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DEDICATED

To



Acharya Shri Purushottam 'Uttam' Ji

(20th July 1920 - 31st January 2014)

Founder, Sahitya Sadawart Samiti

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MARKET RISK PREMIUM USED IN 88 COUNTRIES IN 2014: A SURVEY WITH 8,228 ANSWERS

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Abstract : This paper contains the statistics of the Equity Premium or Market Risk Premium (MRP) used in 2014 for 88 countries. We got answers for more countries, but we only report the results for 88 countries with more than 6 answers. 37% of the MRP used in 2014 decreased (vs. 2013) and 9% increased. 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 30 persons that do not use MRP, and comments from 53 persons that do use MRP.

Keywords: Equity premium; Required equity premium; Expected equity premium; Historical equity premium

INTRODUCTION

Market Risk Premium (MRP) used in 2014 in 88 countries

We sent a short email (see exhibit 1) on May and June 2014 to more than 29,000 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 June 19, 2014, we had received 3,104 emails with 8,094 specific MRP used in 2014.1 We considered 139 of them as outliers because

they provided a very small MRP (for example, -2% and 0 for the USA) or a very high MRP (for example, 30% for the USA). Other 134 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 2014 for 88 countries.

We got answers for more countries, but we only report the results for 88 countries with more than 6 answers. Fernandez et al (2011a)² is an analysis of the answers for the USA; it also shows the evolution of the Market Risk Premium used for the USA in 2011, 2010, 2009 and 2008 according to previous surveys (Fernandez et al, 2009, 2010a and 2010b). Fernandez et al (2011b)³ is an analysis of the answers for Spain.

Table 1. MRP used in 2014 : 8,228 answers

	Professors	Analyst	Companies	Financial companies	Other	Total
Answers reported (MRP figures)	2022	1278	1968	1803	884	7955
Outliers	9	1	77	23	29	139
Answers that do not provide a figure	19	24	17	43	31	134
Total	2050	1303	2062	1869	944	8228

Some answers that do not provide a figure: "We use a minimum IRR"; "We use multiples"; "MRP is a concept that we do not use"; "It is confidential"; "The CAPM is not very useful"; "I think about premia for particular stocks"; "I teach derivatives: I did not have to use a MRP"; "The MRP changes every day".

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

Surveys of previous years		
2013	MRP and Risk Free Rate used for 51 countries in 2013	http://ssrn.com/abstract=914160
2012	MRP used in 82 countries in 2012	http://ssrn.com/abstract=2084213
2011	MRP used in 56 countries in 2011	http://ssrn.com/abstract=1822182
2010	MRP used in 22 countries in 2010	http://ssrn.com/abstract=1609563

