.41199	72	0.0528	0.039	0.9813	1.943	0.263	0.46
over dilutn arith. 8yr	2.33602 2.37591	1.00273** 0.41069	69	0.0173	0.068	0.7694	2.067	0.136	0.007
over no dilutn arith. 8yr	1.52406 2.57802	0.98779** 0.40961	69	0.0186	0.0661	0.7778	2.066	0.13	0.03
over dilutn geom. 8yr	3.21697 2.21688	0.99692** 0.41389	69	0.0188	0.066	0.7644	2.067	0.117	0.01
over no dilutn geom. 8yr	1.77879 2.53484	0.98555** 0.417	69	0.021	0.0632	0.7648	2.062	0.096	0.03
over dilutn arith. 10yr	1.70885 2.33291	1.02983** 0.4214	67	0.0173	0.0701	0.8402	2.118	0.182	0.071
over no dilutn arith. 10yr	0.8411 2.54464	1.02169** 0.42004	67	0.0178	0.0693	0.8465	2.12	0.175	0.052
over dilutn geom. 10yr	2.60147 2.16426	1.03492** 0.42598	67	0.0179	0.0691	0.833	2.117	0.199	0.082
over no dilutn geom. 10yr	1.04591 2.49809	1.0369** 0.42855	67	0.0183	0.0685	0.8317	2.119	0.186	0.086

Table 8: Regression Output of the Relationship Between Actual and Expected Real Stock Returns, (Five-Year Horizon)

This table presents the results of the regression ARSR[t+0, t+5] = β_0 + β_1ERSR(t) + ε(t). Under the Regression heading, 'over' refers to the use of an overlapping sample, 'non-over' to an non-overlapping sample, 'diltn' to an adjustment for dilution, 'no diltn' to no adjustment for dilution, 'arith' for an arithmetic average, 'geom' for a geometric average, and '5yr,' '8yr,' and '10yr' refer to the number of years used to form the arithmetic or geometric average. 'SW' refers to the Shapiro-Wilk test statistic to assess the normality of the error terms in the regressions. 'DW' refers to the Durbin-Watson statistic to determine autocorrelation, and $\chi 2$ is the Chi-Square statistic from the Breusch-Pagan test used to assess the presence of heteroscedasticity. 'Slope Test' is the calculated t-statistic used to assess whether the slope coefficients differ significantly from one. The standard errors of the parameter estimates are found under the values of the estimated coefficients. *, **, and *** indicates significance at the ten, five, and one percent level, respectively.

Regression	Intercept	Slope	N	Model Sign. (Pr>F)	Adj. R^2	SW (Pr<W)	DW	χ^2	Slope Test
Panel A: CIA Stock returns									
over dilutn arith. 5yr	11.33737***	-0.19702	817	0.2734	0.0002	0.0012	0.123	4.5	-6.66***
	1.05286	0.17975							
non-over dilutn arith. 5yr	15.02986*	0.67581	14	0.6281	-0.062	0.5777	1.686	0.375	-0.24
	8.30954	1.35953							
over no dilutn arith. 5yr	11.61956***	-0.19702	817	0.2734	0.0002	0.0012	0.123	4.5	-6.66***
	1.27593	0.17975							
non-over no dilutn arith. 5yr	14.06192	0.67581	14	0.6281	-0.062	0.5777	1.686	0.375	-0.24
	9.96324	1.35953							
over dilutn geom. 5yr	11.23916***	-0.19822	817	0.2722	0.0003	0.0012	0.123	4.444	-6.64***
	0.97766	0.18041							
non-over dilutn geom. 5yr	15.3517*	0.68337	14	0.6253	-0.061	0.586	1.685	0.389	-0.23
	7.74971	1.36346							
over no dilutn geom. 5yr	11.62053***	-0.19822	817	0.2722	0.0003	0.0012	0.123	4.444	-6.64***
	1.27428	0.18041							
non-over no dilutn geom. 5yr	14.03693	0.68337	14	0.6253	-0.061	0.586	1.685	0.389	-0.23
	9.94378	1.36346							
over dilutn arith. 8yr	7.92304***	0.3163	781	0.1431	0.0015	0.0002	0.131	12.89	-3.17***
	1.22971	0.2158							
non-over dilutn arith. 8yr	5.74119	0.39377	14	0.7828	-0.076	0.3048	2.334	0.067	-0.43
	7.75648	1.39694							
over no dilutn arith. 8yr	7.47001***	0.3163	781	0.1431	0.0015	0.0002	0.131	12.89	-3.17***
	1.50911	0.2158							
non-over no dilutn arith. 8yr	5.1772	0.39377	14	0.7828	-0.076	0.3048	2.334	0.067	-0.43
	9.53854	1.39694							
over dilutn geom. 8yr	8.01266***	0.33429	781	0.1251	0.0017	0.0002	0.131	12.49	-3.06***
	1.13612	0.21773							
non-over dilutn geom. 8yr	6.02388	0.37817	14	0.7938	-0.077	0.3137	2.336	0.069	-0.44
	7.16721	1.41463							

Table 8. Continued.

Regression	**Intercept**	**Slope**	**N**	**Model Sign. (Pr>F)**	**Adj. R^2**	**SW (Pr<W)**	**DW**	χ^2	**Slope Test**
over no dilutn geom. 8yr	7.3695***	0.33429	781	0.1251	0.0017	0.0002	0.131	12.49	-3.06***
	1.51123	0.21773							
non-over no dilutn geom. 8yr	5.29629	0.37817	14	0.7938	-0.077	0.3137	2.336	0.069	-0.44
	9.56481	1.41463							
over dilutn arith. 10yr	9.37784***	0.09986	757	0.6798	-0.001	0.0008	0.134	11.69	-3.72***
	1.37338	0.24182							
non-over dilutn arith. 10yr	20.64146**	-1.08896	13	0.4656	-0.037	0.5241	2.509	0.304	-1.45
	8.16635	1.44069							
over no dilutn arith. 10yr	9.23481***	0.09986	757	0.6798	-0.001	0.0008	0.134	11.69	-3.72***
	1.69258	0.24182							
non-over no dilutn arith. 10yr	22.20115**	-1.08896	13	0.4656	-0.037	0.5241	2.509	0.304	-1.45
	10.05805	1.44069							
over dilutn geom. 10yr	9.39618***	0.10769	757	0.6605	-0.001	0.0008	0.134	11.47	-3.64***
	1.26935	0.24508							
non-over dilutn geom. 10yr	20.05738**	-1.0937	13	0.4698	-0.038	0.5241	2.509	0.296	-1.43
	7.53746	1.46089							
over no dilutn geom. 10yr	9.18899***	0.10769	757	0.6605	-0.001	0.0008	0.134	11.47	-3.64***
	1.70085	0.24508							
non-over no dilutn geom. 10yr	22.16159*	-1.0937	13	0.4698	-0.038	0.5241	2.509	0.296	-1.43
	10.09374	1.46089							
Panel B: MII stock return									
over dilutn arith. 5yr	7.8118***	-0.00261	817	0.9887	-0.001	0.0119	0.124	7.975	-5.45***
	1.07016	0.1839							
non-over dilutn arith. 5yr	11.12185	0.79678	14	0.5685	-0.053	0.1197	1.426	0.521	-0.15
	8.25423	1.35884							
over no dilutn arith. 5yr	7.81567***	-0.00261	817	0.9887	-0.001	0.0119	0.124	7.975	-5.45***
	1.30722	0.1839							
non-over no dilutn arith. 5yr	9.93916	0.79678	14	0.5685	-0.053	0.1197	1.426	0.521	-0.15
	9.96984	1.35884							
over dilutn geom. 5yr	7.83583***	-0.00868	817	0.9625	-0.001	0.012	0.124	7.856	-5.46***
	0.97692	0.18459							
non-over dilutn geom. 5yr	11.60661	0.80178	14	0.5673	-0.053	0.1223	1.426	0.537	-0.15
	7.57882	1.36295							
over no dilutn geom. 5yr	7.85392***	-0.00868	817	0.9625	-0.001	0.012	0.124	7.856	-5.46***
	1.30561	0.18459							
non-over no dilutn geom. 5yr	9.9346	0.80178	14	0.5673	-0.053	0.1223	1.426	0.537	-0.15
	9.95162	1.36295							
over dilutn arith. 8yr	3.88044***	0.58981***	781	0.007	0.008	0.0004	0.136	14.26	-1.88*
	1.23258	0.21806							
non-over dilutn arith. 8yr	2.05035	0.67236	14	0.666	-0.066	0.3736	2.091	0.141	-0.22
	8.37311	1.5197							

Table 8. Continued.

Regression	Intercept	Slope	N	Model Sign. (Pr>F)	Adj. R^2	SW (Pr<W)	DW	χ^2	Slope Test
over no dilutn arith. 8yr	3.00497**	0.58981***	781	0.007	0.008	0.0004	0.136	14.26	-1.88*
	1.52553	0.21806							
non-over no dilutn arith. 8yr	1.05234	0.67236	14	0.666	-0.066	0.3736	2.091	0.141	-0.22
	10.39009	1.5197							
over dilutn geom. 8yr	4.22175***	0.59917***	781	0.0066	0.0082	0.0004	0.136	13.65	-1.82*
	1.11754	0.22006							
non-over dilutn geom. 8yr	2.59497	0.64772	14	0.6815	-0.068	0.3788	2.092	0.148	-0.23
	7.593	1.5401							
over no dilutn geom. 8yr	2.97226*	0.59917***	781	0.0066	0.0082	0.0004	0.136	13.65	-1.82*
	1.52805	0.22006							
non-over no dilutn geom. 8yr	1.24423	0.64772	14	0.6815	-0.068	0.3788	2.092	0.148	-0.23
	10.42656	1.5401							
over dilutn arith. 10yr	4.84792***	0.44577*	757	0.0695	0.003	0.0021	0.138	13.02	-2.26**
	1.38009	0.24519							
non-over dilutn arith. 10yr	14.8628*	-0.66333	13	0.6294	-0.067	0.8747	2.353	0.05	-1.24
	7.5069	1.33624							
over no dilutn arith. 10yr	4.18625**	0.44577*	757	0.0695	0.003	0.0021	0.138	13.02	-2.26**
	1.71571	0.24519							
non-over no dilutn arith. 10yr	15.84739	-0.66333	13	0.6294	-0.067	0.8747	2.353	0.05	-1.24
	9.32593	1.33624							
over dilutn geom. 10yr	5.14041***	0.44536*	757	0.0736	0.0029	0.0021	0.138	12.54	-2.23**
	1.2509	0.24858							
non-over dilutn geom. 10yr	14.48196*	-0.67719	13	0.6269	-0.067	0.877	2.353	0.046	-1.24
	6.79037	1.35439							
over no dilutn geom. 10yr	4.21166**	0.44536*	757	0.0736	0.0029	0.0021	0.138	12.54	-2.23**
	1.72466	0.24858							
non-over no dilutn geom. 10yr	15.89415	-0.67719	13	0.6269	-0.067	0.877	2.353	0.046	-1.24
	9.35475	1.35439							
Panel C: MCI stock returns									
over dilutn arith. 5yr	7.98708***	-0.04508	817	0.8015	-0.001	0.0081	0.121	8.447	-5.83***
	1.07175	0.1793							
non-over dilutn arith. 5yr	10.92039	0.79292	14	0.5771	-0.055	0.1304	1.492	0.499	-0.15
	8.60984	1.38334							
over no dilutn arith. 5yr	8.04921***	-0.04508	817	0.8015	-0.001	0.0081	0.121	8.447	-5.83***
	1.28885	0.1793							
non-over no dilutn arith. 5yr	9.82764	0.79292	14	0.5771	-0.055	0.1304	1.492	0.499	-0.15
	10.25162	1.38334							
over dilutn geom. 5yr	7.99279***	-0.05156	817	0.7745	-0.001	0.0081	0.121	8.385	-5.84***
	0.99454	0.17993							
non-over dilutn geom. 5yr	11.3159	0.79826	14	0.5756	-0.054	0.1306	1.491	0.516	-0.15
	8.0241	1.3873							

Table 8. Continued.

Regression	Intercept	Slope	N	Model Sign. (Pr>F)	Adj. R^2	SW (Pr<W)	DW	χ^2	Slope Test
over no dilutn geom. 5yr	8.0894***	-0.05156	817	0.7745	-0.001	0.0081	0.121	8.385	-5.84***
	1.28714	0.17993							
non-over no dilutn geom. 5yr	9.82012	0.79826	14	0.5757	-0.054	0.1306	1.491	0.516	-0.15
	10.23208	1.3873							
over dilutn arith. 8yr	3.79959***	0.57098***	781	0.0078	0.0078	0.0012	0.134	15.59	-2.01**
	1.2454	0.21392							
non-over dilutn arith. 8yr	2.71014	0.53301	14	0.7322	-0.072	0.3171	2.184	0.038	-0.31
	8.63264	1.52159							
over no dilutn arith. 8yr	3.0127**	0.57098***	781	0.0078	0.0078	0.0012	0.134	15.59	-2.01**
	1.51501	0.21392							
non-over no dilutn arith. 8yr	1.97558	0.53301	14	0.7322	-0.072	0.3171	2.184	0.038	-0.31
	10.52602	1.52159							
over dilutn geom. 8yr	4.06674***	0.58006***	781	0.0074	0.0079	0.0012	0.134	15.06	-1.95*
	1.15065	0.21585							
non-over dilutn geom. 8yr	3.12384	0.5063	14	0.7482	-0.074	0.3234	2.186	0.041	-0.32
	7.9781	1.54148							
over no dilutn geom. 8yr	2.9798**	0.58006***	781	0.0074	0.0079	0.0012	0.134	15.06	-1.95*
	1.51752	0.21585							
non-over no dilutn geom. 8yr	2.17512	0.5063	14	0.7482	-0.074	0.3234	2.186	0.041	-0.32
	10.5616	1.54148							
over dilutn arith. 10yr	4.8768***	0.41226*	757	0.0896	0.0025	0.0042	0.136	13.57	-2.42**
	1.40749	0.24253							
non-over dilutn arith. 10yr	15.14742*	-0.69796	13	0.6236	-0.066	0.8361	2.488	0.056	-1.23
	8.00228	1.38225							
over no dilutn arith. 10yr	4.30865**	0.41226*	757	0.0896	0.0025	0.0042	0.136	13.57	-2.42**
	1.71876	0.24253							
non-over no dilutn arith. 10yr	16.1093	-0.69796	13	0.6236	-0.066	0.8361	2.488	0.056	-1.23
	9.76641	1.38225							
over dilutn geom. 10yr	5.11163***	0.41029*	757	0.0956	0.0024	0.0043	0.136	13.22	-2.40**
	1.30168	0.2459							
non-over dilutn geom. 10yr	14.8166*	-0.71073	13	0.6219	-0.066	0.841	2.488	0.051	-1.22
	7.38362	1.4009							
over no dilutn geom. 10yr	4.34282**	0.41029*	757	0.0956	0.0024	0.0043	0.136	13.22	-2.40**
	1.72824	0.2459							
non-over no dilutn geom. 10yr	16.14838	-0.71073	13	0.6219	-0.066	0.841	2.488	0.051	-1.22
	9.79797	1.4009							

Table 9: Regression Output of the Relationship Between Actual and Expected Real Bond Returns, (Five-Year Horizon)

This table presents the results of the regression ARBR[t+0, t+5] = β_0 + β_1ERBR(t) + ε(t). Under the Regression heading, "overlapping" refers to the use of overlapping data, "non-overlapping" to the use of not overlapping data; "arithmetic" to the use of an arithmetic average, "geometric" to the use of a geometric average, and "5yr", "8yr" and "10yr" refer to the number of years used to form the respective average. "SW" refers to the Shapiro-Wilk test statistic to assess the normality of the error terms in the regressions. "DW" refers to the Durbin-Watson statistic to determine autocorrelation. "χ^2" is the Chi-Square statistic from the Breusch-Pagan test used to assess the presence of heteroscedasticity. "Slope Test" is the calculated t-statistic used to assess whether the slope coefficients differ significantly from one. The standard errors of the parameter estimates are found under the values of the estimated coefficients. *, **, and *** indicate significance at the ten, five, and one percent levels, respectively.

