MARKET RISK PREMIUM USED IN 2010 BY PROFESSORS:
A SURVEY WITH 1,500 ANSWERS

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Abstract

The average Market Risk Premium (MRP) used in 2010 by professors in the United States (6.0%) was higher than the one used by their colleagues in Europe (5.3%). We also report statistics for 33 countries: the average MRP used in 2010 ranges from 3.6% (Denmark) to 10.9% (Mexico); 29% of the professors decreased the MRP in 2010, 16% increased it and 55% used the same MRP.

The dispersion of the MRP used was high: the average range of MRP used by professors for the same country was 7.4% and the average standard deviation was 2.4%.

Most previous surveys have been interested in the Expected MRP, but this survey asks about the Required MRP. The paper also contains the references that professors use to justify their MRP, as well as comments from 85 professors that illustrate the various interpretations of what the required MRP is.

JEL Classification: G12, G31, M21

Keywords: equity premium, equity premium puzzle, required market risk premium, historical market risk premium;, expected market risk premium, risk premium.

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MARKET RISK PREMIUM USED IN 2010 BY PROFESSORS: A SURVEY WITH 1,500 ANSWERS

1. Market Risk Premium (MRP) Used in 2010

I sent a short email (see Exhibit 1) on April 2010 to about 7,500 email addresses, of finance and economics professors, obtained from previous correspondence, papers and university websites. I asked about the Market Risk Premium (**MRP**) that *"professors use to calculate the required return to equity"* in 2010 and in 2009. I also asked about "*Books or articles that I use to support this number.*"

By May 10, 2010, I had received 1,511 responses from professors.[1] Of these 1,511 answers, 915 respondents provided a specific MRP used in 2010.[2]

Table 1

MRP used in 2010: 1,511 answers

		United States	Euro	United Kingdom	Canada	Australia	Other	Sum
With a number for MRP 2010:	reported	**462**	**194**	**49**	**23**	**29**	**145**	**902**
	outliers	6	4	1	1	1		**13**
	Different countries	1	17	1	1	2	33	**55**
	Different universities/Business schools	271	132	34	17	21	105	**580**

Without a number for MRP 2010:							
"I do not use MRP, I think about premia for particular stocks"	41	12	9	7	2	23	**94**
"I would tend to use whatever MRP is specified in the textbook"	6	11		1		13	**31**
"I find that the CAPM is not very useful nor is the concept of MRP"	51	36	5	11	2	16	**121**
"I did not have to use an estimate of the MRP in 20010"	38	12	9	3		18	**80**
"I don't think about these things. I am an academic, not a practitioner"	3	8			2		**13**
"I teach derivatives: I did not have to use a MRP"	26	15	2	2			**45**
"The MRP changes every day"	37	21	9	3	8	15	**93**
Other reasons	46	19	9	7	6	32	**119**
SUM	**716**	**332**	**93**	**58**	**50**	**262**	**1,511**

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[1] I also received more than 2,400 answers from analysts, companies, banks and investment banks. I analyse them in the separate document. *"Market Risk Premium used in 2010 by Analysts and Companies: a survey with 2,400 answers": downloadable* from http://ssrn.com/abstract=1609563

[2] I considered 13 of them as outliers because they provided a very small MRP (for example, 0.7% and 0.84% for the United States) or a very high MRP (for example, 30% and 40% for the United States).

Euro: Austria, Belgium, Croatia, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Norway, Portugal, Slovenia, Spain, Sweden and Switzerland. **Australia:** Australia and New Zealand. **Other:** Argentina, Brazil, Chile, China, Colombia, Czech Republic, Dubai, Egypt, Estonia, Hong Kong, Hungary, India, Indonesia, Iran, Israel, Japan, Malaysia, Mauritius, Mexico, Pakistan, Peru, Poland, Romania, Russia, Saudi Arabia, Singapore, South Africa, South Korea, Sri Lanka, Taiwan, Thailand, Tunisia, Turkey, UA Emirates, Venezuela and Vietnam.

Table 2 contains the statistics of the MRP used in 2010. It is worth mentioning that the average MRP used by professors in the United States (6.0%) was higher than the one used by their colleagues in Europe (5.3%), Canada (5.9%) and United Kingdom (5.0%)[3]. However, there is a great dispersion in the MRP used by professors of the same country. Figure 1 is a graphical representation of the 902 MRPs considered in Table 2.

Table 2

Market Risk Premium used in 2010 by 902 finance professors

		United States	Euro	United Kingdom	Canada	Australia	Other	Sum
MRP used in 2010	**Average**	**6.0**	**5.3**	**5.0**	**5.9**	**6.2**	**7.8**	
	St. dev.	1.7	1.7	1.6	1.1	1.7	4.2	
	MAX	12.0	12.0	10.3	8.0	10.0	30.0	
	Q3	7.0	6.0	5.8	6.2	7.0	9.0	
	Median	6.0	5.0	5.0	6.0	6.0	7.0	
	Q1	5.0	4.3	4.0	5.5	5.0	5.5	
	min	2.0	2.0	2.5	3.5	4.0	0.7	
	Number	462	194	49	23	29	145	**902**

Justify the number:

	United States	Euro	United Kingdom	Canada	Australia	Other	Sum
I do not justify the number/do not answer	151	56	14	4	8	40	**273**
Reference to books or articles	191	110	29	12	18	77	**437**
Historic Data	116	20	5	7	2	20	**170**
Own research/calculations	4	8	1	0	1	8	**22**

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[3] 107 professors provided a range with an average spread of 1.7%: I considered the medium point of the range.

