Article from:

Risk Management

December 2011 – Issue 23

Market Risk Premium used in 56 countries in 2011: a survey with 6,014 answers

By Pablo Fernandez, Javier Aguirreamalloa and Luis Corres

THIS PAPER CONTAINS THE STATISTICS OF THE EQUITY PREMIUM OR MARKET RISK PREMIUM (MRP) USED IN 2011 FOR 56 COUNTRIES. We got answers for 85 countries, but we only report the results for 56 countries with more than six answers.

Most previous surveys have been interested in the Expected MRP, but this survey asks about the Required MRP. The paper also contains the references used to justify the MRP, comments from persons that do not use MRP, and comments from persons that do use MRP.

1. MARKET RISK PREMIUM (MRP) USED IN 2011 IN 56 COUNTRIES

We sent a short email (see exhibit 1) in March and April 2011 to about 19,500 email addresses of finance and economic professors, analysts and managers of companies obtained from previous correspondence, papers and webs of companies and universities. We asked about the Market Risk Premium (MRP) used "to calculate the required return to equity in different countries". We also asked about "Books or articles that I use to support this number."

By April 24, 2011, 3,998 of the answers provided a specific MRP used in 2011.[1] Other 2,016 persons answered that they do not use MRP for different reasons (see table 1). We would like to sincerely thank everyone who took the time to answer us.

Table 2 contains the statistics of the MRP used in 2011 for 56 countries. We got answers for 85 countries, but we only report the results for 56 countries with more than six answers[2]. Fernandez et al (2011a)[3] is an analysis of the answers for the United States; it also shows the evolution of the Market Risk Premium used for the United States in 2011, 2010, 2009 and 2008 according to previous surveys (Fernandez et al, 2009, 2010a and 2010b)[4]. Fernandez et al (2011b) is an analysis of the answers for Spain.

Pablo Fernandez, is professor of finance at IESE Business School in Madrid, Spain. He can be reached at fernandezpa@iese.edu.

Prof. Javier Aguirreamalloa, is lecturer in the financial management department at IESE Business School in Madrid, Spain. He can be reached at JAguirreamalloa@iese.edu.

Luis Corres, is a research Assistant in the financial department at IESE Business School in Madrid, Spain. He can be reached at lcorres@iese.edu.

Table 1. MRP used in 2011: 6,014 answers				
	Professors	Analyst	Companies	Total
Answers reported (MRP figures)	850	1,462	1,562	3,874
Outliers	41	12	71	124
Answers that do not provide a figure	731	310	975	2,016
Total	1,622	1,784	2,608	6,014

Answers that do not provide a figure:

	Professors	Analyst	Companies	Total
"I think about premia for particular stocks"	137	5	39	181
"MRP is a concept that we do not use"			390	390
"I use whatever MRP is specified in the textbook"	31			31
"The CAPM is not very useful nor is the concept of MRP"	145		76	221
"I did not have to use an estimate of the MRP in 2011"	38			38
"I am an academic, not a practitioner"	17			17
"I teach derivatives: I did not have to use a MRP"	39			39
"The MRP changes every day", "weekly" or "monthly"	34	102		136
"It is confidential"		16	83	99
Use a Required Return to Equity	71	38	22	131
Use a minimum IRR	36		242	278
Use multiples	41	127	89	257
Other reasons	142	22	34	198
SUM	731	310	975	2,016