Regression	**Intercept**	**Slope**	**N**	**Model Sign. (Pr>F)**	**Adj. R2**	**SW (Pr<W)**	**DW**	χ^2	**Slope Test**
over arith. 5yr	0.91262**	0.6064***	817	<.0001	0.0504	<0.0001	0.019	0.337	-4.32***
	0.38077	0.09112							
non-over arith. 5yr	-1.79923	1.51327**	14	0.0472	0.2301	0.1226	1.748	0.008	0.75
	2.83949	0.68461							
over geom. 5yr	0.90361**	0.60224***	817	<.0001	0.0494	<0.0001	0.019	0.397	-4.35***
	0.38348	0.09141							
non-over geom. 5yr	-1.87461	1.52142**	14	0.0468	0.2312	0.1119	1.749	0.003	0.76
	2.85811	0.68665							
over arith. 8yr	0.7045*	0.60753***	781	<.0001	0.04	<0.0001	0.018	0.041	-3.74***
	0.40237	0.10498							
non-over arith. 8yr	-0.55806	1.47718	14	0.1324	0.11	0.7029	2.262	0.051	0.52
	3.60319	0.91503							
over geom. 8yr	0.6896*	0.60354***	781	<.0001	0.0392	<0.0001	0.018	0.013	-3.76***
	0.40628	0.10539							
non-over geom. 8yr	-0.58314	1.46561	14	0.1364	0.1064	0.703	2.257	0.05	0.51
	3.63906	0.91822							
over arith. 10yr	0.8353**	0,59399***	757	<.0001	0.0306	<0.0001	0.017	0.619	-3.41***
	0.42302	0.11916							
non-over arith. 10yr	-2.23302	1.56516*	13	0.0993	0.1574	0.3712	1.331	0.046	0.65
	3.22859	0.86939							
over geom. 10yr	0.80898*	0.59409***	757	<.0001	0.0303	<0.0001	0.017	0.472	-3.39***
	0.4279	0.11981							
non-over geom. 10yr	-2.32163	1.57129*	13	0.0988	0.158	0.3471	1.324	0.045	0.66
	3.25992	0.87147							

Table 10: Regression Output of the Relationship Between Actual and Expected Equity Premia (Arnott and Bernstein), (Five-Year Horizon)

This table presents the results of the regression ARP[t+0, t+5]= $\beta_0 + \beta_1$ERP(t) + ε(t). Under the Regression heading, 'over' refers to the use of an overlapping sample, 'diltn' to an adjustment for dilution, 'arith' for an arithmetic average, 'geom' for a geometric average, and '5yr,' '8yr,' and '10yr' refer to the number of years used to form an average. 'SW' refers to the Shapiro-Wilk test statistic to assess the normality of the error term in the regressions. 'DW' refers to the Durbin-Watson statistic to determine autocorrelation and $\chi 2$ is the Chi-Square statistic from the Breusch-Pagan test used to assess the presence of heteroscedasticity. 'Slope Test' is the calculated t-statistic used to assess whether the slope coefficients differ significantly from one. The standard errors of the parameter estimates are found under the values of the estimated coefficients and *, **, and *** indicates significance at the ten, five, and one percent level, respectively.

Regression	Intercept	Slope	N	Model Sign. (Pr>F)	Adj. R2	SW (Pr<W)	DW	χ^2	Slope Test
Panel A: CIA stock returns									
over dilutn arith. 5yr	6.38242***	0.65747***	817	<.0001	0.0436	0.0002	0.12	0.011	-3.22***
	0.63321	0.10644							
non-over dilutn arith. 5yr	13.83429**	0.98193	14	0.2487	0.0349	0.8799	1.672	0.042	-0.02
	5.04566	0.80984							
over no dilutn arith. 5yr	5.44074***	0.65747***	817	<.0001	0.0436	0.0002	0.12	0.011	-3.22***
	0.70218	0.10644							
non-over no dilutn arith. 5yr	12.4279**	0.98193	14	0.2487	0.0349	0.8799	1.672	0.042	-0.02
	5.56724	0.80984							
over dilutn geom. 5yr	6.7448***	0.6608***	817	<.0001	0.0438	0.0002	0.12	0.017	-3.18***
	0.61456	0.10672							
non-over dilutn geom. 5yr	14.37008**	0.99093	14	0.2455	0.0364	0.8784	1.668	0.041	-0.01
	4.89867	0.8115							
over no dilutn geom. 5yr	5.47345***	0.6608***	817	<.0001	0.0438	0.0002	0.12	0.017	-3.18***
	0.69881	0.10672							
non-over no dilutn geom. 5yr	12.46359**	0.99093	14	0.2455	0.0364	0.8784	1.668	0.041	-0.01
	5.53757	0.8115							
over dilutn arith. 8yr	5.18678***	0.84627***	781	<.0001	0.0576	<0.0001	0.125	0.592	-1.27
	0.66791	0.12126							
non-over dilutn arith. 8yr	1.92296	1.06299	14	0.1311	0.1111	0.4138	2.329	0.12	0.10
	3.52193	0.65602							
over no dilutn arith. 8yr	3.97469***	0.84627***	781	<.0001	0.0576	<0.0001	0.125	0.592	-1.27
	0.75946	0.12126							
non-over no dilutn arith. 8yr	0.40047	1.06299	14	0.1311	0.1111	0.4138	2.329	0.12	0.10
	3.96626	0.65602							
over dilutn geom. 8yr	5.65604***	0.85835***	781	<.0001	0.0586	<0.0001	0.125	0.484	-1.16
	0.64073	0.12197							
non-over dilutn geom. 8yr	2.56679	1.05024	14	0.1389	0.1042	0.381	2.317	0.124	0.08
	3.41293	0.66254							
over no dilutn geom. 8yr	4.00461***	0.85835***	781	<.0001	0.0586	<0.0001	0.125	0.484	-1.16
	0.75431	0.12197							

Table 10. Continued.

Regression	Intercept	Slope	N	Model Sign. (Pr>F)	Adj. R^2	SW (Pr<W)	DW	χ^2	Slope Test
non-over no dilutn geom. 8yr	0.54619	1.05024	14	0.1389	0.1042	0.381	2.317	0.124	0.08
	3.95313	0.66254							
over dilutn arith. 10yr	5.53721***	0.77288***	757	<.0001	0.0398	<0.0001	0.125	4.963	-1.67*
	0.71666	0.13584							
non-over dilutn arith. 10yr	11.21385**	0.83542	13	0.3685	-0.01	0.4571	2.311	0.977	-0.18
	4.83574	0.89091							
over no dilutn arith. 10yr	4.43023***	0.77288***	757	<.0001	0.0398	<0.0001	0.125	4.963	-1.67*
	0.83127	0.13584							
non-over no dilutn arith. 10yr	10.01731*	0.83542	13	0.3685	-0.01	0.4571	2.311	0.977	-0.18
	5.54158	0.89091							
over dilutn geom. 10yr	5.9682***	0.78387***	757	<.0001	0.0402	<0.0001	0.125	4.692	-1.58
	0.68126	0.13713							
non-over dilutn geom. 10yr	11.69548**	0.84677	13	0.3659	-0.009	0.4661	2.315	0.959	-0.17
	4.61594	0.89797							
over no dilutn geom. 10yr	4.46008***	0.78387***	757	<.0001	0.0402	<0.0001	0.125	4.692	-1.58
	0.82601	0.13713							
non-over no dilutn geom. 10yr	10.06634*	0.84677	13	0.3659	-0.009	0.4661	2.315	0.959	-0.17
	5.49511	0.89797							
Panel B: MII stock returns									
over dilutn arith. 5yr	3.75125***	0.69288***	817	<.0001	0.0467	<0.0001	0.124	0.648	-2.84***
	0.63567	0.10821							
non-over dilutn arith. 5yr	10.3212*	1.07932	14	0.2028	0.059	0.6036	1.418	0.007	0.10
	4.94302	0.80122							
over no dilutn arith. 5yr	2.72279***	0.69288***	817	<.0001	0.0467	<0.0001	0.124	0.648	-2.84***
	0.70905	0.10821							
non-over no dilutn arith. 5yr	8.71914	1.07932	14	0.2028	0.059	0.6036	1.418	0.007	0.10
	5.48107	0.80122							
over dilutn geom. 5yr	4.21577***	0.6919***	817	<.0001	0.0463	<0.0001	0.124	0.604	-2.84***
	0.61382	0.10853							
non-over dilutn geom. 5yr	11.03477**	1.08578	14	0.2013	0.0599	0.5937	1.415	0.006	0.11
	4.77646	0.80311							
over no dilutn geom. 5yr	2.77289***	0.6919***	817	<.0001	0.0463	<0.0001	0.124	0.604	-2.84***
	0.70582	0.10853							
non-over no dilutn geom. 5yr	8.77053	1.08578	14	0.2013	0.0599	0.5937	1.415	0.006	0.11
	5.45314	0.80311							
over dilutn arith. 8yr	2.37491***	0.91106***	781	<.0001	0.0653	<0.0001	0.131	3.049	-0.73
	0.66472	0.12226							
non-over dilutn arith. 8yr	-0.57425	1.13969	14	0.1598	0.0874	0.12	2.007	0.048	0.18
	4.02256	0.76056							
over no dilutn arith. 8yr	1.0226	0.91106***	781	<.0001	0.0653	<0.0001	0.131	3.049	-0.73
	0.7609	0.12226							

Table 10. Continued.

Regression	Intercept	Slope	N	Model Sign. (Pr>F)	Adj. R^2	SW (Pr<W)	DW	χ^2	Slope Test
non-over no dilutn arith. 8yr	-2.26592	1.13969	14	0.1598	0.0874	0.12	2.007	0.048	0.18
	4.56363	0.76056							
over dilutn geom. 8yr	2.99364***	0.91681***	781	<.0001	0.0653	<0.0001	0.131	2.755	-0.68
	0.63332	0.12305							
non-over dilutn geom. 8yr	0.24694	1.11973	14	0.1708	0.0795	0.1001	1.995	0.055	0.16
	3.87526	0.76853							
over no dilutn geom. 8yr	1.08176	0.91681***	781	<.0001	0.0653	<0.0001	0.131	2.755	-0.68
	0.7561	0.12305							
non-over no dilutn geom. 8yr	-2.08812	1.11973	14	0.1708	0.0795	0.1001	1.995	0.055	0.16
	4.54993	0.76853							
over dilutn arith. 10yr	2.57316***	0.85872***	757	<.0001	0.048	<0.0001	0.13	10.48	-1.03
	0.71468	0.13727							
non-over dilutn arith. 10yr	7.31068	0.98171	13	0.2604	0.0329	0.7051	2.251	1.062	-0.02
	4.4414	0.82734							
over no dilutn arith. 10yr	1.29854	0.85872***	757	<.0001	0.048	<0.0001	0.13	10.48	-1.03
	0.83508	0.13727							
non-over no dilutn arith. 10yr	5.8535	0.98171	13	0.2604	0.0329	0.7051	2.251	1.062	-0.02
	5.12131	0.82734							
over dilutn geom. 10yr	3.16286***	0.86296***	757	<.0001	0.0475	<0.0001	0.13	9.989	-0.99
	0.67339	0.13867							
non-over dilutn geom. 10yr	7.99939*	0.98747	13	0.2617	0.0322	0.7221	2.251	1.012	-0.02
	4.21014	0.83462							
over no dilutn geom. 10yr	1.36327	0.86296***	757	<.0001	0.0475	<0.0001	0.13	9.989	-0.99
	0.8302	0.13867							
non-over no dilutn geom. 10yr	5.94015	0.98747	13	0.2617	0.0322	0.7221	2.251	1.012	-0.02
	5.08196	0.83462							
Panel C: MCI stock returns									
over dilutn arith. 5yr	3.60021***	0.67329***	817	<.0001	0.0487	0.0026	0.124	1.433	-3.17***
	0.61159	0.10299							
non-over dilutn arith. 5yr	10.09057*	1.0574	14	0.2177	0.0506	0.5091	1.514	4E-05	0.07
	5.06536	0.81281							
over no dilutn arith. 5yr	2.67232***	0.67329***	817	<.0001	0.0487	0.0026	0.124	1.433	-3.17***
	0.67971	0.10299							
non-over no dilutn arith. 5yr	8.63334	1.0574	14	0.2177	0.0506	0.5091	1.514	4E-05	0.07
	5.59655	0.81281							
over dilutn geom. 5yr	3.9812***	0.67221***	817	<.0001	0.0482	0.0027	0.123	1.38	-3.17***
	0.59162	0.10328							
non-over dilutn geom. 5yr	10.67614*	1.06372	14	0.2161	0.0514	0.5003	1.51	1E-05	0.08
	4.90426	0.81463							
over no dilutn geom. 5yr	2.7216***	0.67221***	817	<.0001	0.0482	0.0027	0.123	1.38	-3.17***
	0.67654	0.10328							

Table 10. Continued.