Figure 1

Market Risk Premium used in 2010 by 902 finance professors
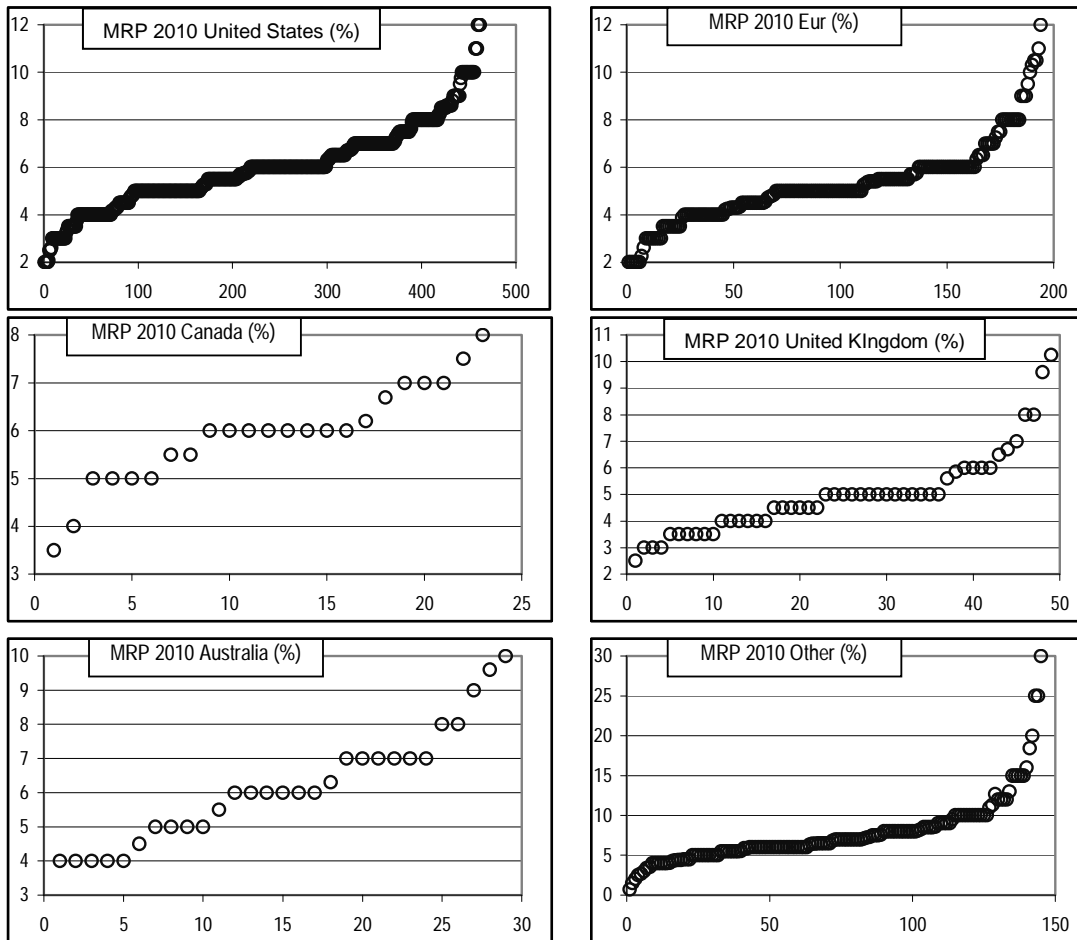
2. MRP Used by Professors in 2010 and in 2009

882 professors indicated which MRP they used in 2009. Table 3 compares it with the MRP used in 2010:

- 29% of the professors decreased the MRP in 2010 (2.0% on average).

- 55% used the same MRP, and

- 16% increased it (1.3% on average).

Table 3

[MRP used in 2010] – [MRP used in 2009]

		United States	Euro	United Kingdom	Canada	Australia	Other	All
MRP used in 2010 - MRP used in 2009 (%)	**Average**	**-0.4**	**-0.1**	**0.2**	**-0.5**	**-0.2**	**-0.7**	**-0.4**
	St. dev.	1.8	1.1	0.9	2.2	1.6	2.6	1.8
	MAX	4.0	4.0	4.0	1.0	2.5	7.0	7.0
	Median	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	min	-18.0	-6.0	-1.5	-10.0	-6.0	-10.0	-18.0
	Number	448	194	49	23	29	139	**882**
	< 0	*135*	*40*	*8*	*3*	*10*	*59*	*255*
	= 0	*248*	*122*	*32*	*17*	*13*	*54*	*486*
	> 0	*65*	*32*	*9*	*3*	*6*	*26*	*141*

Figure 2

MRP used in 2010 – MRP used in 2009 by 882 finance professors
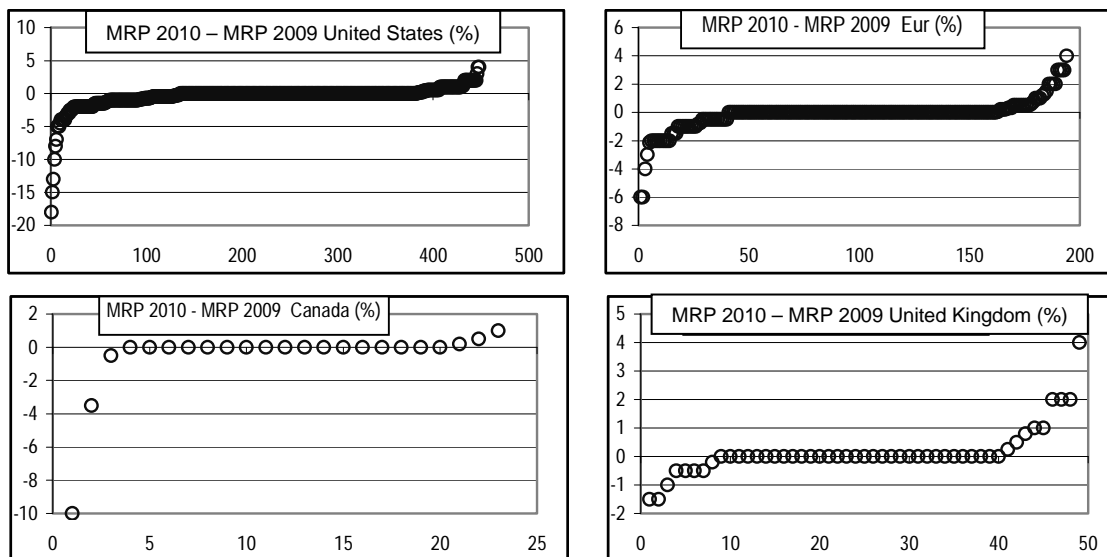
3. References Used to Justify the MRP Figure