Table 2. Market Risk Premium used for 56 countries in 2011

	Average	Median	St. Dev.	Q1	Q3	P10%	P90%	Max.	Min.	No. of answers
United States	5.5	5.0	1.7	4.5	6.0	4.0	7.0	15.0	1.5	1,503
Spain	5.9	5.5	1.6	5.0	6.0	4.5	8.0	15.0	1.5	930
United Kingdom	5.3	5.0	2.2	4.0	6.0	4.0	7.2	22.0	1.5	112
Italy	5.5	5.0	1.4	4.6	6.1	4.0	7.2	10.0	2.0	76
Germany	5.4	5.0	1.4	4.5	6.1	4.0	7.2	12.4	3.0	71
Mexico	7.3	6.4	2.7	5.9	9.1	5.0	10.2	16.0	1.4	56
Netherlands	5.5	5.0	1.9	4.4	6.2	3.9	7.2	12.5	2.5	48
France	6.0	6.0	1.5	5.0	7.0	4.8	7.2	11.4	2.0	45
Switzerland	5.7	5.5	1.3	5.0	6.6	4.0	7.2	9.6	3.8	44
Australia	5.8	5.2	1.9	5.0	6.0	4.0	7.1	14.0	3.0	40
Colombia	7.5	7.0	4.3	5.5	8.0	2.0	14.6	20.5	2.0	38
Sweden	5.9	5.5	1.4	5.0	7.2	4.8	7.2	10.6	3.9	38
Russia	7.5	6.5	3.7	5.5	8.0	5.0	11.0	25.0	1.3	37
Canada	5.9	5.0	2.1	5.0	6.0	4.0	8.0	14.5	3.5	36
Brazil	7.7	7.0	4.6	5.3	8.0	4.3	10.5	30.0	1.5	35
Greece	7.4	7.2	2.7	5.0	8.3	5.0	11.7	15.0	3.0	34
South Africa	6.3	6.0	1.5	5.6	6.5	5.0	7.0	11.8	4.5	34
Argentina	9.9	9.0	3.4	8.0	11.0	7.2	14.6	20.0	5.0	33
Portugal	6.5	6.1	1.7	5.0	7.2	5.0	7.2	14.0	4.5	33
Austria	6.0	5.7	1.8	5.0	7.2	4.6	7.2	14.3	3.5	32
Belgium	6.1	6.1	1.0	5.0	7.2	5.0	7.2	8.0	5.0	31
Chile	5.7	5.3	2.1	5.0	6.0	5.0	6.5	15.0	1.3	31
China	9.4	7.8	5.1	6.5	10.7	6.0	14.5	30.0	4.0	31
Norway	5.5	5.0	1.6	4.5	6.0	4.0	7.0	11.7	3.5	30
India	8.5	7.8	2.8	6.8	9.3	6.0	13.1	16.0	5.0	28
Poland	6.2	6.0	1.1	5.2	7.5	4.9	7.5	8.0	4.5	28
Turkey	8.1	8.2	3.0	5.5	10.0	5.0	11.2	15.0	2.5	25
Luxembourg	6.1	6.1	1.3	5.0	7.2	4.5	7.2	8.7	4.5	21
Czech Republic	6.1	6.0	0.9	5.5	6.5	5.0	7.3	8.0	5.0	19
Peru	7.8	7.5	2.8	6.6	7.7	5.4	10.0	15.0	3.5	19
Finland	5.4	4.7	2.0	4.5	5.0	4.5	7.4	12.0	3.5	18
Israel	5.6	5.0	1.7	4.5	6.0	4.3	7.4	10.0	3.0	17
New Zealand	6.0	6.0	1.0	5.0	6.8	5.0	7.2	7.5	5.0	17
Taiwan	8.9	8.0	3.8	6.0	10.0	6.0	13.4	20.0	5.8	17
Indonesia	7.3	7.5	2.3	5.6	7.5	5.0	10.8	12.0	4.5	14
Japan	5.0	3.5	3.7	3.5	5.0	3.2	7.1	16.7	2.0	14
Korea (South)	6.4	6.5	2.5	6.5	7.0	2.6	8.8	11.1	2.0	13
Denmark	5.4	4.5	3.3	4.4	4.5	3.1	9.3	14.0	2.0	12
Egypt	7.6	7.0	2.3	7.0	7.6	6.6	10.4	13.0	3.5	12
Ireland	6.0	5.1	2.2	5.0	5.6	5.0	7.8	12.3	5.0	12
Singapore	5.7	5.0	1.5	5.0	5.8	5.0	7.3	9.6	4.5	11
Hong Kong	6.4	5.0	2.6	5.0	6.0	5.0	10.4	11.9	5.0	9
Hungary	8.0	8.0	2.4	6.0	8.0	6.0	9.2	13.8	6.0	9
Malaysia	4.5	3.5	2.2	3.5	6.0	3.1	6.8	8.8	1.5	9
Thailand	7.9	6.5	2.8	6.5	7.5	6.5	10.2	15.1	6.5	9
Saudi Arabia	6.3	6.0	0.4	6.0	6.6	6.0	6.8	7.0	6.0	8
Nigeria	6.9	6.0	1.6	6.0	7.1	6.0	8.9	10.0	6.0	7
Pakistan	6.3	7.5	2.3	6.3	7.5	3.6	7.5	7.5	1.5	7
Iran	22.9	19.5	17.8	12.0	24.0	8.5	40.8	56.5	7.0	6
Kazakhstan	7.5	7.5	0.1	7.5	7.5	7.5	7.6	7.6	7.5	6
Kenya	6.2	5.0	2.9	5.0	5.0	5.0	8.5	12.0	5.0	6
Kuwait	6.6	6.5	0.2	6.5	6.5	6.5	6.8	7.0	6.5	6
Philippines	5.6	5.5	0.2	5.5	5.5	5.5	5.8	6.0	5.5	6
UAE	9.7	10.0	0.8	10.0	10.0	9.0	10.0	10.0	8.0	6
Zambia	6.6	6.0	1.6	6.0	6.0	6.0	7.9	9.8	6.0	6
Zimbabwe	6.5	5.5	2.4	5.5	5.5	5.5	8.5	11.4	5.5	6

Figures 1 and 2 are graphic representations of the MRPs reported in table 2.

2. DIFFERENCES AMONG PROFESSORS, ANALYSTS AND MANAGERS OF COMPANIES

Table 3 shows the differences for the 34 countries that had at least two answers for each category (professors, analysts and managers of companies).