Regression	Intercept	Slope	N	Model Sign. (Pr>F)	Adj. R^2	SW (Pr<W)	DW	χ^2	Slope Test
non-over no dilutn geom. 5yr	8.68293	1.06372	14	0.2161	0.0514	0.5003	1.51	1E-05	0.08
	5.56761	0.81463							
over dilutn arith. 8yr	2.18275***	0.88758***	781	<.0001	0.0684	<0.0001	0.132	3.903	-0.97
	0.64081	0.11631							
non-over dilutn arith. 8yr	-0.52033	1.05168	14	0.1832	0.0711	0.1014	2.048	0.033	0.07
	3.98896	0.74452							
over no dilutn arith. 8yr	0.95955	0.88758***	781	<.0001	0.0684	<0.0001	0.132	3.903	-0.97
	0.72969	0.11631							
non-over no dilutn arith. 8yr	-1.96968	1.05168	14	0.1832	0.0711	0.1014	2.048	0.033	0.07
	4.50515	0.74452							
over dilutn geom. 8yr	2.69094***	0.89278***	781	<.0001	0.0683	<0.0001	0.132	3.612	-0.92
	0.61254	0.11704							
non-over dilutn geom. 8yr	0.13533	1.03146	14	0.1952	0.0635	0.0869	2.036	0.039	0.04
	3.84836	0.75193							
over no dilutn geom. 8yr	1.01804	0.89278***	781	<.0001	0.0683	<0.0001	0.132	3.612	-0.92
	0.72501	0.11704							
non-over no dilutn geom. 8yr	-1.79744	1.03146	14	0.1952	0.0635	0.0869	2.036	0.039	0.04
	4.48995	0.75193							
over dilutn arith. 10yr	2.42358***	0.82475***	757	<.0001	0.0485	0.0004	0.13	12.51	-1.34
	0.69322	0.13115							
non-over dilutn arith. 10yr	7.11262	0.95331	13	0.2841	0.0218	0.5839	2.362	0.856	-0.06
	4.60931	0.84666							
over no dilutn arith. 10yr	1.28697	0.82475***	757	<.0001	0.0485	0.0004	0.13	12.51	-1.34
	0.80452	0.13115							
non-over no dilutn arith. 10yr	5.79883	0.95331	13	0.2841	0.0218	0.5839	2.362	0.856	-0.06
	5.28348	0.84666							
over dilutn geom. 10yr	2.90336***	0.82808***	757	<.0001	0.048	0.0005	0.13	12.09	-1.30
	0.65653	0.13246							
non-over dilutn geom. 10yr	7.67922	0.95882	13	0.2854	0.0213	0.5887	2.362	0.816	-0.05
	4.3858	0.85382							
over no dilutn geom. 10yr	1.3517*	0.82808***	757	<.0001	0.048	0.0005	0.13	12.09	-1.30
	0.7998	0.13246							
non-over no dilutn geom. 10yr	5.88257	0.95882	13	0.2854	0.0213	0.5887	2.362	0.816	-0.05
	5.24194	0.85382							

Table 11: Regression Output of the Relationship Between Actual and Expected Equity Premia (Implied Risk Premium Methodology), (Five-Year Horizon)

This table presents the results of the regression ARP[t+0, t+5]= $\beta_0 + \beta_1$ERP(t) + ε(t). Under the Regression heading, 'over' refers to the use of an overlapping sample, 'diltn' to an adjustment for dilution, 'arith' for an arithmetic average, 'geom' for a geometric average, and '5yr,' '8yr,' and '10yr' refer to the number of years used to form an average. 'SW' refers to the Shapiro-Wilk test statistic to assess the normality of the error term in the regressions. 'DW' refers to the Durbin-Watson statistic to determine autocorrelation and $\chi 2$ is the Chi-Square statistic from the Breusch-Pagan test used to assess the presence of heteroscedasticity. 'Slope Test' is the calculated t-statistic used to assess whether the slope coefficients differ significantly from one. The standard errors of the parameter estimates are found under the values of the estimated coefficients and *, **, and *** indicates significance at the ten, five, and one percent level, respectively.

Regression	Intercept	Slope	N	Model Sign. (Pr>F)	Adj. R^2	SW (Pr<W)	DW	χ^2	Slope Test
Panel A: CIA stock returns									
over dilutn arith. 5yr	4.94589*	0.69183*	68	0.0801	0.0312	0.8465	2.104	0.963	-0.79
	2.49331	0.38921							
over no dilutn arith. 5yr	4.22001	0.70242*	68	0.0775	0.032	0.8454	2.105	0.972	-0.76
	2.72795	0.39172							
over dilutn geom. 5yr	5.44253**	0.70672*	68	0.0749	0.0328	0.8497	2.107	1.03	-0.75
	2.34131	0.3905							
over no dilutn geom. 5yr	4.30143	0.72231*	68	0.0715	0.034	0.8473	2.109	1.04	-0.70
	2.67423	0.39425							
over dilutn arith. 8yr	4.23814	0.77304*	65	0.086	0.0309	0.8889	2.057	0.932	-0.51
	2.68842	0.44322							
over no dilutn arith. 8yr	3.41561	0.78668*	65	0.0826	0.0319	0.8909	2.059	0.935	-0.48
	2.97816	0.44605							
over dilutn geom. 8yr	4.80768*	0.79001*	65	0.0819	0.0321	0.8816	2.059	1.006	-0.47
	2.49635	0.44683							
over no dilutn geom. 8yr	3.51219	0.81095*	65	0.077	0.0337	0.8842	2.063	1.007	-0.42
	2.91346	0.45114							
over dilutn arith. 10yr	4.3154	0.87314*	63	0.0751	0.0354	0.8384	2.086	0.343	-0.26
	2.79056	0.48226							
over no dilutn arith. 10yr	3.42176	0.87911*	63	0.075	0.0355	0.8393	2.087	0.34	-0.25
	3.12042	0.48539							
over dilutn geom. 10yr	4.9807*	0.88776*	63	0.0738	0.0359	0.836	2.088	0.382	-0.23
	2.57482	0.48805							
over no dilutn geom. 10yr	3.57602	0.89658*	63	0.0738	0.0359	0.837	2.088	0.374	-0.21
	3.0533	0.49284							
Panel B: MII stock returns									
over dilutn arith. 5yr	2.11353	0.793*	68	0.0506	0.0424	0.9847	2.183	1.087	-0.52
	2.45918	0.3983							

Table 11. Continued.

Regression	Intercept	Slope	N	Model Sign. (Pr>F)	Adj. R^2	SW (Pr<W)	DW	χ^2	Slope Test
over no dilutn arith. 5yr	1.49359	0.79281**	68	0.0479	0.0437	0.9837	2.185	1.033	-0.53
	2.62329	0.39328							
over dilutn geom. 5yr	2.91469	0.81053**	68	0.043	0.0464	0.984	2.19	0.979	-0.48
	2.25694	0.39287							
over no dilutn geom. 5yr	1.62364	0.82072**	68	0.0424	0.0467	0.9824	2.19	0.992	-0.45
	2.55882	0.39647							
over dilutn arith. 8yr	1.0456	0.9446**	65	0.0378	0.0518	0.9869	2.16	1.469	-0.12
	2.61656	0.4453							
over no dilutn arith. 8yr	0.34123	0.93792**	65	0.0365	0.0528	0.9859	2.161	1.37	-0.14
	2.81159	0.43901							
over dilutn geom. 8yr	2.0688	0.94877**	65	0.035	0.0539	0.9869	2.162	1.407	-0.12
	2.36292	0.4403							
over no dilutn geom. 8yr	0.54818	0.96186**	65	0.0344	0.0543	0.9834	2.163	1.39	-0.09
	2.73514	0.44475							
over dilutn arith. 10yr	1.25573	0.98877**	63	0.0468	0.0479	0.9967	2.165	0.449	-0.02
	2.72926	0.48721							
over no dilutn arith. 10yr	0.51688	0.98138**	63	0.0453	0.0488	0.9965	2.166	0.41	-0.04
	2.95028	0.48009							
over dilutn geom. 10yr	2.34671	0.99266**	63	0.0442	0.0494	0.9971	2.168	0.429	-0.02
	2.43996	0.48315							
over no dilutn geom. 10yr	0.77635	0.997**	63	0.0454	0.0487	0.9965	2.166	0.421	-0.01
	2.86743	0.48796							
Panel C: MCI stock retunrs									
over dilutn arith. 5yr	2.14949	0.77745**	68	0.0408	0.0477	0.8397	2.173	0.839	-0.60
	2.31315	0.37255							
over no dilutn arith. 5yr	1.46212	0.78069**	68	0.039	0.0488	0.8351	2.174	0.826	-0.59
	2.4917	0.37071							
over dilutn geom. 5yr	2.80681	0.77788**	68	0.0409	0.0476	0.8349	2.171	0.874	-0.60
	2.16546	0.37295							
over no dilutn geom. 5yr	1.62417	0.78702**	68	0.0393	0.0486	0.8298	2.172	0.867	-0.57
	2.44671	0.37424							
over dilutn arith. 8yr	1.27828	0.86877**	65	0.0418	0.0493	0.8061	2.146	1.316	-0.31
	2.46855	0.41801							
over no dilutn arith. 8yr	0.51789	0.87126**	65	0.0401	0.0504	0.8083	2.147	1.27	-0.31
	2.6841	0.4156							
over dilutn geom. 8yr	2.03909	0.86785**	65	0.0431	0.0485	0.8005	2.143	1.331	-0.31
	2.28258	0.42046							
over no dilutn geom. 8yr	0.70964	0.88021**	65	0.041	0.0498	0.8	2.145	1.294	-0.28
	2.63055	0.42192							
over dilutn arith. 10yr	1.36813	0.94449**	63	0.0423	0.0505	0.8884	2.156	0.45	-0.12
	2.56735	0.45544							

Table 11. Continued.

Regression	Intercept	Slope	N	Model Sign. (Pr>F)	Adj. R^2	SW (Pr<W)	DW	χ^2	Slope Test
over no dilutn arith. 10yr	0.55415	0.94299**	63	0.0415	0.0511	0.8918	2.156	0.431	-0.13
	2.8124	0.45276							
over dilutn geom. 10yr	2.21496	0.93991**	63	0.0454	0.0487	0.8826	2.151	0.456	-0.13
	2.35746	0.46005							
over no dilutn geom. 10yr	0.80236	0.9435**	63	0.0453	0.0487	0.8823	2.151	0.436	-0.12
	2.75736	0.46168							

Table 12: Bonferroni Confidence Intervals for Regression of the Relationship Between Actual and Expected Real Stock Returns, (One-Year Horizon)

This table presents the Bonferroni Confidence Intervals for the coefficients estimated with the equation ARSR[t+0, t+1] = $\beta_0 + \beta_1$ERSR(t) + ε(t). Regression heading, 'over' refers to the use of an overlapping sample, 'non-over' to an non-overlapping sample, 'diltn' to an adjustment for dilution, 'no diltn' to no adjustment for dilution, 'arith' for an arithmetic average, 'geom' for a geometric average, and '5yr,' '8yr,' and '10yr' refer to the number of years used to form the arithmetic or geometric average. Lower and Upper refer to the corresponding bounds of the confidence interval.

Regression			**Intercept**		**Slope**	
Panel A: CIA stock returns	**N**	**α**	**Lower**	**Upper**	**Lower**	**Upper**
over dilutn arith. 5yr	865	10%	9.34	13.47	-0.80	-0.08
		5%	9.12	13.69	-0.84	-0.04
		1%	8.45	14.36	-0.96	0.08
non-over dilutn arith. 5yr	37		6.03	27.91	-3.11	0.61
			4.78	29.16	-3.33	0.82
			0.82	33.13	-4.00	1.49
over no dilutn arith. 5yr	865		9.52	14.54	-0.80	-0.08
			9.25	14.81	-0.84	-0.04
			8.44	15.63	-0.96	0.08
non-over no dilutn arith. 5yr	37		5.55	31.99	-3.11	0.61
			4.03	33.51	-3.33	0.82
			-0.76	38.30	-4.00	1.49
over dilutn geom. 5yr	865		9.24	13.08	-0.80	-0.07
			9.04	13.28	-0.84	-0.04
			8.42	13.90	-0.96	0.08
non-over dilutn geom. 5yr	37		6.12	26.46	-3.12	0.62
			4.96	27.62	-3.34	0.83
			1.28	31.31	-4.01	1.51
over no dilutn geom. 5yr	865		9.49	14.51	-0.80	-0.07
			9.22	14.78	-0.84	-0.04
			8.41	15.59	-0.96	0.08
non-over no dilutn geom. 5yr	37		5.49	31.91	-3.12	0.62
			3.98	33.42	-3.34	0.83
			-0.81	38.21	-4.01	1.51
over dilutn arith. 8yr	829		11.25	15.86	-1.03	-0.20
			11.01	16.10	-1.07	-0.16
			10.26	16.85	-1.21	-0.02
non-over dilutn arith. 8yr	35		-3.81	17.87	-1.67	2.23
			-5.05	19.12	-1.89	2.45
			-9.01	23.07	-2.60	3.16
over no dilutn arith. 8yr	829		11.60	17.27	-1.03	-0.20
			11.30	17.58	-1.07	-0.16
			10.38	18.50	-1.21	-0.02

Table 12. Continued.

Regression	N	α	Intercept Lower	Intercept Upper	Slope Lower	Slope Upper
non-over no dilutn arith. 8yr	35		-6.71	19.97	-1.67	2.23
			-8.24	21.50	-1.89	2.45
			-13.11	26.37	-2.60	3.16
over dilutn geom. 8yr	829		11.15	15.40	-1.04	-0.21
			10.92	15.63	-1.09	-0.16
			10.23	16.32	-1.23	-0.03
non-over dilutn geom. 8yr	35		-2.76	17.25	-1.71	2.24
			-3.91	18.40	-1.93	2.46
			-7.57	22.05	-2.65	3.18
over no dilutn geom. 8yr	829		11.64	17.32	-1.04	-0.21
			11.33	17.62	-1.09	-0.16
			10.41	18.54	-1.23	-0.03
non-over no dilutn geom. 8yr	35		-6.64	20.11	-1.71	2.24
			-8.18	21.64	-1.93	2.46
			-13.06	26.52	-2.65	3.18
over dilutn arith. 10yr	805		8.33	13.31	-0.62	0.28
			8.07	13.58	-0.67	0.33
			7.26	14.39	-0.82	0.47
non-over dilutn arith. 10yr	34		-6.42	17.65	-1.56	2.80
			-7.81	19.04	-1.81	3.05
			-12.21	23.44	-2.60	3.85
over no dilutn arith. 10yr	805		7.99	14.14	-0.62	0.28
			7.66	14.47	-0.67	0.33
			6.66	15.47	-0.82	0.47
non-over no dilutn arith. 10yr	34		-10.16	19.61	-1.56	2.80
			-11.88	21.32	-1.81	3.05
			-17.32	26.77	-2.60	3.85
over dilutn geom. 10yr	805		8.41	13.00	-0.62	0.29
			8.16	13.25	-0.67	0.34
			7.41	13.99	-0.82	0.49
non-over dilutn geom. 10yr	34		-5.15	17.07	-1.59	2.83
			-6.43	18.35	-1.85	3.09
			-10.49	22.42	-2.66	3.90
over no dilutn geom. 10yr	805		7.93	14.12	-0.62	0.29
			7.60	14.45	-0.67	0.34
			6.59	15.45	-0.82	0.49
non-over no dilutn geom. 10yr	34		-10.20	19.74	-1.59	2.83
			-11.93	21.46	-1.85	3.09
			-17.40	26.94	-2.66	3.90

Table 12. Continued.