629 professors indicated which books or papers they use as reference to justify the MRP that they use (98 of them provided more than one reference). Table 4 contains the most cited references and Figure 3 contains the dispersion of the MRP used in 2010 by the professors who cited the most popular references: Damodaran and Ibbotson.
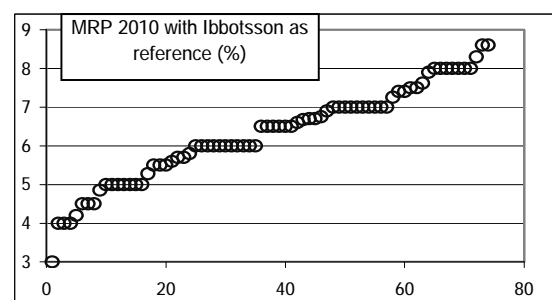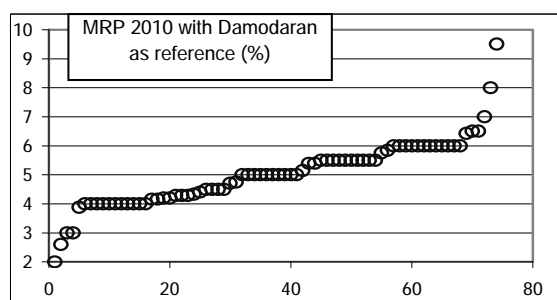
Table 4

References to justify the Market Risk Premium used

References	United States	Euro	United Kingdom	Canada	Australia	Other	Sum
Damodaran	40	27	2	2	3	22	96
Morningstar/Ibbotson	66	5	1	5	1	7	85
Historic data	44	8	2	2	0	12	68
Experience, subjective, own judgment	30	15	6	1	3	7	62
Dimson, Marsh, and Staunton	10	13	10	1	2	4	40
Fernández	15	16	1	0	0	5	37
Brealy & Myers	15	9	0	0	0	6	30
Analysts, Investment banks	5	10	2	1	1	7	26
Ross, Westerfield, and Jaffe/Jordan	11	2	1	2	0	3	19
Bloomberg	6	7	2	0	1	1	17
Surveys, conversations…	6	5	0	1	1	3	16
Fama and French (2002)	10	5	0	0	0	0	15
Mckinsey, Copeland	6	2	0	0	0	4	12
Bodie, Kane, Marcus	8	1	0	0	0	2	11
Implied MRP	3	1	1	0	1	2	8
Mehra and Prescott	1	1	1	0	0	1	4
Siegel	4	0	0	0	0	0	4
Others	93	54	15	8	11	43	224
Total	373	181	44	23	24	129	774

Figure 3

Dispersion of the MRP used in 2010 by the professors who cited the most popular references: Damodaran e Ibbotson. *Only United Kingdom, Euro, United Kingdom, Canada and Australia considered*

4. MRP Used by Professors in 2010: A Aloser Look by Country

Table 5 contains the statistics by country of the MRP used in 2010. We only report statistics for the 33 countries with 5 or more answers. The average MRP used by professors in the United States (6.3%) was higher than the one used by their colleagues in any European country, with the exception of Greece. Figure 4 is a graphical representation of the results of Table 5.
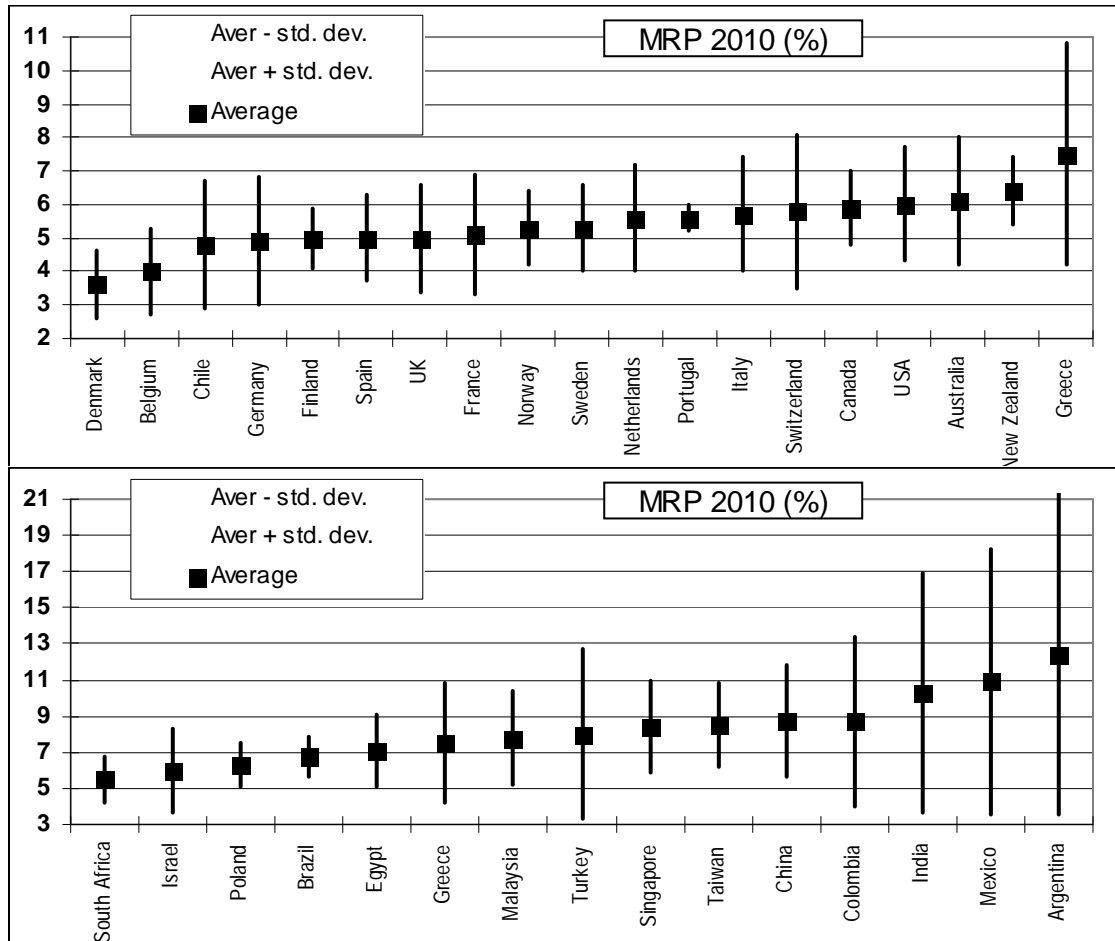
Table 5