3. REFERENCES USED TO JUSTIFY THE MRP FIGURE

1,173 respondents indicated which books, papers… they use as a reference to justify the MRP that they use (375 of them provided more than a reference). Table 4 contains the most cited references.

4. COMPARISON WITH PREVIOUS SURVEYS

Table 4 of Fernandez et al (2011a) shows the evolution of the Market Risk Premium used for the United States in 2011, 2010, 2009 and 2008 according to previous surveys (Fernandez et al, 2009, 2010a and 2010b).

Welch (2000) performed two surveys with finance professors in 1997 and 1998, asking them what they thought the Expected

Market Risk Premium... | from Page 9

Figure 1. Market Risk Premium used in 2011 for some countries
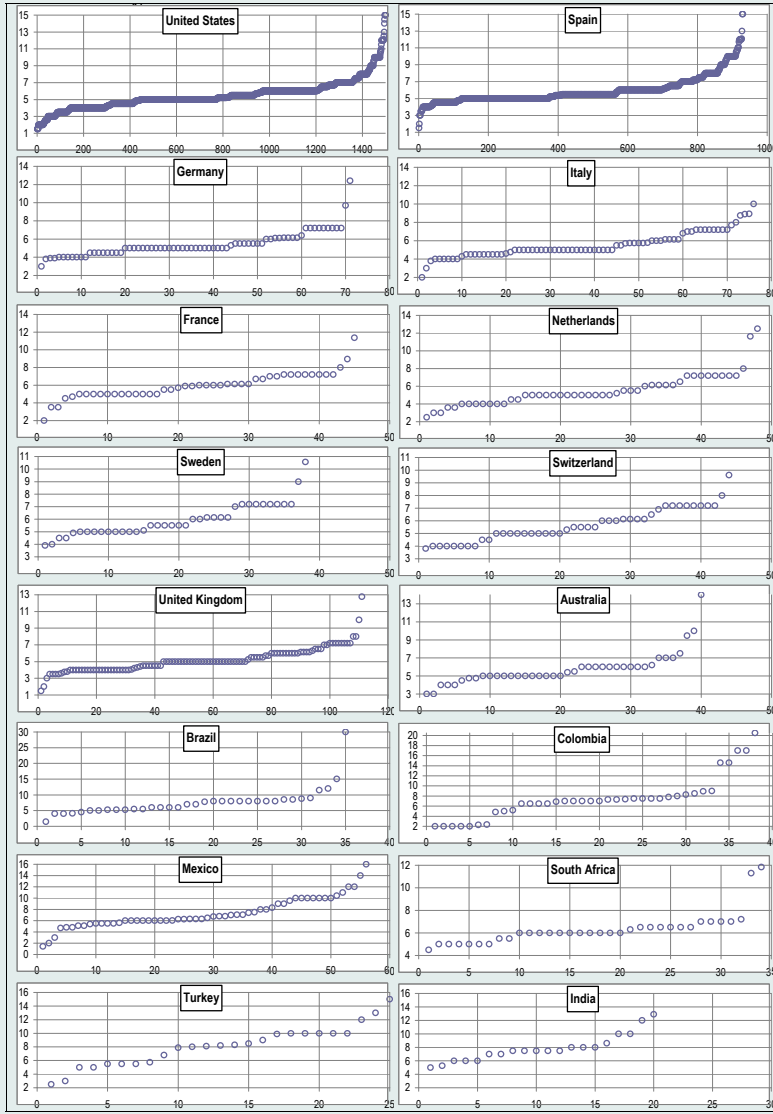(plot of answers)

Figure 2. Market Risk Premium used in 2011.
Average, median and dispersion of the
answers by country
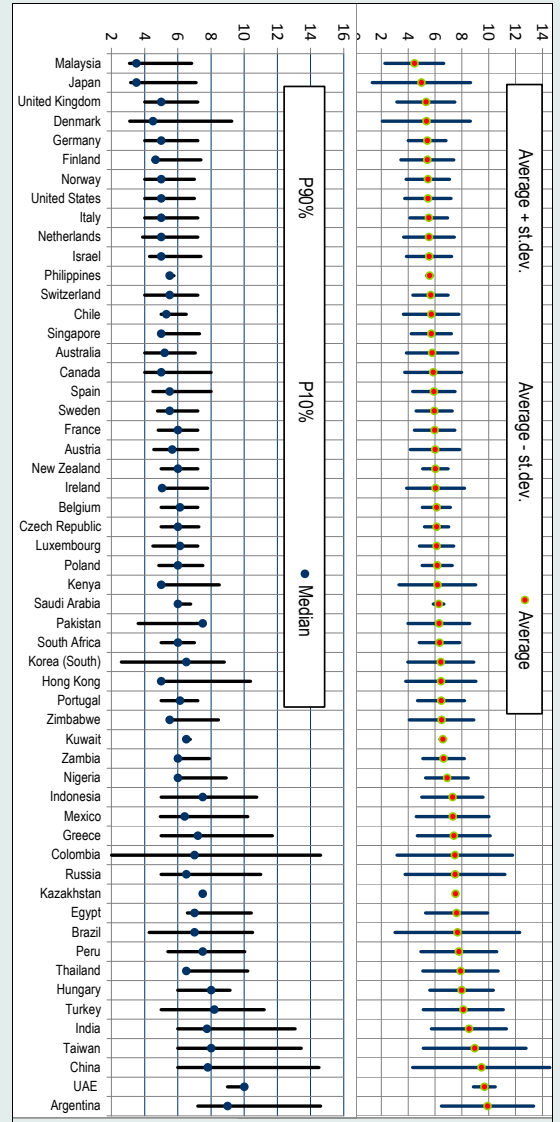P90%: percentile 90%. P 10%: percentile 10%