Regression	**N**	**α**	**Intercept**		**Slope**	
			Lower	**Upper**	**Lower**	**Upper**
Panel B: MII stock returns						
over dilutn arith. 5yr	865	10%	5.56	9.76	-0.53	0.21
		5%	5.34	9.98	-0.57	0.25
		1%	4.66	10.66	-0.69	0.37
non-over dilutn arith. 5yr	37		1.78	24.29	-2.86	0.98
			0.49	25.58	-3.08	1.20
			-3.59	29.66	-3.78	1.90
over no dilutn arith. 5yr	865		5.33	10.47	-0.53	0.21
			5.06	10.75	-0.57	0.25
			4.22	11.58	-0.69	0.37
non-over no dilutn arith. 5yr	37		0.71	28.15	-2.86	0.98
			-0.86	29.72	-3.08	1.20
			-5.84	34.70	-3.78	1.90
over dilutn geom. 5yr	865		5.65	9.47	-0.53	0.21
			5.44	9.67	-0.57	0.25
			4.82	10.30	-0.69	0.37
non-over dilutn geom. 5yr	37		2.15	22.72	-2.87	0.99
			0.97	23.90	-3.10	1.21
			-2.76	27.63	-3.80	1.91
over no dilutn geom. 5yr	865		5.33	10.47	-0.53	0.21
			5.06	10.74	-0.57	0.25
			4.22	11.58	-0.69	0.37
non-over no dilutn geom. 5yr	37		0.70	28.11	-2.87	0.99
			-0.87	29.67	-3.10	1.21
			-5.84	34.64	-3.80	1.91
over dilutn arith. 8yr	829		6.83	11.57	-0.67	0.19
			6.58	11.83	-0.72	0.24
			5.80	12.60	-0.86	0.38
non-over dilutn arith. 8yr	35		-8.20	14.70	-1.56	2.58
			-9.52	16.01	-1.80	2.82
			-13.70	20.19	-2.55	3.57
over no dilutn arith. 8yr	829		6.61	12.50	-0.67	0.19
			6.29	12.82	-0.72	0.24
			5.34	13.78	-0.86	0.38
non-over no dilutn arith. 8yr	35		-11.73	16.71	-1.56	2.58
			-13.37	18.34	-1.80	2.82
			-18.55	23.53	-2.55	3.57

Table 12. Continued.

Regression	N	α	Intercept Lower	Intercept Upper	Slope Lower	Slope Upper
over dilutn geom. 8yr	829		6.96	11.26	-0.69	0.18
			6.73	11.49	-0.74	0.23
			6.04	12.19	-0.88	0.37
non-over dilutn geom. 8yr	35		-6.70	14.04	-1.61	2.59
			-7.89	15.24	-1.85	2.83
			-11.68	19.02	-2.61	3.59
over no dilutn geom. 8yr	829		6.69	12.60	-0.69	0.18
			6.38	12.91	-0.74	0.23
			5.42	13.87	-0.88	0.37
non-over no dilutn geom. 8yr	35		-11.61	16.91	-1.61	2.59
			-13.25	18.55	-1.85	2.83
			-18.45	23.75	-2.61	3.59
over dilutn arith. 10yr	805		3.28	8.36	-0.15	0.78
			3.01	8.63	-0.20	0.83
			2.19	9.45	-0.35	0.98
non-over dilutn arith. 10yr	34		-11.45	14.03	-1.38	3.26
			-12.91	15.50	-1.64	3.53
			-17.58	20.16	-2.49	4.38
over no dilutn arith. 10yr	805		2.19	8.52	-0.15	0.78
			1.85	8.86	-0.20	0.83
			0.82	9.89	-0.35	0.98
non-over no dilutn arith. 10yr	34		-16.01	15.79	-1.38	3.26
			-17.84	17.62	-1.64	3.53
			-23.66	23.44	-2.49	4.38
over dilutn geom. 10yr	805		3.72	8.31	-0.15	0.79
			3.47	8.55	-0.20	0.84
			2.72	9.30	-0.35	0.99
non-over dilutn geom. 10yr	34		-9.58	13.48	-1.42	3.30
			-10.90	14.81	-1.70	3.57
			-15.12	19.03	-2.56	4.43
over no dilutn geom. 10yr	805		2.17	8.53	-0.15	0.79
			1.83	8.87	-0.20	0.84
			0.79	9.91	-0.35	0.99
non-over no dilutn geom. 10yr	34		-16.00	16.00	-1.42	3.30
			-17.84	17.85	-1.70	3.57
			-23.70	23.70	-2.56	4.43

Table 12. Continued.

Regression	N	α	Intercept Lower	Intercept Upper	Slope Lower	Slope Upper
Panel C: MCI stock returns						
over dilutn arith. 5yr	865	10%	5.59	9.80	-0.53	0.19
		5%	5.36	10.03	-0.57	0.23
		1%	4.68	10.71	-0.69	0.35
non-over dilutn arith. 5yr	37		1.34	23.91	-2.78	0.98
			0.05	25.20	-2.99	1.19
			-4.05	29.29	-3.67	1.88
over no dilutn arith. 5yr	865		5.39	10.47	-0.53	0.19
			5.11	10.74	-0.57	0.23
			4.29	11.57	-0.69	0.35
non-over no dilutn arith. 5yr	37		0.32	27.41	-2.78	0.98
			-1.23	28.96	-2.99	1.19
			-6.14	33.87	-3.67	1.88
over dilutn geom. 5yr	865		5.65	9.56	-0.53	0.19
			5.44	9.77	-0.57	0.23
			4.81	10.40	-0.69	0.35
non-over dilutn geom. 5yr	37		1.67	22.63	-2.79	0.99
			0.47	23.83	-3.00	1.20
			-3.33	27.62	-3.69	1.89
over no dilutn geom. 5yr	865		5.38	10.46	-0.53	0.19
			5.11	10.74	-0.57	0.23
			4.29	11.56	-0.69	0.35
non-over no dilutn geom. 5yr	37		0.31	27.36	-2.79	0.99
			-1.24	28.91	-3.00	1.20
			-6.14	33.81	-3.69	1.89
over dilutn arith. 8yr	829		7.06	11.85	-0.71	0.13
			6.80	12.11	-0.76	0.18
			6.02	12.89	-0.89	0.32
non-over dilutn arith. 8yr	35		-7.60	15.60	-1.62	2.45
			-8.93	16.94	-1.86	2.69
			-13.17	21.17	-2.60	3.43
over no dilutn arith. 8yr	829		6.92	12.78	-0.71	0.13
			6.61	13.09	-0.76	0.18
			5.66	14.05	-0.89	0.32
non-over no dilutn arith. 8yr	35		-10.73	17.58	-1.62	2.45
			-12.35	19.21	-1.86	2.69
			-17.52	24.37	-2.60	3.43

Table 12. Continued.

Regression	N	α	Intercept Lower	Intercept Upper	Slope Lower	Slope Upper
over dilutn geom. 8yr	829		7.16	11.59	-0.73	0.12
			6.92	11.83	-0.78	0.17
			6.20	12.55	-0.92	0.31
non-over dilutn geom. 8yr	35		-6.38	15.05	-1.67	2.45
			-7.61	16.28	-1.91	2.69
			-11.51	20.19	-2.66	3.44
over no dilutn geom. 8yr	829		7.01	12.88	-0.73	0.12
			6.70	13.20	-0.78	0.17
			5.74	14.15	-0.92	0.31
non-over no dilutn geom. 8yr	35		-10.59	17.80	-1.67	2.45
			-12.23	19.43	-1.91	2.69
			-17.40	24.61	-2.66	3.44
over dilutn arith. 10yr	805		3.29	8.45	-0.17	0.74
			3.01	8.72	-0.22	0.79
			2.17	9.56	-0.37	0.94
non-over dilutn arith. 10yr	34		-10.94	15.09	-1.47	3.13
			-12.44	16.59	-1.74	3.39
			-17.21	21.35	-2.58	4.23
over no dilutn arith. 10yr	805		2.32	8.64	-0.17	0.74
			1.98	8.97	-0.22	0.79
			0.95	10.00	-0.37	0.94
non-over no dilutn arith. 10yr	34		-15.02	16.88	-1.47	3.13
			-16.86	18.72	-1.74	3.39
			-22.69	24.56	-2.58	4.23
over dilutn geom. 10yr	805		3.63	8.39	-0.18	0.75
			3.38	8.65	-0.23	0.80
			2.60	9.42	-0.38	0.95
non-over dilutn geom. 10yr	34		-9.44	14.62	-1.52	3.16
			-10.82	16.00	-1.79	3.42
			-15.22	20.40	-2.65	4.28
over no dilutn geom. 10yr	805		2.30	8.65	-0.18	0.75
			1.96	8.99	-0.23	0.80
			0.93	10.03	-0.38	0.95
non-over no dilutn geom. 10yr	34		-15.00	17.12	-1.52	3.16
			-16.85	18.97	-1.79	3.42
			-22.72	24.85	-2.65	4.28

Table 13: Bonferroni Confidence Intervals for Regression of the Relationship Between Actual and Expected Real Bond Returns, (One-Year Horizon)

This table presents the Bonferroni Confidence Intervals for the coefficients estimated with the equation ARBR[t+0, t+1] = $\beta_0 + \beta_1$ERBR(t) + ε(t). Regression heading, 'over' refers to the use of an overlapping sample, 'non-over' to an non-overlapping sample, 'arith' for an arithmetic average, 'geom' for a geometric average, and '5yr,' '8yr,' and '10yr' refer to the number of years used to form the arithmetic or geometric average. Lower and Upper refer to the corresponding bounds of the confidence interval.

Regression			Intercept		Slope	
	N	α	Lower	Upper	Lower	Upper
over arith. 5yr	865	10%	-1.49	-0.13	1.19	1.50
		5%	-1.56	-0.06	1.17	1.52
		1%	-1.78	0.16	1.12	1.57
non-over arith. 5yr	37		-6.73	1.54	0.44	2.39
			-7.20	2.02	0.33	2.50
			-8.70	3.51	-0.02	2.86
over geom. 5yr	865		-1.55	-0.19	1.19	1.51
			-1.63	-0.12	1.18	1.53
			-1.85	0.10	1.12	1.58
non-over geom. 5yr	37		-6.82	1.50	0.45	2.40
			-7.30	1.98	0.33	2.52
			-8.81	3.49	-0.02	2.87
over arith. 8yr	829		-1.63	-0.16	1.12	1.49
			-1.71	-0.08	1.10	1.51
			-1.95	0.16	1.04	1.57
non-over arith. 8yr	35		-4.08	5.41	0.09	2.48
			-4.63	5.95	-0.05	2.62
			-6.36	7.68	-0.48	3.06
over geom. 8yr	829		-1.70	-0.21	1.13	1.50
			-1.78	-0.13	1.11	1.52
			-2.02	0.11	1.05	1.58
non-over geom. 8yr	35		-4.20	5.37	0.09	2.50
			-4.75	5.92	-0.04	2.63
			-6.50	7.67	-0.48	3.07
over arith. 10yr	805		-1.49	0.05	0.97	1.38
			-1.57	0.13	0.95	1.40
			-1.82	0.38	0.88	1.47
non-over arith. 10yr	34		-4.08	5.67	-0.20	2.41
			-4.64	6.23	-0.35	2.56
			-6.42	8.02	-0.83	3.04
over geom. 10yr	805		-1.55	0.01	0.97	1.38
			-1.63	0.09	0.94	1.41
			-1.89	0.35	0.88	1.47

Table 13. Continued.

Regression			**Intercept**		**Slope**	
	N	**α**	**Lower**	**Upper**	**Lower**	**Upper**
non-over geom. 10yr	34		-4.19	5.67	-0.21	2.42
			-4.76	6.24	-0.36	2.57
			-6.56	8.05	-0.84	3.05

Table 14: Bonferroni Confidence Intervals for Regression of the Relationship Between Actual and Expected Equity Premia (Arnott and Bernstein), (One-Year Horizon)

This table presents the Bonferroni Confidence Intervals for the coefficients estimated with the equation ARP[t+0, t+1] = $\beta_0 + \beta_1 ERP(t) + \varepsilon(t)$. Regression heading, 'over' refers to the use of an overlapping sample, 'non-over' to an non-overlapping sample, 'diltn' to an adjustment for dilution, 'no diltn' to no adjustment for dilution, 'arith' for an arithmetic average, 'geom' for a geometric average, and '5yr,' '8yr,' and '10yr' refer to the number of years used to form the arithmetic or geometric average. Lower and Upper refer to the corresponding bounds of the confidence interval.