Market Risk Premium used in 2010 by professors of 33 different countries

MRP (%)	Average	St. dev.	Max.	Median	Min.	Number of professors
Argentina	**12.4**	8.9	25.0	7.1	4.3	5
Australia	**6.1**	1.9	10.0	6.0	4.0	21
Belgium	**4.0**	1.3	5.5	4.0	2.0	10
Brazil	**6.8**	1.1	9.0	6.0	6.0	9
Canada	**5.9**	1.1	8.0	6.0	3.5	23
Chile	**4.8**	1.9	6.5	5.5	1.5	5
China	**8.7**	3.1	15.0	8.0	5.0	7
Colombia	**8.7**	4.7	15.0	7.3	3.4	5
Denmark	**3.6**	1.0	5.0	3.5	2.3	5
Egypt	**7.1**	2.0	9.0	7.0	4.1	7
Finland	**5.0**	0.9	6.0	4.5	4.0	5
France	**5.1**	1.8	10.0	5.0	2.0	19
Germany	**4.9**	1.9	11.0	5.0	2.0	19
Greece	**7.5**	3.3	12.0	6.3	3.5	5
India	**10.3**	6.6	30.0	8.5	4.4	13
Israel	**6.0**	2.3	10.0	6.0	0.7	14
Italy	**5.7**	1.7	10.5	5.5	3.0	38
Malaysia	**7.8**	2.6	10.0	8.2	5.0	5
Mexico	**10.9**	7.3	25.0	9.1	5.5	6
Netherlands	**5.6**	1.6	8.0	5.8	3.0	16
New Zealand	**6.4**	1.0	8.0	6.5	5.0	8
Norway	**5.3**	1.1	8.0	5.0	3.5	12
Poland	**6.3**	1.2	8.0	6.5	4.4	6
Portugal	**5.6**	0.4	6.0	5.8	5.0	6
Singapore	**8.4**	2.5	12.0	7.2	6.0	5
South Africa	**5.5**	1.3	7.0	6.0	4.0	8
Spain	**5.0**	1.3	9.0	4.8	3.0	33
Sweden	**5.3**	1.3	7.0	5.4	3.0	6
Switzerland	**5.8**	2.3	8.0	6.3	2.0	8
Taiwan	**8.5**	2.3	12.0	8.0	5.5	7
Turkey	**8.0**	4.7	16.0	6.0	4.5	5
United Kingdom	**5.0**	1.6	10.3	5.0	2.5	49
United States	**6.0**	1.7	12.0	6.0	2.0	462

Figure 4

MRP used in 2010 by professors for different countries

For each country the average, (average + σ) and (average – σ) are shown

5. Comparison with Previous Surveys

Table 6 shows the evolution of the main statistics of the previous survey (Fernández, 2009) and this one. The median has been remarkably stable: 6% for United States and Australia and 5% for Europe and United Kingdom.

Table 6

Market Risk Premium used by professors in 2010, 2009 and 2008

		United States	Euro	United Kingdom	Canada	Australia	Other
2010	**Average**	**6.0**	**5.3**	**5.0**	**5.9**	**6.2**	**7.8**
2009	Average	6.4	5.4	4.9	6.4	6.4	8.9
2008	Average	6.3	5.3	5.5	5.4	5.9	7.9
2010	**St. dev.**	**1.7**	**1.7**	**1.6**	**1.1**	**1.7**	**4.2**
2009	St. dev.	2.4	1.9	1.5	1.3	1.5	3.8
2008	St. dev.	2.2	1.5	1.9	1.3	1.4	3.9
2010	**Median**	**6.0**	**5.0**	**5.0**	**6.0**	**6.0**	**7.0**
2009	Median	6.0	5.0	5.0	6.0	6.0	7.1
2008	Median	6.0	5.0	5.0	5.1	6.0	7.0
2010	**Respondents**	**462**	**194**	**49**	**23**	**29**	**145**
2009	Respondents	448	194	49	23	29	140
2008	Respondents	487	224	54	29	23	67

Welch (2000) performed two surveys with finance professors in 1997 and 1998, asking them what they thought the Expected MRP would be over the next 30 years. He obtained 226 replies, ranging from 1% to 15%, with an average arithmetic EEP of 7% above T-Bonds.[4] Welch (2001) presented the results of an August 2001 survey of 510 finance and economics professors, and the consensus for the 30-year arithmetic EEP was 5.5%, much lower than just 3 years earlier. In an update published in 2008, Welch reports that the MRP "used in class" in December 2007 by about 400 finance professors was on average 5.89%, and 90% of the professors used equity premiums between 4% and 8.5%.

Table 7 compares the main results of the surveys of Ivo Welch with some results of Table 2.

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[4] At that time, the most recent Ibbotson Associates Yearbook reported an arithmetic HEP versus T-bills of 8.9% (1926–1997).

Table 7

Comparison of previous surveys with this one

	Surveys of Ivo Welch					Fernández (2009)		This survey (May 2010)	
	Oct 97 - Feb 98*	Jan-May 99[+]	Sep 2001**	Dec. 2007#	January 2009[++]	United States 2008	Europe 2008	United States	Europe
Number of answers	226	112	510	360	143	487	224	462	194
Average	**7.2**	**6.8**	**4.7**	**5.96**	**6.2**	**6.3**	**5.3**	**6.0**	**5.3**
Std. Deviation	*2.0*	*2.0*	*2.2*	*1.7*	*1.7*	*2.2*	*1.5*	*1.7*	*1.7*
Max	15	15	20	20		19.0	10.0	12.0	12.0
Q3	8.4	8	6	7.0	7	7.2	6.0	7.0	6.0
Median	7	7	4.5	6.0	6	6.0	5.0	6.0	5.0
Q1	6	5	3	5.0	5	5.0	4.1	5.0	5.3
Min	1.5	1.5	0	2		0.8	1.0	2.0	2.0

* 30-Year Forecast. Welch (2000) First survey.   + 30-Year Forecast. Welch (2000) Second survey.

** 30 year Equity Premium Forecast (Geometric). "The Equity Premium Consensus Forecast Revisited" (2001).

\# 30-Year Geo Eq Prem Used in class. Welch, I. (2008), "The Consensus Estimate for the Equity Premium by Academic Financial Economists in December 2007", http://ssrn.com/abstract=1084918.

++ In your classes, what is the main number you are recommending for long-term CAPM purposes? "Short Academic Equity Premium Survey for January 2009", http://welch.econ.brown.edu/academics/equpdate-results2009.html.