Table 3. Market Risk Premium used for 34 countries in 2011 by professors, analysts and managers of companies

	Average			Median			Number of answers			Standard deviation		
	prof.	anal.	comp.	prof.	anal.	comp.	prof.	anal.	comp.	prof.	anal.	comp.
United States	5.7	5.0	5.5	5.5	5.0	5.2	522	330	651	1.6	1.1	2.0
Spain	5.5	5.6	6.1	5.5	5.0	5.5	92	305	533	1.0	1.3	1.8
United Kingdom	5.6	5.4	4.9	5.0	5.0	5.0	20	68	24	4.0	1.6	1.1
Italy	5.1	5.7	5.7	5.0	5.0	5.0	21	40	15	1.3	1.4	1.4
Germany	4.9	5.7	4.8	5.0	5.0	5.0	8	47	16	0.8	1.6	0.6
Mexico	10.6	6.6	6.8	10.0	6.0	6.3	9	25	22	2.7	1.6	2.9
Netherlands	5.2	5.9	4.6	4.5	5.5	4.0	12	29	7	2.5	1.6	1.7
France	5.1	6.2	5.9	5.5	6.1	5.7	6	26	13	1.7	1.7	1.0
Switzerland	5.2	5.9	5.1	5.0	6.0	5.0	8	29	7	1.0	1.4	0.9
Australia	6.2	5.4	6.5	6.0	5.0	6.0	15	21	4	2.5	1.1	2.5
Colombia	6.7	5.7	10.1	7.4	7.0	8.2	5	19	14	2.6	2.4	5.5
Sweden	6.2	6.0	5.4	6.0	5.8	5.0	5	26	7	1.6	1.4	0.7
Canada	5.9	5.5	6.2	5.3	5.0	5.1	12	12	12	1.8	1.7	2.8
Brazil	6.6	7.3	8.3	6.0	8.0	7.0	5	14	16	1.3	3.3	6.1
Greece	8.9	6.3	9.3	8.6	6.1	9.5	7	21	6	3.9	1.5	3.2
South Africa	5.8	7.0	5.9	5.5	6.5	6.0	3	13	18	1.0	2.1	0.7
Argentina	10.4	8.7	10.8	9.5	8.3	9.0	10	12	11	4.1	1.7	4.1
Portugal	8.0	6.0	7.2	6.9	6.1	6.5	6	24	3	3.2	1.0	1.2
Austria	4.8	6.3	5.3	4.8	6.1	5.5	2	23	7	0.4	2.0	0.9
Belgium	5.6	6.1	6.1	5.6	6.1	6.0	2	22	7	0.9	1.0	1.2
Chile	6.1	5.2	6.5	6.0	5.3	5.5	5	17	9	0.2	0.4	3.8
China	8.9	7.9	10.9	9.0	6.5	8.0	8	10	13	3.6	2.5	7.0
Norway	5.0	5.9	5.2	5.0	5.8	5.0	2	13	15	0.0	2.3	0.8
India	7.3	8.0	10.1	7.0	7.5	9.0	9	9	10	1.5	2.3	3.5
Poland	6.2	6.1	6.2	5.5	6.0	6.1	3	13	12	1.5	1.3	0.9
Turkey	11.3	7.8	7.5	12.0	8.4	8.1	3	12	10	2.1	2.3	3.5
Czech Republic	5.8	6.2	6.1	5.8	6.5	5.8	2	10	7	0.3	0.9	1.1
Peru	6.5	7.5	8.4	6.5	7.5	7.2	2	9	8	2.1	0.7	4.3
Finland	6.0	4.8	6.1	6.0	4.5	5.0	3	9	6	1.0	1.4	2.9
New Zealand	6.0	5.6	6.6	5.5	5.0	6.7	3	8	6	1.3	0.9	0.7
Taiwan	11.3	7.1	8.4	9.3	6.0	8.0	6	6	5	5.1	2.6	1.8
Japan	3.0	6.0	4.6	3.0	3.5	5.0	3	7	4	1.0	5.0	0.8
Korea (South)	4.0	7.2	8.5	3.5	6.5	8.5	4	7	2	2.4	1.7	0.7
Egypt	10.0	7.5	5.5	10.0	7.0	5.5	2	8	2	4.2	1.3	2.8
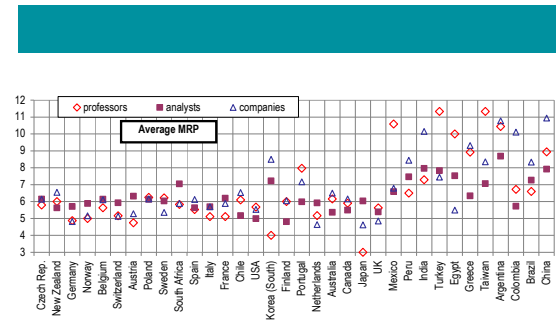
Table 4. References used to justify the Market Risk Premium