Regression			Intercept		Slope	
Panel A: CIA stock returns	N	α	Lower	Upper	Lower	Upper
over dilutn arith. 5yr	865	10%	4.03	6.62	0.26	0.70
		5%	3.89	6.76	0.23	0.73
		1%	3.47	7.18	0.16	0.80
non-over dilutn arith. 5yr	37		2.52	16.00	-1.16	1.14
			1.75	16.77	-1.29	1.28
			-0.69	19.22	-1.71	1.69
over no dilutn arith. 5yr	865		3.21	6.07	0.26	0.70
			3.06	6.22	0.23	0.73
			2.60	6.68	0.16	0.80
non-over no dilutn arith. 5yr	37		1.83	16.71	-1.16	1.14
			0.98	17.56	-1.29	1.28
			-1.71	20.25	-1.71	1.69
over dilutn geom. 5yr	865		4.33	6.86	0.26	0.70
			4.20	6.99	0.23	0.73
			3.78	7.40	0.16	0.80
non-over dilutn geom. 5yr	37		2.70	15.82	-1.16	1.15
			1.95	16.57	-1.30	1.28
			-0.43	18.95	-1.71	1.70
over no dilutn geom. 5yr	865		3.25	6.09	0.26	0.70
			3.10	6.24	0.23	0.73
			2.64	6.70	0.16	0.80
non-over no dilutn geom. 5yr	37		1.87	16.68	-1.16	1.15
			1.03	17.52	-1.30	1.28
			-1.66	20.21	-1.71	1.70
over dilutn arith. 8yr	829		5.38	7.89	0.34	0.80
			5.25	8.03	0.31	0.83
			4.84	8.43	0.24	0.90
non-over dilutn arith. 8yr	35		-5.06	8.18	0.03	2.48
			-5.82	8.94	-0.11	2.62
			-8.23	11.35	-0.56	3.06
over no dilutn arith. 8yr	829		4.41	7.23	0.34	0.80
			4.26	7.39	0.31	0.83
			3.80	7.85	0.24	0.90

Table 14. Continued.

Regression	N	α	Intercept Lower	Intercept Upper	Slope Lower	Slope Upper
non-over no dilutn arith. 8yr	35		-7.69	7.22	0.03	2.48
			-8.55	8.08	-0.11	2.62
			-11.27	10.80	-0.56	3.06
over dilutn geom. 8yr	829		5.75	8.18	0.34	0.80
			5.62	8.31	0.31	0.83
			5.23	8.70	0.24	0.90
non-over dilutn geom. 8yr	35		-4.10	8.68	0.02	2.49
			-4.83	9.42	-0.12	2.63
			-7.16	11.75	-0.57	3.08
over no dilutn geom. 8yr	829		4.46	7.27	0.34	0.80
			4.31	7.42	0.31	0.83
			3.85	7.88	0.24	0.90
non-over no dilutn geom. 8yr	35		-7.54	7.29	0.02	2.49
			-8.39	8.14	-0.12	2.63
			-11.09	10.85	-0.57	3.08
over dilutn arith. 10yr	805		4.43	7.01	0.56	1.06
			4.29	7.15	0.54	1.09
			3.88	7.56	0.46	1.17
non-over dilutn arith. 10yr	34		-4.84	8.73	0.01	2.63
			-5.62	9.51	-0.14	2.78
			-8.10	12.00	-0.62	3.26
over no dilutn arith. 10yr	805		3.08	6.03	0.56	1.06
			2.92	6.19	0.54	1.09
			2.44	6.67	0.46	1.17
non-over no dilutn arith. 10yr	34		-7.73	7.84	0.01	2.63
			-8.62	8.73	-0.14	2.78
			-11.47	11.58	-0.62	3.26
over dilutn geom. 10yr	805		4.94	7.40	0.58	1.08
			4.80	7.54	0.55	1.10
			4.40	7.94	0.47	1.18
non-over dilutn geom. 10yr	34		-3.77	9.22	0.00	2.66
			-4.52	9.97	-0.15	2.81
			-6.90	12.34	-0.63	3.29
over no dilutn geom. 10yr	805		3.11	6.05	0.58	1.08
			2.96	6.21	0.55	1.10
			2.48	6.68	0.47	1.18
non-over no dilutn geom. 10yr	34		-7.57	7.90	0.00	2.66
			-8.46	8.79	-0.15	2.81
			-11.29	11.62	-0.63	3.29

Table 14. Continued.

Regression	N	α	Intercept Lower	Intercept Upper	Slope Lower	Slope Upper
Panel B: MII stock returns						
over dilutn arith. 5yr	865	10%	1.52	4.09	0.31	0.76
		5%	1.38	4.23	0.28	0.78
		1%	0.96	4.65	0.21	0.85
non-over dilutn arith. 5yr	37		-0.09	13.41	-1.07	1.26
			-0.87	14.18	-1.21	1.40
			-3.31	16.62	-1.63	1.82
over no dilutn arith. 5yr	865		0.59	3.44	0.31	0.76
			0.44	3.59	0.28	0.78
			-0.03	4.06	0.21	0.85
non-over no dilutn arith. 5yr	37		-0.98	14.01	-1.07	1.26
			-1.84	14.87	-1.21	1.40
			-4.56	17.59	-1.63	1.82
over dilutn geom. 5yr	865		1.91	4.41	0.30	0.75
			1.78	4.54	0.28	0.78
			1.37	4.95	0.21	0.85
non-over dilutn geom. 5yr	37		0.19	13.26	-1.08	1.26
			-0.56	14.01	-1.22	1.40
			-2.93	16.38	-1.64	1.82
over no dilutn geom. 5yr	865		0.64	3.48	0.30	0.75
			0.49	3.63	0.28	0.78
			0.02	4.09	0.21	0.85
non-over no dilutn geom. 5yr	37		-0.93	14.00	-1.08	1.26
			-1.78	14.85	-1.22	1.40
			-4.48	17.56	-1.64	1.82
over dilutn arith. 8yr	829		2.71	5.23	0.40	0.88
			2.57	5.36	0.38	0.90
			2.16	5.77	0.30	0.98
non-over dilutn arith. 8yr	35		-7.74	5.65	-0.03	2.48
			-8.51	6.42	-0.18	2.63
			-10.95	8.87	-0.64	3.09
over no dilutn arith. 8yr	829		1.59	4.45	0.40	0.88
			1.43	4.60	0.38	0.90
			0.97	5.06	0.30	0.98
non-over no dilutn arith. 8yr	35		-10.47	4.74	-0.03	2.48
			-11.34	5.62	-0.18	2.63
			-14.12	8.39	-0.64	3.09

Table 14. Continued.

Regression			**Intercept**		**Slope**	
	N	**α**	**Lower**	**Upper**	**Lower**	**Upper**
over dilutn geom. 8yr	829		3.20	5.62	0.40	0.87
			3.07	5.75	0.37	0.90
			2.68	6.14	0.30	0.98
non-over dilutn geom. 8yr	35		-6.61	6.24	-0.05	2.49
			-7.35	6.98	-0.19	2.64
			-9.69	9.32	-0.66	3.10
over no dilutn geom. 8yr	829		1.66	4.51	0.40	0.87
			1.51	4.66	0.37	0.90
			1.05	5.12	0.30	0.98
non-over no dilutn geom. 8yr	35		-10.30	4.84	-0.05	2.49
			-11.17	5.70	-0.19	2.64
			-13.93	8.47	-0.66	3.10
over dilutn arith. 10yr	805		1.60	4.17	0.67	1.17
			1.46	4.31	0.64	1.20
			1.04	4.73	0.56	1.28
non-over dilutn arith. 10yr	34		-7.66	6.15	-0.04	2.67
			-8.46	6.95	-0.20	2.82
			-10.98	9.47	-0.70	3.32
over no dilutn arith. 10yr	805		0.03	3.01	0.67	1.17
			-0.13	3.17	0.64	1.20
			-0.61	3.65	0.56	1.28
non-over no dilutn arith. 10yr	34		-10.70	5.29	-0.04	2.67
			-11.62	6.21	-0.20	2.82
			-14.54	9.14	-0.70	3.32
over dilutn geom. 10yr	805		2.29	4.73	0.67	1.18
			2.16	4.86	0.65	1.21
			1.76	5.26	0.56	1.29
non-over dilutn geom. 10yr	34		-6.39	6.73	-0.06	2.69
			-7.15	7.48	-0.22	2.84
			-9.55	9.88	-0.72	3.35
over no dilutn geom. 10yr	805		0.09	3.05	0.67	1.18
			-0.06	3.21	0.65	1.21
			-0.54	3.69	0.56	1.29
non-over no dilutn geom. 10yr	34		-10.52	5.38	-0.06	2.69
			-11.43	6.29	-0.22	2.84
			-14.34	9.20	-0.72	3.35

Table 14. Continued.

Regression	**N**	**α**	**Intercept**		**Slope**	
			Lower	**Upper**	**Lower**	**Upper**
Panel C: MCI stock returns						
over dilutn arith. 5yr	865	10%	1.40	3.89	0.32	0.75
		5%	1.26	4.02	0.30	0.77
		1%	0.86	4.43	0.23	0.84
non-over dilutn arith. 5yr	37		-0.30	12.71	-1.00	1.22
			-1.04	13.46	-1.13	1.35
			-3.40	15.82	-1.54	1.75
over no dilutn arith. 5yr	865		0.53	3.29	0.32	0.75
			0.38	3.43	0.30	0.77
			-0.07	3.88	0.23	0.84
non-over no dilutn arith. 5yr	37		-1.15	13.26	-1.00	1.22
			-1.97	14.08	-1.13	1.35
			-4.58	16.69	-1.54	1.75
over dilutn geom. 5yr	865		1.74	4.16	0.32	0.75
			1.61	4.29	0.29	0.77
			1.21	4.68	0.22	0.84
non-over dilutn geom. 5yr	37		-0.03	12.59	-1.02	1.22
			-0.75	13.31	-1.14	1.35
			-3.04	15.59	-1.55	1.76
over no dilutn geom. 5yr	865		0.58	3.32	0.32	0.75
			0.43	3.47	0.29	0.77
			-0.01	3.92	0.22	0.84
non-over no dilutn geom. 5yr	37		-1.09	13.25	-1.02	1.22
			-1.91	14.07	-1.14	1.35
			-4.50	16.67	-1.55	1.76
over dilutn arith. 8yr	829		2.59	5.02	0.41	0.85
			2.46	5.15	0.38	0.88
			2.06	5.55	0.31	0.95
non-over dilutn arith. 8yr	35		-7.46	5.64	0.00	2.43
			-8.21	6.39	-0.14	2.57
			-10.60	8.78	-0.58	3.01
over no dilutn arith. 8yr	829		1.56	4.31	0.41	0.85
			1.42	4.46	0.38	0.88
			0.97	4.91	0.31	0.95

Table 14. Continued.

Regression	N	α	Intercept Lower	Intercept Upper	Slope Lower	Slope Upper
non-over no dilutn arith. 8yr	35		-9.99	4.82	0.00	2.43
			-10.84	5.67	-0.14	2.57
			-13.54	8.38	-0.58	3.01
over dilutn geom. 8yr	829		3.01	5.35	0.40	0.85
			2.88	5.47	0.37	0.88
			2.50	5.85	0.30	0.95
non-over dilutn geom. 8yr	35		-6.48	6.12	-0.01	2.44
			-7.20	6.84	-0.16	2.58
			-9.50	9.14	-0.60	3.03
over no dilutn geom. 8yr	829		1.64	4.37	0.40	0.85
			1.49	4.52	0.37	0.88
			1.05	4.96	0.30	0.95
non-over no dilutn geom. 8yr	35		-9.82	4.91	-0.01	2.44
			-10.66	5.76	-0.16	2.58
			-13.35	8.45	-0.60	3.03
over dilutn arith. 10yr	805		1.41	3.90	0.67	1.15
			1.28	4.03	0.65	1.18
			0.88	4.44	0.57	1.25
non-over dilutn arith. 10yr	34		-7.37	6.17	-0.02	2.60
			-8.15	6.95	-0.17	2.75
			-10.62	9.43	-0.65	3.23
over no dilutn arith. 10yr	805		-0.03	2.83	0.67	1.15
			-0.18	2.98	0.65	1.18
			-0.65	3.44	0.57	1.25
non-over no dilutn arith. 10yr	34		-10.16	5.42	-0.02	2.60
			-11.06	6.31	-0.17	2.75
			-13.91	9.16	-0.65	3.23
over dilutn geom. 10yr	805		1.99	4.36	0.68	1.16
			1.86	4.49	0.65	1.19
			1.48	4.87	0.57	1.27
non-over dilutn geom. 10yr	34		-6.28	6.63	-0.04	2.62
			-7.02	7.37	-0.19	2.77
			-9.38	9.73	-0.68	3.25
over no dilutn geom. 10yr	805		0.03	2.87	0.68	1.16
			-0.12	3.03	0.65	1.19
			-0.58	3.49	0.57	1.27
non-over no dilutn geom. 10yr	34		-9.99	5.51	-0.04	2.62
			-10.88	6.40	-0.19	2.77
			-13.71	9.23	-0.68	3.25

Table 15: Bonferroni Confidence Intervals for Regression of the Relationship Between Actual and Expected Equity Premia (Implied Risk Premium Methodology), (One-Year Horizon)

This table presents the Bonferroni Confidence Intervals for the coefficients estimated with the equation ARP[t+0, t+1] = $\beta_0 + \beta_1$ERP(t) + ε(t). Regression heading, 'over' refers to the use of an overlapping sample, 'non-over' to an non-overlapping sample, 'diltn' to an adjustment for dilution, 'no diltn' to no adjustment for dilution, 'arith' for an arithmetic average, 'geom' for a geometric average, and '5yr,' '8yr,' and '10yr' refer to the number of years used to form the arithmetic or geometric average. Lower and Upper refer to the corresponding bounds of the confidence interval.

Regression			Intercept		Slope	
Panel A: CIA stock returns	N	α	Lower	Upper	Lower	Upper
over dilutn arith. 5yr	72	10%	-1.32	9.13	-0.05	1.61
		5%	-1.89	9.71	-0.15	1.70
		1%	-3.69	11.51	-0.43	1.99
over no dilutn arith. 5yr	72		-2.55	8.85	-0.06	1.62
			-3.18	9.48	-0.16	1.71
			-5.14	11.44	-0.45	2.00
over dilutn geom. 5yr	72		-0.42	9.46	-0.06	1.61
			-0.97	10.01	-0.16	1.70
			-2.67	11.71	-0.45	1.99
over no dilutn geom. 5yr	72		-2.25	8.97	-0.08	1.62
			-2.88	9.59	-0.18	1.71
			-4.81	11.52	-0.47	2.00
over dilutn arith. 8yr	69		0.12	10.18	0.05	1.74
			-0.44	10.74	-0.04	1.83
			-2.17	12.48	-0.33	2.12
over no dilutn arith. 8yr	69		-1.28	9.81	0.05	1.75
			-1.90	10.43	-0.05	1.84
			-3.81	12.34	-0.34	2.13
over dilutn geom. 8yr	69		1.11	10.55	0.06	1.76
			0.59	11.07	-0.04	1.86
			-1.04	12.70	-0.33	2.15
over no dilutn geom. 8yr	69		-1.01	9.88	0.04	1.77
			-1.62	10.49	-0.05	1.87
			-3.49	12.37	-0.35	2.17
over dilutn arith. 10yr	67		-0.42	9.57	0.06	1.81
			-0.97	10.12	-0.04	1.90
			-2.69	11.85	-0.34	2.20
over no dilutn arith. 10yr	67		-1.93	9.15	0.06	1.82
			-2.54	9.77	-0.04	1.92
			-4.46	11.68	-0.34	2.22

Table 15. Continued.