Johnson et al. (2007) report the results of a March 2007 survey of 116 finance professors in North America: 90% of the professors believed the Expected MRP during the next 30 years to range from 3% to 7%.

Graham and Harvey (2007) indicate that United States CFOs reduced their average EEP from 4.65% in September 2000 to 2.93% by September 2006 (st. dev. of the 465 responses = 2.47%). In the 2008 survey, they report an average EEP of 3.80%, ranging from 3.1% to 11.5% at the tenth percentile at each end of the spectrum. They show that average EEP changes through time. Goldman Sachs (O'Neill, Wilson, and Masih, 2002) conducted a survey of its global clients in July 2002 and the average long-run EEP was 3.9%, with most responses between 3.5% and 4.5%.

Table 8

Estimates of the EEP (Expected Equity Premium) according to other surveys

Authors	Conclusion about EEP	Respondents
Pensions and Investments (1998)	3%	Institutional investors
Graham and Harvey (2007)	Sep. 2000. Mean: 4.65%. Std. Dev. = 2.7%	CFOs
Graham and Harvey (2007)	Sep. 2006. Mean: 2.93%. Std. Dev. = 2.47%	CFOs
Welch update	December 2007. Mean: 5.69%. Range 2% to 12%	Finance professors
O'Neill, Wilson and Masih (2002)	3.9%	Global clients Goldman

Ilmanen (2003) argues that surveys tend to be optimistic: *"survey-based expected returns may tell us more about hoped-for returns than about required returns."* Damodaran (2008) points out that *"the risk premiums in academic surveys indicate how far removed most academics are from the real world of valuation and corporate finance and how much of their own thinking is framed by the historical risk premiums... The risk premiums that are presented in classroom*

settings are not only much higher than the risk premiums in practice but also contradict other academic research."

The magazine *Pensions and Investments* (12/1/1998) carried out a survey among professionals working for institutional investors: the average EEP was 3%. Shiller[5] publishes and updates an index of investor sentiment since the crash of 1987. While neither survey provides a direct measure of the equity risk premium, they yield a broad measure of where investors or professors expect stock prices to go in the near future. The 2004 survey of the Securities Industry Association (SIA) found that the median EEP of 1500 United States investors was about 8.3%. In July 2008, Merrill Lynch surveyed more than 300 institutional investors globally: the average EEP was 3.5%.

A main difference of this survey with previous ones is that this survey asks about the **Required** MRP, while most surveys are interested in the **Expected** MRP. This survey also compares the United States with Europe and other parts of the world, contains the references that professors use to justify their MRP and includes comments from 180 professors (see Exhibits 2 and 3).

6. MRP or EP (Equity Premium): 4 Different Concepts

As Fernández (2007, 2009b) claims, the term "equity premium" is used to designate four different concepts:

1. **Historical** equity premium (HEP): historical differential return of the stock market over treasuries.

2. **Expected** equity premium (EEP): expected differential return of the stock market over treasuries.

3. **Required** equity premium (REP): incremental return of a diversified portfolio (the market) over the risk-free rate required by an investor. It is used for calculating the required return to equity.

4. **Implied** equity premium (IEP): the required equity premium that arises from assuming that the market price is correct.

The four concepts (HEP, REP, EEP and IEP) designate different realities. The **HEP** is easy to calculate and is equal for all investors, provided they use the same time frame, the same market index, the same risk-free instrument and the same average (arithmetic or geometric). But the **EEP,** the **REP** and the **IEP** might be different for different investors and are not observable.

The **HEP** is the historical average differential return of the market portfolio over the risk-free debt. The most widely cited sources are Ibbotson Associates and Dimson et al. (2007).

Numerous papers and books assert or imply that there is a "market" EEP. However, it is obvious that investors and professors do not share "homogeneous expectations" and have different assessments of the **EEP.** As Brealey et al. (2005, page 154) affirm, *"Do not trust anyone who claims to know what returns investors expect."*

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[5] See http://icf.som.yale.edu/Confidence.Index

The **REP** is the answer to the following question: What incremental return do I require for investing in a diversified portfolio of shares over the risk-free rate? It is a crucial parameter because the REP is the key to determining the company's required return to equity and the WACC. Different companies can and do use different **REPs**.

The **IEP** is the implicit REP used in the valuation of a stock (or market index) that matches the current market price. The most widely used model to calculate the IEP is the dividend discount model: the current price per share (P_0) is the present value of expected dividends discounted at the required rate of return (Ke). If d_1 is the dividend per share expected to be received at time 1, and g the expected long term growth rate in dividends per share,

$$P_0 = d_1 / (Ke - g), \text{ which implies: } IEP = d_1/P_0 + g - R_F \qquad (1)$$

IEP estimates depend on the particular assumption made for the expected growth (g). Even if market prices are correct for all investors, there is no common IEP for all investors: there are many pairs (IEP, g) that accomplish equation (1). Even if equation (1) holds for every investor, there are many *required* returns (as many as expected growths, g) in the market. Many papers in the financial literature report different estimates of the IEP with great dispersion, as for example, Claus and Thomas (2001, IEP = 3%), Harris and Marston (2001, IEP = 7.14%) and Ritter and Warr (2002, IEP = 12% in 1980 and -2% in 1999). There is no a common **IEP** for all investors.

For a particular investor, the EEP is not necessarily equal to the REP (unless he considers that the market price is equal to the value of the shares). Obviously, an investor will hold a diversified portfolio of shares if his EEP is higher (or equal) than his REP and will not hold it otherwise.

We can find the REP and the EEP of an investor by asking him, although for many investors the REP is not an explicit parameter but, rather, it is implicit in the price they are prepared to pay for the shares. However, it is not possible to determine the REP for the market as a whole, because it does not exist: even if we knew the REPs of all the investors in the market, it would be meaningless to talk of an REP for the market as a whole. There is a distribution of REPs and we can only say that some percentage of investors have REPs contained in a range. The average of that distribution cannot be interpreted as the REP of the market nor as the REP of a representative investor.

Much confusion arises from not distinguishing among the four concepts embodied in the phrase *equity premium*: Historical equity premium, Expected equity premium, Required equity premium and Implied equity premium. 129 of the books reviewed by Fernández (2009b) identify Expected and Required equity premium and 82 books identify Expected and Historical equity premium.

Finance textbooks should clarify the MRP by incorporating distinguishing definitions of the four different concepts and conveying a clearer message about their sensible magnitudes.