References	Professors	Analysts	Companies	Total
Ibbotson/Morningstar	53	31	172	256
Damodaran	72	34	114	220
Internal (own) estimate	15	84	67	166
Analysts/Inv. Banks	16	25	80	121
Experience, subjective, own judgement	57	23	28	108
Bloomberg	7	44	47	98
Historic data	45	15	33	93
Fernandez	26	6	31	63
Duff&Phelps	2	0	34	36
Surveys, conversations,…	12	3	18	33
DMS	13	3	15	31
Grabowski/Pratt's and Grabowski	1	5	24	30
Brealy & Myers	14	4	8	26
Mckinsey, Copeland	5	4	15	24
Internet	2	2	16	20
CFA books	2	9	6	17
Reuters	0	6	10	16
Ross/Westerfield	13	0	1	14
Fama and French	10	0	3	13
Siegel	5	0	5	10
Others*	142	47	135	324
I do not justify the number/do not answer	173	151	185	509
SUM	685	496	1.047	2.228

*Among them: CDS, Internet, Reuters, Siegel, Bodie, Kane, Marcus, Implied MRP, Economic Press, Datastream, Malkiel, Sharpe, Brigham, Consensus, IMF, RWJ, Shapiro, Kaplan, Shiller, Welch.

Table 5. Comparison of previous surveys

	Surveys of Ivo Welch					Fernandez et al (2009, 2010)			
	Oct 97– Feb 98*	Jan-May 99+	Sep 2001**	Dec. 2007#	January 2009++	US	Europe	US	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

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[5]. Welch (2001) presented the results of a survey of 510 finance and economics professors performed in August 2001 and the consensus for the 30-year arithmetic EEP was 5.5%, much lower than just three 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%.

Johnson et al (2007) report the results of a survey of 116 finance professors in North America done in March 2007: 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 U.S. 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%.

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

Table 6. 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

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[6] 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 U.S. investors was about 8.3%. Merrill Lynch surveys more than 300 institutional investors globally in July 2008: 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. Exhibits 2 and 3 contain comments from 168 respondents.

5. MRP OR EP (EQUITY PREMIUM): 4 DIFFERENT CONCEPTS
As Fernandez (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 may 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."

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 may use, and in fact 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 ($P0$) is the present value of expected dividends discounted at the required rate of return (Ke). If d1 is the dividend per share expected to be received at time 1, and g the expected long term growth rate in dividends per share, $P0 = d1 / (Ke - g)$, which implies: $IEP = d1/P0 + g - RF$ (1)

The estimates of the IEP depend on the particular assumption made for the expected growth (g). Even if market prices are correct for all investors, there is not an IEP common 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 necessary 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 out 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 a 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 that the phrase equity premium designates: Historical equity premium, Expected equity premium, Required equity premium and Implied equity premium. 129 of the books reviewed by Fernandez (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.

6. CONCLUSION

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

We provide the statistics of the Equity Premium or Market Risk Premium (MRP) used in 2011 for 56 countries. We got answers for 85 countries, but we only report the results for 56 countries with more than six answers.

Most previous surveys have been interested in the Expected MRP, but this survey asks about the Required MRP. The paper also contains the references used to justify the MRP, comments from 12 persons that do not use MRP, and comments from 33 that do use MRP. Fernandez et al. (2011a) has additional comments (58 do not use MRP, and 110 use it). The comments illustrate the various interpretations of the required MRP and its usefulness.

This survey links with the Equity Premium Puzzle: Fernandez et al (2009), argue that the equity premium puzzle may be explained by the fact that many market participants (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 rather, they 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 has been also high. Many 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 MARCH AND APRIL 2011

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

We will be very grateful to you if you kindly reply to the following 3 questions.

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

Best regards and thanks,
Pablo Fernandez

"At this very moment we are finalizing the construction of a share index that covers the period 1940 to 2010."