Regression	N	α	Intercept Lower	Intercept Upper	Slope Lower	Slope Upper
over dilutn geom. 10yr	67		0.61	9.92	0.07	1.84
			0.09	10.43	-0.03	1.94
			-1.52	12.04	-0.33	2.25
over no dilutn geom. 10yr	67		-1.70	9.16	0.07	1.86
			-2.31	9.77	-0.03	1.96
			-4.18	11.64	-0.34	2.27
Panel B: MII stock returns						
over dilutn arith. 5yr	72	10%	-3.94	6.40	0.02	1.73
		5%	-4.51	6.97	-0.08	1.83
		1%	-6.29	8.75	-0.37	2.12
over no dilutn arith. 5yr	72		-4.85	6.19	-0.01	1.69
			-5.46	6.80	-0.10	1.79
			-7.36	8.70	-0.40	2.08
over dilutn geom. 5yr	72		-2.53	7.07	-0.04	1.67
			-3.07	7.60	-0.13	1.76
			-4.72	9.25	-0.43	2.05
over no dilutn geom. 5yr	72		-4.38	6.46	-0.06	1.67
			-4.98	7.06	-0.15	1.76
			-6.85	8.92	-0.45	2.06
over dilutn arith. 8yr	69		-2.77	7.26	0.17	1.91
			-3.32	7.82	0.07	2.01
			-5.05	9.54	-0.23	2.31
over no dilutn arith. 8yr	69		-3.85	6.92	0.15	1.87
			-4.44	7.51	0.05	1.97
			-6.30	9.37	-0.24	2.27
over dilutn geom. 8yr	69		-1.18	8.01	0.15	1.88
			-1.69	8.51	0.05	1.98
			-3.27	10.10	-0.24	2.28
over no dilutn geom. 8yr	69		-3.41	7.12	0.13	1.89
			-3.99	7.70	0.03	1.98
			-5.81	9.51	-0.27	2.29
over dilutn arith. 10yr	67		-3.39	6.49	0.19	1.99
			-3.94	7.04	0.09	2.09
			-5.64	8.75	-0.22	2.40
over no dilutn arith. 10yr	67		-4.55	6.11	0.18	1.96
			-5.14	6.70	0.08	2.06
			-6.98	8.54	-0.22	2.36

Table 15. Continued.

Regression	**N**	**α**	**Intercept**		**Slope**	
			Lower	**Upper**	**Lower**	**Upper**
over dilutn geom. 10yr	67		-1.71	7.27	0.19	1.98
			-2.21	7.77	0.09	2.08
			-3.76	9.32	-0.22	2.39
over no dilutn geom. 10yr	67		-4.14	6.25	0.18	1.99
			-4.72	6.83	0.08	2.09
			-6.51	8.62	-0.23	2.41
Panel C: MCI stock returns						
over dilutn arith. 5yr	72	10%	-3.64	6.22	0.04	1.67
		5%	-4.19	6.77	-0.05	1.76
		1%	-5.89	8.47	-0.33	2.04
over no dilutn arith. 5yr	72		-4.69	5.94	0.02	1.64
			-5.27	6.53	-0.07	1.73
			-7.10	8.36	-0.35	2.01
over dilutn geom. 5yr	72		-2.59	6.70	0.01	1.65
			-3.11	7.22	-0.08	1.74
			-4.71	8.82	-0.36	2.02
over no dilutn geom. 5yr	72		-4.35	6.12	-0.01	1.63
			-4.93	6.70	-0.10	1.73
			-6.73	8.50	-0.39	2.01
over dilutn arith. 8yr	69		-2.41	7.08	0.18	1.82
			-2.94	7.61	0.09	1.91
			-4.57	9.25	-0.19	2.20
over no dilutn arith. 8yr	69		-3.63	6.67	0.17	1.81
			-4.20	7.25	0.08	1.90
			-5.97	9.02	-0.20	2.18
over dilutn geom. 8yr	69		-1.21	7.65	0.17	1.82
			-1.70	8.14	0.08	1.92
			-3.23	9.66	-0.21	2.20
over no dilutn geom. 8yr	69		-3.29	6.84	0.15	1.82
			-3.85	7.41	0.06	1.91
			-5.59	9.15	-0.23	2.20
over dilutn arith. 10yr	67		-2.95	6.37	0.19	1.87
			-3.47	6.89	0.09	1.97
			-5.08	8.50	-0.20	2.26
over no dilutn arith. 10yr	67		-4.24	5.93	0.18	1.86
			-4.81	6.49	0.09	1.95
			-6.56	8.25	-0.20	2.24

Table 15. Continued.

Regression			**Intercept**		**Slope**	
	N	**α**	**Lower**	**Upper**	**Lower**	**Upper**
over dilutn geom. 10yr	67		-1.72	6.93	0.18	1.89
			-2.20	7.41	0.09	1.98
			-3.70	8.90	-0.20	2.27
over no dilutn geom. 10yr	67		-3.95	6.04	0.18	1.89
			-4.50	6.59	0.09	1.99
			-6.22	8.32	-0.21	2.28

Table 16: Bonferroni Confidence Intervals for Regression of the Relationship Between Actual and Expected Real Stock Returns, (Five-Year Horizon)

This table presents the Bonferroni Confidence Intervals for the coefficients estimated with the equation ARSR[t+0, t+5] = $\beta_0 + \beta_1$ERSR(t) + ε(t). Regression heading, 'over' refers to the use of an overlapping sample, 'non-over' to an non-overlapping sample, 'diltn' to an adjustment for dilution, 'no diltn' to no adjustment for dilution, 'arith' for an arithmetic average, 'geom' for a geometric average, and '5yr,' '8yr,' and '10yr' refer to the number of years used to form the arithmetic or geometric average. Lower and Upper refer to the corresponding bounds of the confidence interval.

Regression			Intercept		Slope	
Panel A: CIA stock returns	N	α	Lower	Upper	Lower	Upper
over dilutn arith. 5yr	817	10%	9.27	13.40	-0.55	0.16
		5%	9.05	13.62	-0.59	0.19
		1%	8.38	14.29	-0.70	0.31
non-over dilutn arith. 5yr	14		-3.08	33.14	-2.29	3.64
			-5.42	35.48	-2.67	4.02
			-13.46	43.51	-3.98	5.34
over no dilutn arith. 5yr	817		9.12	14.12	-0.55	0.16
			8.85	14.39	-0.59	0.19
			8.04	15.20	-0.70	0.31
non-over no dilutn arith. 5yr	14		-7.65	35.77	-2.29	3.64
			-10.46	38.58	-2.67	4.02
			-20.09	48.22	-3.98	5.34
over dilutn geom. 5yr	817		9.32	13.16	-0.55	0.16
			9.12	13.36	-0.59	0.19
			8.49	13.98	-0.70	0.31
non-over dilutn geom. 5yr	14		-1.53	32.24	-2.29	3.65
			-3.72	34.42	-2.67	4.04
			-11.21	41.92	-3.99	5.36
over no dilutn geom. 5yr	817		9.12	14.12	-0.55	0.16
			8.86	14.39	-0.59	0.19
			8.04	15.20	-0.70	0.31
non-over no dilutn geom. 5yr	14		-7.63	35.70	-2.29	3.65
			-10.43	38.51	-2.67	4.04
			-20.05	48.12	-3.99	5.36
over dilutn arith. 8yr	781		5.51	10.33	-0.11	0.74
			5.25	10.59	-0.15	0.78
			4.47	11.37	-0.29	0.92
non-over dilutn arith. 8yr	14		-11.16	22.64	-2.65	3.44
			-13.35	24.83	-3.04	3.83
			-20.85	32.33	-4.39	5.18
over no dilutn arith. 8yr	781		4.51	10.43	-0.11	0.74
			4.20	10.74	-0.15	0.78
			3.23	11.71	-0.29	0.92

Table 16. Continued.

Regression	N	α	Intercept Lower	Intercept Upper	Slope Lower	Slope Upper
non-over no dilutn arith. 8yr	14		-15.61	25.96	-2.65	3.44
			-18.30	28.65	-3.04	3.83
			-27.52	37.88	-4.39	5.18
over dilutn geom. 8yr	781		5.79	10.24	-0.09	0.76
			5.55	10.48	-0.14	0.81
			4.82	11.20	-0.28	0.95
non-over dilutn geom. 8yr	14		-9.59	21.64	-2.70	3.46
			-11.61	23.66	-3.10	3.86
			-18.55	30.59	-4.47	5.23
over no dilutn geom. 8yr	781		4.41	10.33	-0.09	0.76
			4.09	10.65	-0.14	0.81
			3.13	11.61	-0.28	0.95
non-over no dilutn geom. 8yr	14		-15.55	26.14	-2.70	3.46
			-18.24	28.84	-3.10	3.86
			-27.49	38.08	-4.47	5.23
over dilutn arith. 10yr	757		6.69	12.07	-0.37	0.57
			6.40	12.36	-0.42	0.62
			5.52	13.23	-0.58	0.78
non-over dilutn arith. 10yr	13		2.67	38.62	-4.26	2.08
			0.30	40.98	-4.68	2.50
			-7.92	49.20	-6.13	3.95
over no dilutn arith. 10yr	757		5.92	12.55	-0.37	0.57
			5.56	12.91	-0.42	0.62
			4.48	13.99	-0.58	0.78
non-over no dilutn arith. 10yr	13		0.06	44.34	-4.26	2.08
			-2.85	47.26	-4.68	2.50
			-12.97	57.37	-6.13	3.95
over dilutn geom. 10yr	757		6.91	11.88	-0.37	0.59
			6.64	12.15	-0.42	0.64
			5.83	12.96	-0.58	0.80
non-over dilutn geom. 10yr	13		3.47	36.65	-4.31	2.12
			1.28	38.83	-4.73	2.55
			-6.30	46.42	-6.20	4.02
over no dilutn geom. 10yr	757		5.86	12.52	-0.37	0.59
			5.50	12.88	-0.42	0.64
			4.41	13.96	-0.58	0.80
non-over no dilutn geom. 10yr	13		-0.05	44.38	-4.31	2.12
			-2.98	47.31	-4.73	2.55
			-13.14	57.46	-6.20	4.02

Table 16. Continued.

Regression			Intercept		Slope	
	N	α	Lower	Upper	Lower	Upper
Panel B: MII stock returns						
over dilutn arith. 5yr	817	10%	5.71	9.91	-0.36	0.36
		5%	5.49	10.13	-0.40	0.40
		1%	4.81	10.82	-0.52	0.51
non-over dilutn arith. 5yr	14		-6.86	29.11	-2.16	3.76
			-9.19	31.44	-2.55	4.14
			-17.17	39.42	-3.86	5.45
over no dilutn arith. 5yr	817		5.25	10.38	-0.36	0.36
			4.98	10.65	-0.40	0.40
			4.15	11.49	-0.52	0.51
non-over no dilutn arith. 5yr	14		-11.79	31.66	-2.16	3.76
			-14.60	34.47	-2.55	4.14
			-24.24	44.12	-3.86	5.45
over dilutn geom. 5yr	817		5.92	9.75	-0.37	0.35
			5.72	9.96	-0.41	0.39
			5.09	10.58	-0.53	0.51
non-over dilutn geom. 5yr	14		-4.91	28.12	-2.17	3.77
			-7.04	30.26	-2.55	4.16
			-14.37	37.59	-3.87	5.47
over no dilutn geom. 5yr	817		5.29	10.41	-0.37	0.35
			5.02	10.69	-0.41	0.39
			4.19	11.52	-0.53	0.51
non-over no dilutn geom. 5yr	14		-11.75	31.62	-2.17	3.77
			-14.56	34.43	-2.55	4.16
			-24.18	44.05	-3.87	5.47
over dilutn arith. 8yr	781		1.46	6.30	0.16	1.02
			1.21	6.56	0.12	1.06
			0.42	7.34	-0.02	1.20
non-over dilutn arith. 8yr	14		-16.19	20.30	-2.64	3.98
			-18.56	22.66	-3.07	4.41
			-26.65	30.75	-4.54	5.88
over no dilutn arith. 8yr	781		0.01	6.00	0.16	1.02
			-0.31	6.32	0.12	1.06
			-1.28	7.29	-0.02	1.20
non-over no dilutn arith. 8yr	14		-21.59	23.69	-2.64	3.98
			-24.52	26.62	-3.07	4.41
			-34.56	36.67	-4.54	5.88

Table 16. Continued.

Regression			Intercept		Slope	
	N	α	Lower	Upper	Lower	Upper
over dilutn geom. 8yr	781		2.03	6.41	0.17	1.03
			1.80	6.65	0.12	1.08
			1.08	7.36	-0.02	1.22
non-over dilutn geom. 8yr	14		-13.95	19.14	-2.71	4.00
			-16.09	21.28	-3.14	4.44
			-23.43	28.62	-4.63	5.93
over no dilutn geom. 8yr	781		-0.02	5.97	0.17	1.03
			-0.34	6.29	0.12	1.08
			-1.32	7.26	-0.02	1.22
non-over no dilutn geom. 8yr	14		-21.48	23.96	-2.71	4.00
			-24.42	26.90	-3.14	4.44
			-34.50	36.99	-4.63	5.93
over dilutn arith. 10yr	757		2.14	7.55	-0.03	0.93
			1.85	7.84	-0.09	0.98
			0.97	8.72	-0.24	1.13
non-over dilutn arith. 10yr	13		-1.66	31.39	-3.60	2.28
			-3.84	33.56	-3.99	2.67
			-11.39	41.11	-5.34	4.01
over no dilutn arith. 10yr	757		0.82	7.55	-0.03	0.93
			0.46	7.91	-0.09	0.98
			-0.63	9.00	-0.24	1.13
non-over no dilutn arith. 10yr	13		-4.68	36.37	-3.60	2.28
			-7.38	39.08	-3.99	2.67
			-16.77	48.46	-5.34	4.01
over dilutn geom. 10yr	757		2.69	7.59	-0.04	0.93
			2.43	7.85	-0.09	0.98
			1.63	8.65	-0.25	1.14
non-over dilutn geom. 10yr	13		-0.46	29.43	-3.66	2.30
			-2.43	31.40	-4.05	2.70
			-9.26	38.23	-5.41	4.06
over no dilutn geom. 10yr	757		0.83	7.59	-0.04	0.93
			0.47	7.95	-0.09	0.98
			-0.63	9.05	-0.25	1.14
non-over no dilutn geom. 10yr	13		-4.70	36.48	-3.66	2.30
			-7.41	39.20	-4.05	2.70
			-16.82	48.61	-5.41	4.06

Table 16. Continued.