7. Relationship of the Results of the Survey with the Recommendations of Finance Textbooks

Fernández (2009b) reviews 150 textbooks on corporate finance and valuation published between 1979 and 2009, by authors such as Brealey and Myers, Copeland, Damodaran, Merton, Ross, and Bruner, and finds that their recommendations regarding the equity premium range from 3% to 10%, and that 51 books use different equity premia in various pages. Figure 5 contains the evolution of the Required Equity Premium (REP) used or recommended by the books, and helps to explain the confusion that exists about the equity premium.

Figure 5

Evolution of the Required Equity Premium (REP) used or recommended in 150 finance and valuation textbooks
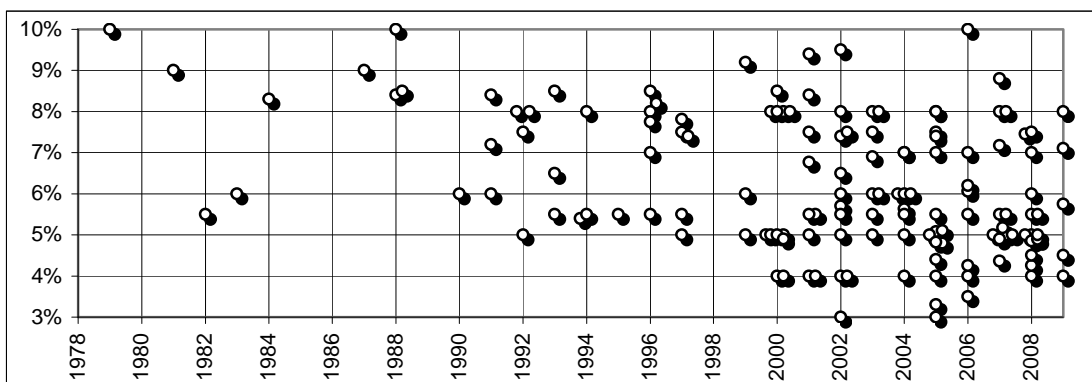
Source: Fernández (2009b).

Figure 6 contains the moving average of the recommendations in Figure 5 which is in line with the findings of Welch (see Table 9) and with the results of this survey: the 5-year moving average has declined from 8.4% in 1990 to 5.7% in 2008 and 2009.

Figure 6

Average of the Required Equity Premium (REP) used or recommended in 150 finance and valuation textbooks
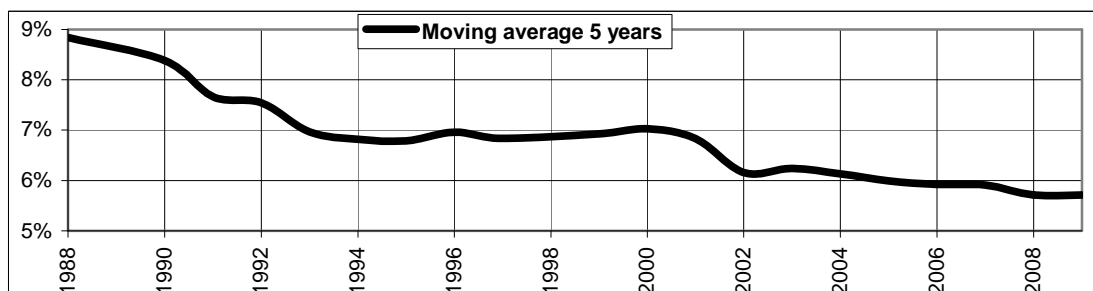
Source: Fernández (2009b).

8. Conclusion

Most surveys have been interested in the Expected MRP, but this survey asks about the Required MRP.

There is a lack of consensus among professors about the magnitude of the MRP. The dispersion of the MRP used was high: the average range of MRP used by professors for the same country was 7.4% and the average standard deviation was 2.4%. The average MRP used in 2010 in 18 different countries ranges from 3.6% (Denmark) to 10.9% (Mexico).

There is also a great dispersion in the MRP used in 2010 by the professors who cited the same reference to justify the MRP that they use. Professors that cited Ibbotson as their reference used MRP (for United States, Euro, United Kingdom, Canada and Australia) between 3% and 8.8%, and professors who cited Damodaran as their reference used MRP between 2% and 9.5%.

This lack of consensus is also reflected in textbooks: Fernández (2008) reviews 100 textbooks on corporate finance and valuation published between 1979 and 2008 and finds that their recommendations regarding the equity premium range from 3% to 10%, and that 28 books use different equity premia in various pages.

The average Market Risk Premium (MRP) used in 2008 by professors in the United States (6.0%) was higher than the one used by their colleagues in Europe (5.3%). We also report statistics for 33 countries: the average MRP used in 2008 ranges from 3.6% (Denmark) to 10.9% (Mexico); 29% of the professors decreased the MRP in 2010, 16% increased it and 55% used the same MRP.

The lack of consensus about the MRP is an effect of the fact that *"The required MRP"* and *"The Expected MRP"* do not exist: different market participants require different MRP and have different expectations.

How does this survey link with the *Equity Premium Puzzle*? Fernández et al. (2009), argue that the equity premium puzzle may be explained by the fact that most market participants (including equity investors, investment banks, analysts, companies) do not use standard theory (such as a standard representative consumer asset pricing model) for determining their Required Equity Premium, but instead use historical data and advice from textbooks and finance professors. Consequently, ex ante equity premia have been high, market prices have been consistently undervalued, and the ex post risk premia have been also high. Professors use high equity premia (average around 6%, range from 3 to 10%) in class and in their textbooks, and investors use higher equity premia for valuing companies (average around 6%). The overall result is that equity prices have been, on average, undervalued in the last decades and, consequently, the measured ex post equity premium is also high. As most investors use historical data and textbook prescriptions to estimate the required and the expected equity premium, the undervaluation and the high ex-post risk premium are self-fulfilling prophecies.

Exhibit 1

Mail Sent on April and May 2010

I am doing a survey on the Market Risk Premium (MRP) that companies, analysts and professors use to calculate the required return to equity in different countries.

I would be very grateful if you would kindly reply to the following 3 questions.

Of course, no individuals, universities or companies will be identified and only aggregate data will be made public.