Professor of Finance. IESE Business School. Spain
http://www.iese.edu   http://ssrn.com/author=12696
3 questions:
1. The Market Risk Premium that I am using in 2011 for my country _____ is: _____%
2. The Market Risk Premium that I am using in 2011 for United States is: _____%
3. Books or articles that I use to support this number:
Comments

EXHIBIT 2
COMMENTS OF RESPONDENTS THAT DID NOT PROVIDE THE MRP USED IN 2011

1. 95% of valuations are executed on multiple basis, i.e. we don't properly calculate a wacc per investment case nor market risk premium
2. We focus on emerging markets. We don't use a formulaic approach to specific country risk and return requirements, and believe that it doesn't adequately account for relative risk or reward. Rather, we look at each country and determine whether there is a compelling real estate opportunity from a perspective of fundamental demand (like Brazil) and which meets our overall return requirements (approximately 20%).
3. Analyst. Europe. Changes every week
4. Germany. We do not apply this methodology in venture capital.
5. In Canada we don't use MRP. The majority of our appraisals are on an orderly liquidation basis. For the few fair market value appraisals, we use remaining useful life formulas.
6. I am fundamentally critical as regards the concept of a risk premium, it mainly serves as a tool to rationalize/ legitimate claims on income in the struggle between creditors and debitors.
7. European Fund. We only invest in European non-listed, private companies. Our required return is not depended on MRPs, we try to get the maximum out of it for our shareholders. A reference for us is the return you get on a savings account of a bank. For the moment this is about 2.5%. So if we get on top of an extra 10 to 15% per year, you are doing fine.
8. We usually calculate cost of equity in US$ and then translate it through PPP to R$.
9. The survey comes to me during the period of Japanese 9.0 earthquake, which I believe have strong impact in Taiwan. Unfortunately up to now no precise estimates for the damage can be obtained.

10. I have to confess that what I have doing in finance area is for my own pleasure. In other words I have made some theoretical research but almost never did not try to calculate 'numbers'. On the other hand my understanding of the problem related to the questions below is a little bit different than benchmark. In particular each 'The MRP ' implies risk characteristics that cover the set of scenarios for which say 'payer' pays more than implied by scenarios. Actually I think that relevant general information can be drawn from CDS and Interest Rate Parity. The MRP are excessively simplified.
11. I believe that the long run risk dynamics of corporations versus sovereigns has altered to the extent that risk has diminished for the former and increased for the latter. South African cost of capital has also been shifting in the past few years with the cost of debt particularly declining. I think slightly higher Price Earnings ratios will be typical in South Africa going forward than the long run market average of around 14x.In Private Equity EBITDA multiples of 7x are common today whereas a few years back 3 to 5x was the norm for deals.
12. No previous study is known of a comprehensive study of the portuguese domestic market. We (3 professors) are developing a 3-year project that aims to estimate our domestic ERP along with an understanding of the reasons that influenced that premium. At this very moment we are finalizing the construction of a share index that covers the period 1940 to 2010.

EXHIBIT 3
COMMENTS OF RESPONDENTS THAT DID PROVIDE THE MRP USED IN 2011

1. Your survey assumes that folks are using the segmented markets approach. I use an International CAPM approach and the MRP on the world market index, which I assume to be 5% from the perspective US dollars. We base also on information provided by surveys (e.g. from KPMG, Roland Berger, and other, or finance articles).
2. In estimating a cost of equity for a company with operations outside of US, we typically consider a country risk premium reflects subject country credit risk from the International Cost of Capital Report 2010, Ibbotson Associates, Inc.

3. Stock market in Egypt has been closed for almost a month now, but just before that my planned MRP based on estimations for Egypt was 3.5%. I'll probably not lower it too much after the revolution since I expect a lot of domestic investment and rebuilding efforts.

4. In Japan, a big seismic hazard is received, and the real estate dealings market is being confused in Japan now. Therefore, I cannot appropriately answer your question now.

5. Professor, UK. I think you're potentially asking the wrong question in that I think we should measure (E(rm) directly rather than the MRP. That seems particularly important in the context of current markets.

6. Professor, Finland. Predicting the market premium by using the survey method for asking the personally subjective opinion on the future market outlooks is not the scientific way.

7. I am working with/using a Long-term risk-free rate of 3%, and a premium of 9%. But note that this is to illustrate cases in teaching and/or Exam assignments! In Sweden the inflation is around 2%. The central banks target is 2%.

8. I use CAPM Model. The Iranian stock Market has showed 46% gain in 2010 and it seems continuing for 2011.

9. For the Euro zone, I use a country risk premium and the german bund rate as a risk free rate in euros.

10. Indonesia. We export mainly to US, Europe, and Japan. The crisis on US affect our export, meanwhile our commodities hardly survive the competition with China commodities. But we still have prospect. We are optimist that our economic growth will increase from 5.7% in 2010 to more than 6.5% at the end of 2011.

11. The Malaysian government securities yield is 2,77% whereas historical market FBMKLIC return (market index) is 4,24% from Jan 1980 to the end of 2009.

12. I dont believe in fixed ERP its a random variable and partially predictable. You can use 10% for my country Cda and US 8%.

13. Pakistan is an emerging market, Its interest rate statistics hardly show any correlation with developing world especially western Europe and United States, Despite higher interest rates, it has witnessed inflation in double digits and depreciation in its currency, Therefore, most monetary economics fails to explain the case of Pakistan and in fact for all emerging economies, The country has a very large undocumented sector, very limited tax base and its policies - for the most part - lately are not set independent of international political pressures.