Table 2. Market Risk Premium (%) used for 88 countries in 2014

Country	Average	Median	St Dev	Q1	Q3	min	Max	Skewness
USA	5,4%	5,0%	1,4%	4,5%	6,0%	1,5%	13,0%	0,6
Spain	6,2%	6,0%	1,6%	5,0%	6,5%	2,0%	13,0%	1,5
Germany	5,4%	5,0%	1,7%	4,5%	6,0%	1,0%	12,4%	1,0
UK	5,1%	5,0%	1,4%	4,3%	6,0%	1,5%	12,8%	1,5
Italy	5,6%	5,5%	1,5%	4,8%	6,0%	2,0%	10,1%	0,8
Canada	5,3%	5,0%	1,2%	4,5%	6,0%	3,0%	10,0%	1,3
Mexico	7,4%	6,7%	2,4%	6,0%	9,0%	3,0%	15,0%	1,2
Brazil	7,8%	7,0%	4,2%	5,5%	8,3%	1,8%	25,0%	2,4
France	5,8%	5,9%	1,5%	5,0%	6,1%	2,0%	11,4%	0,9
South Africa	6,3%	6,0%	1,4%	5,5%	7,0%	3,0%	11,8%	1,3
China	8,1%	7,0%	3,5%	6,0%	9,4%	3,9%	20,0%	1,9
Australia	5,9%	6,0%	1,6%	5,0%	6,0%	3,0%	15,0%	2,2
Netherlands	5,2%	5,0%	1,2%	4,5%	6,0%	2,5%	11,6%	1,5
Switzerland	5,2%	5,0%	1,1%	4,5%	6,0%	3,0%	9,6%	0,9
Russia	7,9%	7,0%	3,4%	6,0%	9,0%	2,7%	25,0%	3,1
India	8,0%	8,0%	2,4%	6,0%	8,6%	2,3%	16,0%	1,2
Sweden	5,3%	5,0%	1,0%	4,5%	6,0%	3,6%	9,0%	0,8
Chile	6,0%	5,6%	1,5%	5,3%	6,4%	4,0%	15,0%	3,1
Austria	5,5%	5,5%	1,5%	4,9%	6,0%	2,5%	14,3%	2,7
Belgium	5,6%	5,5%	1,1%	5,0%	6,2%	3,0%	8,1%	0,0
Norway	5,8%	5,0%	2,0%	4,5%	6,0%	3,5%	14,0%	1,8
Argentina	11,8%	11,5%	4,2%	9,0%	14,6%	5,0%	28,7%	1,2
Colombia	8,1%	7,8%	3,8%	6,5%	9,0%	2,0%	20,5%	1,0
Portugal	8,5%	8,5%	2,0%	7,0%	9,4%	4,0%	14,0%	0,0
Denmark	5,1%	5,0%	1,8%	4,2%	5,5%	2,0%	14,0%	2,6
Japan	5,3%	5,0%	2,4%	4,0%	6,0%	2,0%	16,7%	2,4
Poland	6,3%	6,0%	1,5%	5,0%	8,0%	4,4%	10,0%	0,6
Greece	15,0%	16,5%	4,7%	10,0%	19,0%	6,5%	23,0%	-0,5
Finland	5,6%	5,4%	1,6%	4,6%	6,0%	3,5%	12,0%	1,9
New Zealand	5,6%	5,5%	1,4%	4,9%	6,7%	2,0%	8,0%	-0,5
Peru	7,8%	7,5%	2,5%	6,5%	8,0%	3,5%	15,0%	1,4
Luxembourg	4,9%	5,0%	0,9%	4,1%	5,6%	3,5%	7,0%	0,3
Turkey	7,9%	7,0%	3,3%	5,4%	10,5%	2,5%	18,0%	0,8
Czech Republic	6,5%	6,5%	1,6%	5,5%	7,0%	4,3%	12,1%	1,9
Israel	5,8%	5,0%	2,1%	4,6%	6,8%	3,0%	15,0%	2,6
Indonesia	7,9%	8,0%	2,0%	6,5%	8,9%	4,5%	14,5%	1,0
Korea	6,3%	6,3%	1,8%	5,0%	7,3%	2,0%	11,1%	-0,2
Taiwan	7,5%	7,0%	2,1%	6,5%	8,0%	4,3%	15,0%	1,9
Ireland	6,8%	6,3%	2,4%	5,1%	8,8%	2,7%	12,3%	0,3
Singapore	5,7%	5,5%	1,3%	5,1%	6,0%	3,9%	9,6%	0,9
Hong Kong	7,0%	6,0%	2,4%	5,5%	7,7%	3,5%	12,0%	1,0
Pakistan	11,1%	11,5%	5,3%	6,0%	16,0%	2,5%	19,0%	0,0
Malaysia	6,4%	6,8%	1,5%	6,0%	7,3%	3,4%	8,8%	-0,5
Thailand	8,0%	7,5%	1,8%	7,0%	8,6%	6,0%	15,1%	2,7
Hungary	8,3%	8,9%	2,3%	6,0%	10,0%	5,0%	13,8%	0,2

¹1,564 emails contained MRP for more than one country.