Best regards and thanks,

Pablo Fernández

Professor of Finance. IESE Business School. Spain

3 questions:

1. The Market Risk Premium that I am using in 2010 is: _____%

2. Books or articles that I use to support this number:

3. Last year, I used a different MRP: _____%

Comments

Exhibit 2

Comments of Professors who did <u>not</u> provide the mrp used in 2010

1. I don't use a market risk premium. In fact, I tell students (and colleagues on the United Kingdom Competition Commission) that it is far better to estimate the E(Rm) component separately (e.g. Wright et al. 2003; Jenkinson, 1993, etc). I advocate an average of the Fama-French forward estimate approach, and the Dimson et al. historical figure for this. The geometric average yielded is around 4.9%, with an arithmetic average of around 6.7% (max - but lower if one makes a different adjustment for dividend growth). One could estimate a risk premium by deducting a consistent estimate of Rf (see Jenkinson, 1993), but it's a dangerous thing to do, especially as utility regulators typically modify the risk free rate element. Assuming a real long-run yield of around 2%, the implied MRP is about 2.9% on a geometric basis, and 4.7% on an arithmetic one.

2. I use the beta.

3. You are asking a very difficult question. Nobody to my knowledge can safely pin down the market risk premium since it is unobservable. I saw estimates of the MRP ranging from 2 to 8% a year.

4. I am an academic and have no need to calculate a MRP. If I did calculate one, it would have changed at different times during the year.

5. I teach only economics courses, so I do not talk about MRP in my classes.

6. My research is theoretical and does not rely on market risk premiums. My private portfolio is non-existent because I have been lucky to sell everything before the financial crisis hit the market.

7. I don't explicitly calculate market risk premium because, as you know, there are numerous estimation and other practical problems associated with it; and definitely do not use historical risk premium.

8. I use Ke or WACC directly.

9. I simply teach the market risk premium from CAPM: (return of the market - risk free rate).

10. I don't think about these things. I am not a practitioner.

11. As I typically teach fundamentals classes we are not doing any empirical work on the topic.

12. I do not make these calculations in my work, but rather follow what the market tells me... so I am only an observer...

13. I am afraid my schedule will not allow me to complete your survey.

Exhibit 3
Comments of Professors who did provide the mrp used in 2010

1. I am using the implied MRP and not the historical one.

2. I use about 6% for the CAPM model and about 4.5% for the bond premium model.

3. In my judgment, the MRP should be greater than in prior years. However, it is not apparent that it is.

4. In the United Kingdom I assume a real 'risk-free rate' of 2.0 per cent a year – thus making a real cost of equity capital of 10.0 per cent a year. I like using this because it is such a nice round number! And I've used it for many years.

5. Last year I would have used a different number, but I cannot remember what it was. It would have been close to 7.9 percent, as the number I use always comes from historical data reported by IBBOTSON. So each year the number changes just a tad, as one more year is thrown into the averages.

6. Scientific Investment Analysis has ways to estimate this parameter from minute to minute.

7. The use of a specific MRP has to be linked to the underlying Risk free rate assumed. I use the United States 90-day T bill as the risk free rate. I have seen others (academics as well as industry executives) use a T-Bond rate as the risk free rate and thus a lower MRP.

8. I usually use two different approaches that sometimes can give different results. I use my own judgement to reconcile the two estimates or decide which one is more relevant.

9. As an historical MRP, I consider the risk premium (geometric mean) with respect to T-bonds (20 or 30 years). Otherwise, I also compute the implicit MRP using a Dividend Discount Model.

10. "Every" company in Sweden is using 20 % on RoE, for instance when calculating the WACC.

11. Discussion that took place in the Netherlands between the central bank and the pension funds concerning the MRP: Pension funds want to use 3,5%. The central bank and the planning bureau want 2%

12. is based on S&P500 Index of 1180, Earnings of 80, Dividends of 30 and Kappa (Return on Corporate Investment / Market Discount Rate) of 0.75.

13. 10-20. I do not use an official reference. However, for "serious" projects I tend to do a peer group analysis with quoted companies.

14. 8.8, but 8 in class problems. I do note that there're others ranging from 5 to 9 to 10.

15. At the moment the MRP (usually about 4%) might be high in the United Kingdom because bank base rate is 0.5%.

16. Based on general knowledge, knowing what my clients use, your SSRN paper, and, most of all, the fact that CAPM is pretty rubbish and so whatever we use will only be a rough estimate and will have little explanatory power.

17. Clearly in the short term, in the United Kingdom at least, the market return is way in advance of that, but assume we are talking of a long term average.

18. I have plans to work on Forecasting of Equity Prices in the Emerging vis-a-vis Developed Markets: An application of FIBONACCI Numbers.

19. Fama and French (2002) report a real MRP of 4.32% for 1951-2000, using an earnings growth model. While this value is much smaller than the estimate from the average stock return (7.43 percent). Some researchers add an inflation rate of 3% to 4.32% and use 7.0% as an estimate of equity risk premium.

20. First, if you use HEP you have to always make calculations based on a very long time perspective. Second, if you believe in HEP then consequently your MRP is stable over time.

21. From my perspective, it's more important for the students to understand the relationship between the MRP assumption and the expected return rather than to drill any one risk premium in their head.

22. Getting a good estimate of the ERP is exceedingly difficult. I think it is probably time varying but working out what it should be for any given time period is quite prone to errors. The long run estimate from the CSGIRS is probably the best idea for forward estimation. But depending on the approach the ERP can vary from 1% to 11%!!

23. Given the low levels in 2008 the risk of a further down-turn was limited. This year the correction was very strong during 2008 and hence the risk is higher.

24. Given the prolonged low interest rate environment and long-term contraction of credit, it is my opinion that risk – free rates will steadily rise from this point and a lack of aggressive leverage will not enhance market returns in the future as it had in the past – bringing down the MRP over time.

25. Given the spill over effect of the financial crisis, it is difficult to place investment in high return instrument. The stock market is still volatile.

26. Having a long term vision, in valuation process, the MRP doesn't change.

27. Historical 5% but improved diversification possibilities mean that the historical number is overstated. And anything below 3% just sounds too low.

28. I agree with the general sentiment that the MRP in the United States will decrease from historical levels of 6-8% over the next 10 years, but I think it will take a few years for us to get there. I see the international MRP in the 7 - 10% range over that same period.