14. In the case of Japan, true premium should be higher, but risk premium computed by stock return - JGB yield is small. Also this number can change due to the real impact of the current Tsunami and Nuclear problems.

15. The U.S. is higher than Germany and before the earthquake, Japan, but still quite low. The biggest risk is inflation which I normally account for separately – not as part of the country risk premium. In the long run, it is at least 1-3% as a component of the discount rate. Brueggeman and Fisher, Real Estate Finance, has some discussion of principals but no estimates of country risk premium.

16. I anticipate China stock market to increase by around 10% within 2011 while its one-year deposit interest rate stands at 3.5%. It results in a 6.5% of MRP for China. I also project the US stock market to increase by around 5% while the risk free rate of US remains close to zero within 2011.

17. Calculating a MRP for Iran is not straightforward because of unforecastable economic situation. The best thing I can do is narrowing the range of possible rates. The reason for considering 18% as MRP for Iran is that the annual interest rate of bank investments and participation bonds are approximately 14% to 16% (average 15%) announced by the central bank these years. Besides, historical return earned by the market, proxied by the Tehran Stock Exchange (TSE) Index, comes more than 30%. Using a CAPM, these two rates with a market beta of one come to 15% (at least) as MRP. Unlike the other countries that are regaining from the economical crises, here it seems that it takes more time for Iran to revive from recession; that is a personal judgment and should push the premium down. Furthermore, Iranian government is now fulfilling and experiencing a new economical plan which involves cutting subsides and paying peoples directly any savings thereof. This might push the premium up as people expecting more inflation. In my opinion, this MRP goes above 15%. That is why I choose 18%.

18. For international markets from a US perspective we calculate the Cost of Capital per Country Credit

Rating model based upon the International Cost of Capital Report issued by Morninstar.

19. We use the policy potential index from this report to adjust project valuations for country risk. We find this is more useful and more comprehensive for the mines operated by our companies than a credit rating.

20. Please note that while my WACC's in general are high (11-13%) my growth rates are a bit higher also, anywhere from ½ to ¾ the overall long-run growth rate for the Chinese economy of 7-8%.

21. The equity risk premium we use here is 5.0%, historically we have used Ibbotson as a source for ERP minus the Ibbotson and Chen study adjustment, more recently we have joined KPMG ELLP and a 5.0% ERP is the generally applied level for Equity Risk Premium. We do not calculate a specific MRP for Russia based on historical returns on the equity market as Gazprom and the oil majors dominate the index so the applicability of any number is only really applicable to the natural resources sector rather than the broader market. The risk free rate in rouble terms is also a problem as there are no reliable long-term rouble bonds traded so we tend to us Russian Government USD denominated bonds as a basis for the risk free rate and then add a currency risk premium based on the fisher formula, not a perfect solution but it seems to work. We also use Ibbotson for size premium determination.

22. I use 4% for all countries based on the Credit Suisse Global Investment Returns Sourcebook that provide data for 17 countries beginning in 1900

23. Implied equity risk premium from major stock market indexes

24. Please note that if we calculate the real MRP in Italy for the last ten years, the measure is negative. The value is reasonably considered as right only in force of an accepted practice by the main consulting and auditing firms active in Italy. There is no more rational explanation in doing it!

25. This is based on my VC investors' general requirement. Nowadays, US is no longer safer than some Asian emerging markets. Someday, it may even reverse.

26. Financial analyst for belgian institutions. In general I am using a standard WACC of 7,5% to 8%, which is in fact including an average risk premium of 3% to 4,5%. I am using these figures in good and in bad times, in order to get a standard approach. It is obvious that in bad times, risk premiums are high and thus valuations low and in good times low risk premium result in high valuations. I want to go through this phenomenon by using one standard WACC and risk premium.

27. I would say that I think equities are going to outperform bonds by 3% for both US and the Netherlands.

28. Risk premium for US is measured (for me) in £ i.e. is adjusted for expected depreciation in $

29. I tend to like the Dimson Marsh research. Their Triumph of the Optimists is quite a good read as are some of their articles. I tend to agree that Ibbotson tends to overestimate the MRP.

30. We base our total premium at 12%, counting an estimation of 6% inflation for 2011, according to a survey done on our main market, which is environmental services.

31. Comparison of the interest rate that the market establishes for a standard security in the country to the comparable security in the benchmark country.

32. We use a regression on US Dollar denominated sovereign bonds and our in-house risk rating to determine African countries' MRP.

33. This figure is adjusted regularly based on current market levels and recent market performance. The Margin Lending borrowing rate also helps determine the MRP. Our current variable Margin Lending Rate is 9.75%.

REFERENCES

Brealey, R.A., S.C. Myers and F. Allen (2005), Principles of Corporate Finance, 8th edition, McGraw-Hill/Irwin.