Regression	N	α	Intercept Lower	Intercept Upper	Slope Lower	Slope Upper
Panel C: MCI stock returns						
over dilutn arith. 5yr	817	10%	5.89	10.09	-0.40	0.31
		5%	5.66	10.31	-0.43	0.34
		1%	4.98	11.00	-0.55	0.46
non-over dilutn arith. 5yr	14		-7.84	29.68	-2.22	3.81
			-10.27	32.11	-2.61	4.20
			-18.59	40.43	-3.95	5.54
over no dilutn arith. 5yr	817		5.52	10.58	-0.40	0.31
			5.25	10.85	-0.43	0.34
			4.43	11.67	-0.55	0.46
non-over no dilutn arith. 5yr	14		-12.51	32.17	-2.22	3.81
			-15.40	35.06	-2.61	4.20
			-25.31	44.97	-3.95	5.54
over dilutn geom. 5yr	817		6.04	9.94	-0.40	0.30
			5.83	10.15	-0.44	0.34
			5.20	10.78	-0.56	0.45
non-over dilutn geom. 5yr	14		-6.17	28.80	-2.22	3.82
			-8.43	31.06	-2.62	4.21
			-16.19	38.82	-3.96	5.55
over no dilutn geom. 5yr	817		5.57	10.61	-0.40	0.30
			5.30	10.88	-0.44	0.34
			4.48	11.70	-0.56	0.45
non-over no dilutn geom. 5yr	14		-12.48	32.12	-2.22	3.82
			-15.36	35.00	-2.62	4.21
			-25.26	44.90	-3.96	5.55
over dilutn arith. 8yr	781		1.36	6.24	0.15	0.99
			1.10	6.50	0.11	1.04
			0.30	7.30	-0.03	1.17
non-over dilutn arith. 8yr	14		-16.10	21.52	-2.78	3.85
			-18.53	23.96	-3.21	4.28
			-26.88	32.30	-4.68	5.75
over no dilutn arith. 8yr	781		0.04	5.98	0.15	0.99
			-0.27	6.30	0.11	1.04
			-1.24	7.27	-0.03	1.17
non-over no dilutn arith. 8yr	14		-20.96	24.91	-2.78	3.85
			-23.93	27.88	-3.21	4.28
			-34.11	38.06	-4.68	5.75

Table 16. Continued.

Regression	N	α	Intercept Lower	Intercept Upper	Slope Lower	Slope Upper
over dilutn geom. 8yr	781		1.81	6.32	0.16	1.00
			1.57	6.56	0.11	1.05
			0.84	7.30	-0.03	1.19
non-over dilutn geom. 8yr	14		-14.26	20.51	-2.85	3.87
			-16.51	22.76	-3.29	4.30
			-24.23	30.47	-4.78	5.79
over no dilutn geom. 8yr	781		0.01	5.95	0.16	1.00
			-0.31	6.27	0.11	1.05
			-1.28	7.24	-0.03	1.19
non-over no dilutn geom. 8yr	14		-20.84	25.19	-2.85	3.87
			-23.82	28.17	-3.29	4.30
			-34.03	38.38	-4.78	5.79
over dilutn arith. 10yr	757		2.12	7.64	-0.06	0.89
			1.82	7.93	-0.11	0.94
			0.93	8.83	-0.27	1.09
non-over dilutn arith. 10yr	13		-2.47	32.76	-3.74	2.34
			-4.79	35.08	-4.14	2.75
			-12.84	43.13	-5.53	4.14
over no dilutn arith. 10yr	757		0.94	7.68	-0.06	0.89
			0.58	8.04	-0.11	0.94
			-0.52	9.13	-0.27	1.09
non-over no dilutn arith. 10yr	13		-5.39	37.61	-3.74	2.34
			-8.22	40.44	-4.14	2.75
			-18.04	50.26	-5.53	4.14
over dilutn geom. 10yr	757		2.56	7.66	-0.07	0.89
			2.29	7.94	-0.12	0.94
			1.46	8.77	-0.28	1.10
non-over dilutn geom. 10yr	13		-1.43	31.07	-3.79	2.37
			-3.58	33.21	-4.20	2.78
			-11.00	40.64	-5.61	4.19
over no dilutn geom. 10yr	757		0.96	7.73	-0.07	0.89
			0.59	8.09	-0.12	0.94
			-0.51	9.19	-0.28	1.10
non-over no dilutn geom. 10yr	13		-5.42	37.71	-3.79	2.37
			-8.26	40.56	-4.20	2.78
			-18.12	50.41	-5.61	4.19

Table 17: Bonferroni Confidence Intervals for Regression of the Relationship Between Actual and Expected Real Bond Returns, (Five-Year Horizon)

This table presents the Bonferroni Confidence Intervals for the coefficients estimated with the equation ARBR[t+0, t+5] = $\beta_0 + \beta_1$ERBR(t) + ε(t). Regression heading, 'over' refers to the use of an overlapping sample, 'non-over' to an non-overlapping sample, 'arith' for an arithmetic average, 'geom' for a geometric average, and '5yr,' '8yr,' and '10yr' refer to the number of years used to form the arithmetic or geometric average. Lower and Upper refer to the corresponding bounds of the confidence interval.

Regression			Intercept		Slope	
	N	α	Lower	Upper	Lower	Upper
over arith. 5yr	817	10%	0.17	1.66	0.43	0.78
		5%	0.09	1.74	0.41	0.80
		1%	-0.16	1.98	0.35	0.86
non-over arith. 5yr	14		-7.99	4.39	0.02	3.01
			-8.79	5.19	-0.17	3.20
			-11.53	7.93	-0.83	3.86
over geom. 5yr	817		0.15	1.66	0.42	0.78
			0.07	1.74	0.40	0.80
			-0.17	1.98	0.35	0.86
non-over geom. 5yr	14		-8.10	4.35	0.03	3.02
			-8.91	5.16	-0.17	3.21
			-11.67	7.92	-0.83	3.88
over arith. 8yr	781		-0.08	1.49	0.40	0.81
			-0.17	1.58	0.38	0.84
			-0.42	1.83	0.31	0.90
non-over arith. 8yr	14		-8.41	7.29	-0.52	3.47
			-9.43	8.31	-0.77	3.73
			-12.91	11.79	-1.66	4.61
over geom. 8yr	781		-0.11	1.49	0.40	0.81
			-0.19	1.57	0.37	0.83
			-0.45	1.83	0.31	0.90
non-over geom. 8yr	14		-8.51	7.35	-0.54	3.47
			-9.54	8.37	-0.79	3.73
			-13.06	11.89	-1.68	4.61
over arith. 10yr	757		0.01	1.66	0.36	0.83
			-0.08	1.75	0.34	0.85
			-0.35	2.02	0.26	0.93
non-over arith. 10yr	13		-9.34	4.87	-0.35	3.48
			-10.28	5.81	-0.60	3.73
			-13.52	9.06	-1.48	4.61
over geom. 10yr	757		-0.03	1.65	0.36	0.83
			-0.12	1.74	0.33	0.85
			-0.39	2.01	0.26	0.93

Table 17. Continued.

Regression			Intercept		Slope	
	N	α	Lower	Upper	Lower	Upper
non-over geom. 10yr	13		-9.50	4.85	-0.35	3.49
			-10.44	5.80	-0.60	3.74
			-13.72	9.08	-1.48	4.62

Table 18: Bonferroni Confidence Intervals for Regression of the Relationship Between Actual and Expected Equity Premia (Arnott and Bernstein), (Five-Year Horizon)

This table presents the Bonferroni Confidence Intervals for the coefficients estimated with the equation $ARP[t+0, t+5] = \beta_0 + \beta_1 ERP(t) + \varepsilon(t)$. Regression heading, 'over' refers to the use of an overlapping sample, 'non-over' to an non-overlapping sample, 'diltn' to an adjustment for dilution, 'no diltn' to no adjustment for dilution, 'arith' for an arithmetic average, 'geom' for a geometric average, and '5yr,' '8yr,' and '10yr' refer to the number of years used to form the arithmetic or geometric average. Lower and Upper refer to the corresponding bounds of the confidence interval.

Regression			Intercept		Slope	
Panel A: CIA stock returns	N	α	Lower	Upper	Lower	Upper
over dilutn arith. 5yr	817	10%	5.14	7.62	0.45	0.87
		5%	5.01	7.76	0.43	0.89
		1%	4.60	8.16	0.36	0.96
non-over dilutn arith. 5yr	14		2.84	24.83	-0.78	2.75
			1.42	26.25	-1.01	2.97
			-3.46	31.13	-1.79	3.76
over no dilutn arith. 5yr	817		4.06	6.82	0.45	0.87
			3.92	6.96	0.43	0.89
			3.47	7.41	0.36	0.96
non-over no dilutn arith. 5yr	14		0.30	24.56	-0.78	2.75
			-1.27	26.13	-1.01	2.97
			-6.66	31.51	-1.79	3.76
over dilutn geom. 5yr	817		5.54	7.95	0.45	0.87
			5.41	8.08	0.43	0.89
			5.02	8.47	0.36	0.96
non-over dilutn geom. 5yr	14		3.70	25.04	-0.78	2.76
			2.31	26.43	-1.01	2.99
			-2.42	31.16	-1.79	3.77
over no dilutn geom. 5yr	817		4.10	6.84	0.45	0.87
			3.96	6.99	0.43	0.89
			3.51	7.44	0.36	0.96
non-over no dilutn geom. 5yr	14		0.40	24.53	-0.78	2.76
			-1.16	26.09	-1.01	2.99
			-6.52	31.45	-1.79	3.77
over dilutn arith. 8yr	781		3.88	6.50	0.61	1.08
			3.74	6.64	0.58	1.11
			3.31	7.06	0.51	1.19
non-over dilutn arith. 8yr	14		-5.75	9.60	-0.37	2.49
			-6.74	10.59	-0.55	2.68
			-10.15	14.00	-1.19	3.31

Table 18. Continued.

Regression	N	α	Intercept Lower	Intercept Upper	Slope Lower	Slope Upper
over no dilutn arith. 8yr	781		2.49	5.46	0.61	1.08
			2.33	5.62	0.58	1.11
			1.84	6.11	0.51	1.19
non-over no dilutn arith. 8yr	14		-8.24	9.04	-0.37	2.49
			-9.36	10.16	-0.55	2.68
			-13.20	14.00	-1.19	3.31
over dilutn geom. 8yr	781		4.40	6.91	0.62	1.10
			4.27	7.05	0.59	1.12
			3.86	7.45	0.52	1.20
non-over dilutn geom. 8yr	14		-4.87	10.00	-0.39	2.49
			-5.83	10.97	-0.58	2.68
			-9.13	14.27	-1.22	3.32
over no dilutn geom. 8yr	781		2.53	5.48	0.62	1.10
			2.37	5.64	0.59	1.12
			1.89	6.12	0.52	1.20
non-over no dilutn geom. 8yr	14		-8.07	9.16	-0.39	2.49
			-9.18	10.27	-0.58	2.68
			-13.01	14.10	-1.22	3.32
over dilutn arith. 10yr	757		4.13	6.94	0.51	1.04
			3.98	7.09	0.48	1.07
			3.53	7.55	0.39	1.15
non-over dilutn arith. 10yr	13		0.57	21.86	-1.13	2.80
			-0.83	23.26	-1.38	3.05
			-5.70	28.12	-2.28	3.95
over no dilutn arith. 10yr	757		2.80	6.06	0.51	1.04
			2.63	6.23	0.48	1.07
			2.10	6.76	0.39	1.15
non-over no dilutn arith. 10yr	13		-2.18	22.21	-1.13	2.80
			-3.79	23.82	-1.38	3.05
			-9.36	29.40	-2.28	3.95
over dilutn geom. 10yr	757		4.63	7.30	0.52	1.05
			4.49	7.45	0.49	1.08
			4.06	7.88	0.40	1.17
non-over dilutn geom. 10yr	13		1.54	21.86	-1.13	2.82
			0.20	23.19	-1.39	3.08
			-4.45	27.84	-2.29	3.99
over no dilutn geom. 10yr	757		2.84	6.08	0.52	1.05
			2.67	6.25	0.49	1.08
			2.14	6.78	0.40	1.17

Table 18. Continued.

Regression	N	α	Intercept Lower	Intercept Upper	Slope Lower	Slope Upper
non-over no dilutn geom. 10yr	13		-2.03	22.16	-1.13	2.82
			-3.62	23.75	-1.39	3.08
			-9.15	29.28	-2.29	3.99
Panel B: MII stock returns						
over dilutn arith. 5yr	817	10%	2.51	5.00	0.48	0.90
		5%	2.37	5.13	0.46	0.93
		1%	1.97	5.54	0.39	1.00
non-over dilutn arith. 5yr	14		-0.45	21.09	-0.67	2.83
			-1.84	22.49	-0.89	3.05
			-6.62	27.27	-1.67	3.83
over no dilutn arith. 5yr	817		1.33	4.11	0.48	0.90
			1.18	4.26	0.46	0.93
			0.73	4.71	0.39	1.00
non-over no dilutn arith. 5yr	14		-3.22	20.66	-0.67	2.83
			-4.77	22.21	-0.89	3.05
			-10.07	27.51	-1.67	3.83
over dilutn geom. 5yr	817		3.01	5.42	0.48	0.90
			2.88	5.55	0.46	0.93
			2.49	5.94	0.39	1.00
non-over dilutn geom. 5yr	14		0.63	21.44	-0.66	2.84
			-0.72	22.79	-0.89	3.06
			-5.34	27.41	-1.67	3.84
over no dilutn geom. 5yr	817		1.39	4.16	0.48	0.90
			1.24	4.30	0.46	0.93
			0.79	4.75	0.39	1.00
non-over no dilutn geom. 5yr	14		-3.11	20.65	-0.66	2.84
			-4.65	22.19	-0.89	3.06
			-9.92	27.46	-1.67	3.84
over dilutn arith. 8yr	781		1.07	3.68	0.67	1.15
			0.93	3.82	0.65	1.18
			0.51	4.24	0.57	1.25
non-over dilutn arith. 8yr	14		-9.34	8.19	-0.52	2.80
			-10.47	9.33	-0.73	3.01
			-14.36	13.22	-1.47	3.75
over no dilutn arith. 8yr	781		-0.47	2.51	0.67	1.15
			-0.63	2.67	0.65	1.18
			-1.11	3.16	0.57	1.25

Table 18. Continued.