29. Among accounting scholars, a 12% cost of capital is universally agreed upon. The MRP I personally employ, out of the 12% cost of capital, however, is in the vicinity of 9%. This is as per the recommendations of finance scholars including Brealey and Stewart Myers. Furthermore, the discount rate used by the central bank of Egypt is about 18.

30. I am using kind of a hybrid between CAPM and Div Growth Model plus some common sense and market expectations.

31. I believe MRPs are mean-reverting. I tend to be less concerned about short-run fluctuations in MRP.

32. I believe that the United States treasury rates are not "risk-free" (i.e. the risk-free rate is commonly overstated empirically), and there evidence that most/many firms have increased their risk-levels over the past 30 years (mean/median corporate debt ratings)... this should make the MRP higher than the historical average from the ~1920s to 2010 (which I think is slightly less than 6%). While idiosyncratic risk does not enter into the CAPM, the market risk is simply the aggregate of all of the companies in the market. If every firm becomes riskier, so does the market. Additionally, the United States has not experienced a real crisis over the commonly used time series like most other developed countries have (see Cochran's Asset Pricing text about the United States survivorship bias).

33. I believe this number captures the long term systematic market risk, and should not be adjusted for short term conditions.

34. I calculate international statistics either from MSCI BARRA or SP IFCG databases. I have not calculated yet the current figures for MRP. Please, go ahead calculate them by yourself, so that they will be most accurate estimations. You should not get arbitrary figures. You can also look at Ibbotson Associates Database.

35. I read a number of papers several years ago that I found useful in giving me a framework to think about this issue, and I have been wary that investors were being overly optimistic for several years. (Even though I might sound cautious, I still lost a lot of money in the market declines of the last two years.)

36. I do not change the MRP in the crisis. To my view the downside in the stock market is mainly driven by lower expectations in earnings.

37. I don't think anyone can predict the year-to-year change in the equity premium.

38. I just pick a reasonable number to illustrate the CAPM for the students.

39. In the classes I teach I say the range is probably 2% to 12%, but mostly likely somewhere between 4% and 8%. My default cost of equity capital is a nominal 8% to 10% for a generic, large, old firm.

40. I normally use 5.5%, which is in line with standard financial practice of a number between 5% and 6%. In light in the market turmoil, I raised the number to 8%.

41. I regard the MRP for a global equity index as personal, subjective, dynamic and very heterogenous among investors.

42. I show my class that the historical average is 6.5% but that I believe that it has been declining as people become more comfortable with the stock market.

43. I specifically insist that there is no single "magic" number for the MRP.

44. The arithmetic average MRP using Ibbotson data is about 7-7.5%. I teach the students 3.5-4% may be more reasonable. When I invest personally I expect more than that!

45. I tell the students not to take modern finance too seriously.

46. I think that in firm evaluation (when we evaluate a company not for trading) it's necessary to assume a "long run" position regarding the MRP and not accept to be influenced by the short view.

47. I think the Ibbotson numbers have been much too high through out recent history.

48. I use 4% for United Kingdom and 4.25% for mature markets in general. The lower rate for the United Kingdom I attribute to corporate governance.

49. I use about last 30 years data to make the calculation. There is no authentic source to obtain the MRP.

50. I use historical data to estimate the geometric mean since 1925 (S&P - 90 day T-bills).

51. I use the Fed Model to calculate the ERP – I take the difference between the inverse of the market P/E ratio as the earnings yield, then subtract the yield on 10-year T-notes.

52. I used the same RP since, although the RP is likely time-varying, it does so with a large standard error.

53. I mention the risk premium to be about 10%, but ask MBA students to estimate the real value based on historical return data.

54. In the current market I think it is very difficult to suggest an appropriate risk premium.

55. I've indicated (but warned against using) MRP of 8% or more. I'm less happy that I didn't draw the right conclusion to sell my stocks before the financial crisis.

56. I've tended to use approximately 4% in my Valuation class examples for the last several years. I emphasize that the MRP is not a "known" variable, however that most educated users of this variable tend to use a number between 3 and 6%.

57. Last year the world (including the United States) was in a severe recession. Latvia and Hungary did not go bankrupt; even Greece has avoided bankruptcy. I believe that recession is over but the hangover may last for a couple of years. I have therefore reduced my MRP.

58. MRP = (Rm-Rf) = 10% - 0.25% = 9.75%. Rf = 0.25% (an approx estimate for the Tbill rate in %).

59. MRP = 7% (required return on market: reciprocal of 15X current market multiple based on CY 2010 estimates) - 0% (risk-free rate: 30-day T-bills).

60. Never overpay for value! Be a patient investor like Mr. Buffet.

61. No difference between 2009 and 2010. Why? It seems to me that the most accurate is to take an average, i.e. something around 6%.

62. Some argue as low as 1% given the poor growth prospects in developed economies. I tend to gravitate towards the longer term average.

63. MRP relative to bonds through history—specifically, since 1802.

64. The MRP has decreased this year due to some stability in the financial markets. Also, the BRIC economies are doing better this year and finding themselves somewhat de-coupled from the Unietd States economy. This is evident by the stock market surge in Brazil, Russia, India and China.

65. The MRP depends on the type of security being valued.

66. The primary reason for higher premium last year, relates to my belief that there has been a shift in risk aversion level among investors. Due to severe recession last year, the investors, in my opinion, were more risk averse – thus expecting a higher MRP. Due to recovery – albeit slow – risk aversion has become lower resulting in a lower MRP.

67. It is notoriously difficult, some would say impossible, to accurately estimate returns from historical data, due to the statistical phenomenon of "mean blur". It is worth noting that "mean blur" applies to efforts to estimate historical (and indeed future) average global temperature changes. The predictions of both investment science and climate science should therefore be treated with a degree of scepticism.

68. I use the implied market return calculated using DDM for the S&P 500. Currently, I am inclined to agree with Dr. Damodaran on that issue.

69. In the past, I used the expected MRP = A* (Standard Deviation of the market index returns) following Bodie et al. But this approach calls for an estimate of current average risk aversion coefficient A, with no clear directions how to do it, other than that is usually in the range of 2 to 4.

70. This whole thing is partly based on gut feel or judgement and partly maybe some financial model with assumptions built in. This is as much ART as SCIENCE; No one knows for sure.

71. We should expect the MRP to be time varying as investors' attitudes to risk change depending on market conditions since it represents "risk appetite" and this changes with time.

72. Who know the ex ante market risk premium? I use the historical number from Ibbotson.

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