Claus, J.J. and J.K. Thomas (2001), "Equity Premia as Low as Three Percent? Evidence from Analysts' Earnings Forecasts for Domestic and International Stock Markets," Journal of Finance. 55, (5), pp. 1629-66.

Damodaran, A. (2008), "Equity Risk Premiums (ERP): Determinants, Estimation and Implications", Working Paper.

Dimson, E., P. Marsh and M. Staunton (2007), "The Worldwide Equity Premium: A Smaller Puzzle," in Handbook of investments: Equity risk premium, R. Mehra, Elsevier.

Fernandez, P. (2007), "Equity Premium: Historical, Expected, Required and Implied", http://ssrn.com/abstract=933070

Fernandez, P. (2009a), "Market Risk Premium Used in 2008 by Professors: A Survey with 1,400 Answers", http://ssrn.com/abstract=1344209

Fernandez, P. (2009b), "The Equity Premium in 150 Textbooks", http://ssrn.com/abstract=1473225

Fernandez, P., J. Aguirremalloa and H. Liechtenstein (2009),

"The Equity Premium Puzzle: High Required Premium, Undervaluation and Self Fulfilling Prophecy". IESE Business School WP. http://ssrn.com/abstract=1274816

Fernandez, P. and J. del Campo (2010a), "Market Risk Premium used in 2010 by Analysts and Companies: a survey with 2,400 answers", downloadable in http://ssrn.com/abstract=1609563

Fernandez, P. and J. del Campo (2010b), "Market Risk Premium Used in 2010 by Professors: A Survey with 1,500 Answers", downloadable in http://ssrn.com/abstract=1606563

Fernandez, P., J. Aguirreamalloa and L. Corres (2011a), "US Market Risk Premium Used in 2011 by Professors, Analysts and Companies: A Survey with 5.731 Answers", downloadable in http://ssrn.com/abstract=1805852

Fernandez, P., J. Aguirreamalloa and L. Corres (2011b), "The Equity Premium in Spain: Survey 2011 (in Spanish)", downloadable in http://ssrn.com/abstract=1822422

Graham, J.R. and C.R. Harvey (2007), "The Equity Risk Premium in January 2007: Evidence from the Global CFO Outlook Survey," Icfai Journal of Financial Risk Management, Vol. IV, No. 2, pp. 46-61.

Harris, R.S. and F.C. Marston (2001), "The Market Risk Premium: Expectational Estimates Using Analysts' Forecasts," Journal of Applied Finance, Vol. 11.

Ilmanen, A. (2003), "Expected returns on stocks and bonds", Journal of Portfolio Management 29, pp. 7-27.

Johnson, D. T., T. Kochanek, T and J. Alexander (2007), "The Equity Premium Puzzle: A New Look", Journal of the Academy of Finance, Vol. 5, No. 1, pp. 61-71.

O'Neill, J., D. Wilson and R. Masih (2002), "The Equity Risk Premium from an Economics Perspective", Goldman Sachs, Global Economics Paper No. 84.

Ritter, J.R. and R. Warr (2002), "The Decline of Inflation and the Bull Market of 1982 to 1999," Journal of Financial and Quantitative Analysis, Vol. 37, No. 1, pp. 29-61.

Welch, I. (2000), "Views of Financial Economists on the Equity Premium and on Professional Controversies", Journal of Business, Vol. 73, No. 4, pp. 501-537.

Welch, I. (2001), "The Equity Premium Consensus Forecast Revisited", Cowles Foundation Discussion Paper No. 1325.

Welch, I. (2007), "A Different Way to Estimate the Equity Premium (for CAPM and One-Factor Model Use Only)," SSRN n. 1077876. ■

ENDNOTES:

[1] We considered 124 of them as outliers because they provided a very small MRP (for example, -23% and 0 for the USA) or a very high MRP (for example, 30% for the USA).

[2] We got 5 answers for Bahrain (6,0), Ecuador (7,7), Lebanon (8,0), Morocco (4,5), Oman (5,0), Qatar (8,0) and Senegal (5,5). The average MRP is in parenthesis. We got 4 answers for Romania (7,2) and Vietnam (8,8). We got 3 answers for Croatia (7,0), Slovakia (5,3) and Slovenia (4,9). We got 2 answers for Bulgaria (8,6), Costa Rica (6,9), Trinidad&Tobago (14,5) and Venezuela (11,0). We got 1 answer for Albania, Bolivia, Cyprus, Ghana, Guatemala, Honduras, Lituania, Malta, Panama, Puerto Rico, Tunisia and Uruguay.

[3] Fernandez, P., J. Aguirreamalloa and L. Corres (2011a), "US Market Risk Premium Used in 2011 by Professors, Analysts and Companies: A Survey...", downloadable in http://ssrn.com/abstract=1805852

[4] Fernandez, P., J. Aguirreamalloa and L. Corres (2011b), "The Equity Premium in Spain: Survey 2011 (in Spanish)", downloadable in http://ssrn.com/abstract=1822422

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

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