Regression	N	α	Intercept Lower	Intercept Upper	Slope Lower	Slope Upper
non-over no dilutn arith. 8yr	14		-12.21	7.68	-0.52	2.80
			-13.50	8.97	-0.73	3.01
			-17.91	13.38	-1.47	3.75
over dilutn geom. 8yr	781		1.75	4.23	0.68	1.16
			1.62	4.37	0.65	1.18
			1.22	4.77	0.57	1.26
non-over dilutn geom. 8yr	14		-8.20	8.69	-0.55	2.79
			-9.29	9.78	-0.77	3.01
			-13.04	13.53	-1.51	3.75
over no dilutn geom. 8yr	781		-0.40	2.56	0.68	1.16
			-0.56	2.72	0.65	1.18
			-1.04	3.20	0.57	1.26
non-over no dilutn geom. 8yr	14		-12.00	7.83	-0.55	2.79
			-13.29	9.11	-0.77	3.01
			-17.69	13.51	-1.51	3.75
over dilutn arith. 10yr	757		1.17	3.97	0.59	1.13
			1.02	4.12	0.56	1.16
			0.57	4.58	0.47	1.24
non-over dilutn arith. 10yr	13		-2.46	17.09	-0.84	2.80
			-3.75	18.37	-1.08	3.04
			-8.22	22.84	-1.91	3.87
over no dilutn arith. 10yr	757		-0.34	2.94	0.59	1.13
			-0.51	3.11	0.56	1.16
			-1.05	3.64	0.47	1.24
non-over no dilutn arith. 10yr	13		-5.42	17.13	-0.84	2.80
			-6.90	18.61	-1.08	3.04
			-12.06	23.76	-1.91	3.87
over dilutn geom. 10yr	757		1.84	4.48	0.59	1.13
			1.70	4.62	0.56	1.16
			1.27	5.05	0.47	1.25
non-over dilutn geom. 10yr	13		-1.27	17.27	-0.85	2.82
			-2.49	18.49	-1.09	3.07
			-6.72	22.72	-1.93	3.91
over no dilutn geom. 10yr	757		-0.26	2.99	0.59	1.13
			-0.44	3.16	0.56	1.16
			-0.97	3.69	0.47	1.25
non-over no dilutn geom. 10yr	13		-5.25	17.13	-0.85	2.82
			-6.72	18.60	-1.09	3.07
			-11.83	23.71	-1.93	3.91

Table 18. Continued.

Regression	N	α	Intercept Lower	Intercept Upper	Slope Lower	Slope Upper
Panel C: MCI stock returns						
over dilutn arith. 5yr	817	10%	2.40	4.80	0.47	0.88
		5%	2.27	4.93	0.45	0.90
		1%	1.88	5.32	0.38	0.96
non-over dilutn arith. 5yr	14		-0.95	21.13	-0.71	2.83
			-2.38	22.56	-0.94	3.06
			-7.27	27.45	-1.73	3.84
over no dilutn arith. 5yr	817		1.34	4.00	0.47	0.88
			1.20	4.15	0.45	0.90
			0.76	4.58	0.38	0.96
non-over no dilutn arith. 5yr	14		-3.56	20.83	-0.71	2.83
			-5.14	22.41	-0.94	3.06
			-10.55	27.82	-1.73	3.84
over dilutn geom. 5yr	817		2.82	5.14	0.47	0.87
			2.70	5.27	0.45	0.90
			2.32	5.64	0.38	0.96
non-over dilutn geom. 5yr	14		-0.01	21.36	-0.71	2.84
			-1.39	22.75	-0.94	3.07
			-6.14	27.49	-1.73	3.86
over no dilutn geom. 5yr	817		1.40	4.05	0.47	0.87
			1.25	4.19	0.45	0.90
			0.82	4.62	0.38	0.96
non-over no dilutn geom. 5yr	14		-3.45	20.81	-0.71	2.84
			-5.02	22.38	-0.94	3.07
			-10.40	27.77	-1.73	3.86
over dilutn arith. 8yr	781		0.93	3.44	0.66	1.12
			0.79	3.57	0.64	1.14
			0.38	3.98	0.56	1.21
non-over dilutn arith. 8yr	14		-9.21	8.17	-0.57	2.67
			-10.34	9.30	-0.78	2.88
			-14.19	13.15	-1.50	3.60
over no dilutn arith. 8yr	781		-0.47	2.39	0.66	1.12
			-0.62	2.54	0.64	1.14
			-1.09	3.01	0.56	1.21
non-over no dilutn arith. 8yr	14		-11.79	7.85	-0.57	2.67
			-13.06	9.12	-0.78	2.88
			-17.41	13.47	-1.50	3.60

Table 18. Continued.

Regression	N	α	Intercept Lower	Intercept Upper	Slope Lower	Slope Upper
over dilutn geom. 8yr	781		1.49	3.89	0.66	1.12
			1.36	4.02	0.64	1.15
			0.97	4.41	0.56	1.22
non-over dilutn geom. 8yr	14		-8.25	8.52	-0.61	2.67
			-9.34	9.61	-0.82	2.88
			-13.06	13.33	-1.55	3.61
over no dilutn geom. 8yr	781		-0.40	2.44	0.66	1.12
			-0.56	2.59	0.64	1.15
			-1.02	3.05	0.56	1.22
non-over no dilutn geom. 8yr	14		-11.58	7.99	-0.61	2.67
			-12.85	9.25	-0.82	2.88
			-17.19	13.59	-1.55	3.61
over dilutn arith. 10yr	757		1.06	3.78	0.57	1.08
			0.92	3.93	0.54	1.11
			0.48	4.37	0.46	1.19
non-over dilutn arith. 10yr	13		-3.03	17.26	-0.91	2.82
			-4.37	18.59	-1.16	3.06
			-9.01	23.23	-2.01	3.91
over no dilutn arith. 10yr	757		-0.29	2.86	0.57	1.08
			-0.46	3.03	0.54	1.11
			-0.97	3.55	0.46	1.19
non-over no dilutn arith. 10yr	13		-5.83	17.43	-0.91	2.82
			-7.36	18.96	-1.16	3.06
			-12.68	24.28	-2.01	3.91
over dilutn geom. 10yr	757		1.62	4.19	0.57	1.09
			1.48	4.33	0.54	1.12
			1.06	4.75	0.46	1.20
non-over dilutn geom. 10yr	13		-1.97	17.33	-0.92	2.84
			-3.25	18.60	-1.17	3.09
			-7.66	23.02	-2.03	3.94
over no dilutn geom. 10yr	757		-0.22	2.92	0.57	1.09
			-0.38	3.09	0.54	1.12
			-0.89	3.60	0.46	1.20
non-over no dilutn geom. 10yr	13		-5.65	17.42	-0.92	2.84
			-7.18	18.94	-1.17	3.09
			-12.45	24.21	-2.03	3.94

Table 19: Bonferroni Confidence Intervals for Regression of the Relationship Between Actual and Expected Equity Premia (Implied Risk Premium Methodology), (Five-Year Horizon)

This table presents the Bonferroni Confidence Intervals for the coefficients estimated with the equation ARP[t+0, t+5] = $\beta_0 + \beta_1 ERP(t) + \varepsilon(t)$. Regression heading, 'over' refers to the use of an overlapping sample, 'non-over' to an non-overlapping sample, 'diltn' to an adjustment for dilution, 'no diltn' to no adjustment for dilution, 'arith' for an arithmetic average, 'geom' for a geometric average, and '5yr,' '8yr,' and '10yr' refer to the number of years used to form the arithmetic or geometric average. Lower and Upper refer to the corresponding bounds of the confidence interval.

Regression			Intercept		Slope	
Panel A: CIA stock returns	N	α	Lower	Upper	Lower	Upper
over dilutn arith. 5yr	68	10%	-0.04	9.93	-0.09	1.47
		5%	-0.59	10.48	-0.17	1.56
		1%	-2.31	12.20	-0.44	1.82
over no dilutn arith. 5yr	68		-1.23	9.67	-0.08	1.49
			-1.84	10.28	-0.17	1.57
			-3.72	12.16	-0.44	1.84
over dilutn geom. 5yr	68		0.76	10.12	-0.07	1.49
			0.24	10.64	-0.16	1.57
			-1.37	12.25	-0.43	1.84
over no dilutn geom. 5yr	68		-1.04	9.64	-0.07	1.51
			-1.64	10.24	-0.15	1.60
			-3.48	12.08	-0.42	1.87
over dilutn arith. 8yr	65		-1.14	9.61	-0.11	1.66
			-1.73	10.21	-0.21	1.76
			-3.59	12.07	-0.52	2.06
over no dilutn arith. 8yr	65		-2.54	9.37	-0.10	1.68
			-3.20	10.03	-0.20	1.78
			-5.26	12.09	-0.51	2.09
over dilutn geom. 8yr	65		-0.18	9.80	-0.10	1.68
			-0.74	10.35	-0.20	1.78
			-2.46	12.08	-0.51	2.09
over no dilutn geom. 8yr	65		-2.31	9.34	-0.09	1.71
			-2.96	9.98	-0.19	1.81
			-4.97	12.00	-0.50	2.12
over dilutn arith. 10yr	63		-1.27	9.90	-0.09	1.84
			-1.89	10.52	-0.20	1.95
			-3.82	12.45	-0.53	2.28
over no dilutn arith. 10yr	63		-2.82	9.66	-0.09	1.85
			-3.51	10.36	-0.20	1.96
			-5.67	12.51	-0.54	2.29

Table 19. Continued.

Regression	N	α	Intercept Lower	Intercept Upper	Slope Lower	Slope Upper
over dilutn geom. 10yr	63		-0.17	10.13	-0.09	1.86
			-0.74	10.70	-0.20	1.97
			-2.52	12.48	-0.53	2.31
over no dilutn geom. 10yr	63		-2.53	9.68	-0.09	1.88
			-3.21	10.36	-0.20	1.99
			-5.32	12.47	-0.54	2.33
Panel B: MII stock returns						
over dilutn arith. 5yr	68	10%	-2.80	7.03	0.00	1.59
		5%	-3.35	7.57	-0.09	1.68
		1%	-5.04	9.27	-0.37	1.95
over no dilutn arith. 5yr	68		-3.75	6.73	0.01	1.58
			-4.33	7.32	-0.08	1.67
			-6.14	9.13	-0.35	1.94
over dilutn geom. 5yr	68		-1.59	7.42	0.03	1.60
			-2.10	7.93	-0.06	1.68
			-3.65	9.48	-0.33	1.95
over no dilutn geom. 5yr	68		-3.49	6.74	0.03	1.61
			-4.06	7.30	-0.06	1.70
			-5.82	9.07	-0.33	1.97
over dilutn arith. 8yr	65		-4.18	6.28	0.05	1.83
			-4.77	6.86	-0.04	1.93
			-6.57	8.67	-0.35	2.24
over no dilutn arith. 8yr	65		-5.28	5.96	0.06	1.82
			-5.90	6.59	-0.04	1.91
			-7.85	8.53	-0.34	2.22
over dilutn geom. 8yr	65		-2.65	6.79	0.07	1.83
			-3.18	7.32	-0.03	1.93
			-4.81	8.95	-0.33	2.23
over no dilutn geom. 8yr	65		-4.92	6.02	0.07	1.85
			-5.53	6.62	-0.03	1.95
			-7.42	8.51	-0.33	2.26
over dilutn arith. 10yr	63		-4.20	6.71	0.01	1.96
			-4.81	7.32	-0.09	2.07
			-6.70	9.21	-0.43	2.41
over no dilutn arith. 10yr	63		-5.38	6.42	0.02	1.94
			-6.04	7.07	-0.09	2.05
			-8.08	9.11	-0.42	2.38

Table 19. Continued.

Regression	**N**	**α**	**Intercept**		**Slope**	
			Lower	**Upper**	**Lower**	**Upper**
over dilutn geom. 10yr	63		-2.53	7.23	0.03	1.96
			-3.08	7.77	-0.08	2.07
			-4.76	9.46	-0.42	2.40
over no dilutn geom. 10yr	63		-4.96	6.51	0.02	1.97
			-5.60	7.15	-0.09	2.08
			-7.58	9.13	-0.42	2.42
Panel C: MCI stock returns						
over dilutn arith. 5yr	68	10%	-2.47	6.77	0.03	1.52
		5%	-2.99	7.29	-0.05	1.60
		1%	-4.58	8.88	-0.31	1.86
over no dilutn arith. 5yr	68		-3.52	6.44	0.04	1.52
			-4.07	6.99	-0.04	1.60
			-5.79	8.71	-0.30	1.86
over dilutn geom. 5yr	68		-1.52	7.13	0.03	1.52
			-2.00	7.61	-0.05	1.61
			-3.49	9.11	-0.31	1.86
over no dilutn geom. 5yr	68		-3.26	6.51	0.04	1.53
			-3.81	7.06	-0.04	1.62
			-5.49	8.74	-0.30	1.88
over dilutn arith. 8yr	65		-3.66	6.21	0.03	1.70
			-4.21	6.76	-0.06	1.80
			-5.91	8.47	-0.35	2.09
over no dilutn arith. 8yr	65		-4.85	5.88	0.04	1.70
			-5.45	6.48	-0.05	1.79
			-7.30	8.33	-0.34	2.08
over dilutn geom. 8yr	65		-2.52	6.60	0.03	1.71
			-3.03	7.11	-0.07	1.80
			-4.61	8.69	-0.36	2.09
over no dilutn geom. 8yr	65		-4.55	5.97	0.04	1.72
			-5.13	6.55	-0.06	1.82
			-6.95	8.37	-0.35	2.11
over dilutn arith. 10yr	63		-3.77	6.50	0.03	1.86
			-4.34	7.07	-0.07	1.96
			-6.11	8.85	-0.38	2.27
over no dilutn arith. 10yr	63		-5.07	6.18	0.04	1.85
			-5.70	6.80	-0.06	1.95
			-7.64	8.75	-0.38	2.26

Table 19. Continued.

Regression	N	α	Intercept Lower	Intercept Upper	Slope Lower	Slope Upper
over dilutn geom. 10yr	63		-2.50	6.93	0.02	1.86
			-3.02	7.45	-0.08	1.96
			-4.65	9.08	-0.40	2.28
over no dilutn geom. 10yr	63		-4.71	6.32	0.02	1.87
			-5.33	6.93	-0.08	1.97
			-7.23	8.84	-0.40	2.29