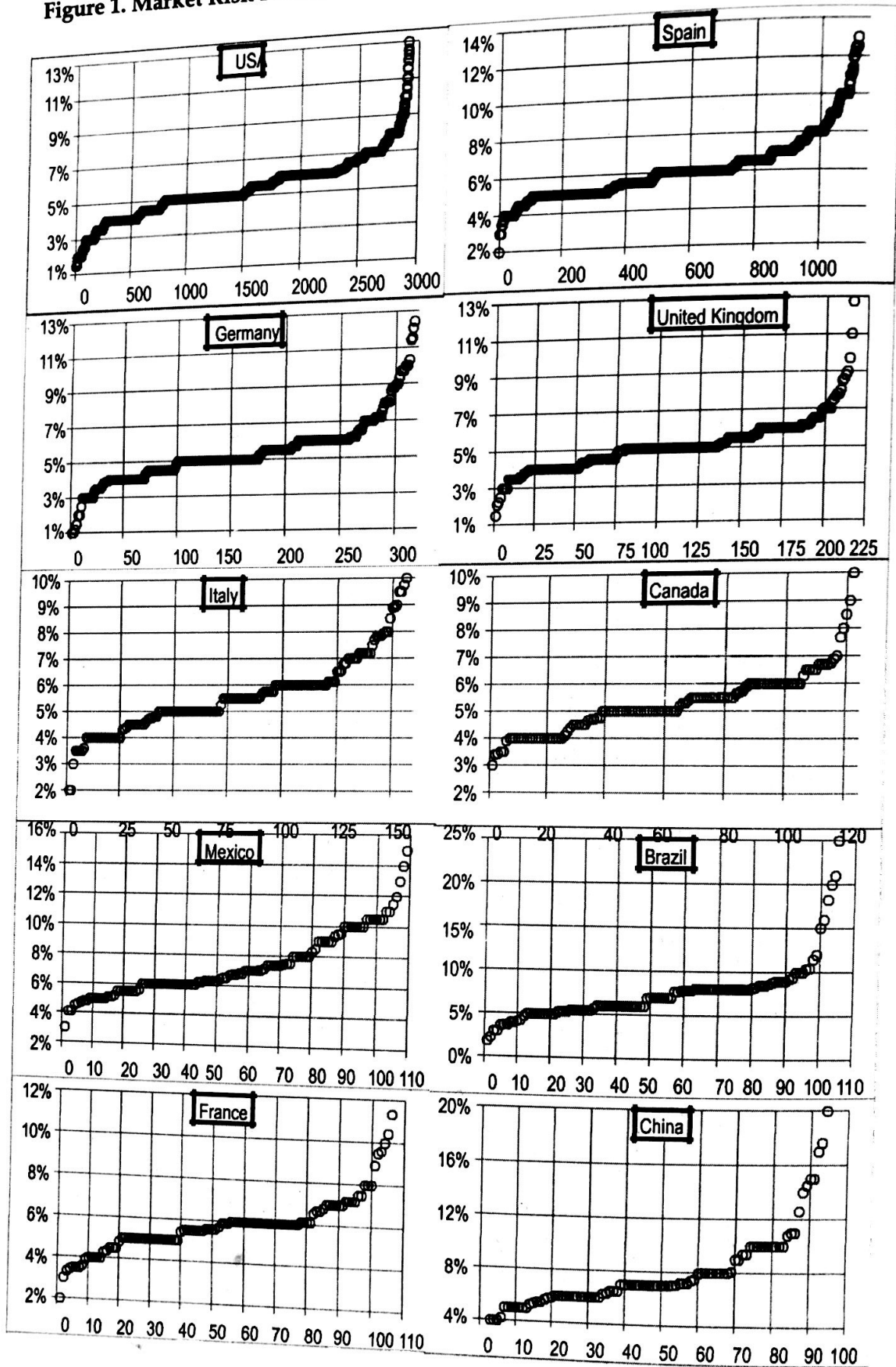
²Fernandez, P., J. Aguirreamalloa and L. Corres (2011a), "US Market Risk Premium Used in 2011 by Professors, Analysts and Companies: A Survey..."

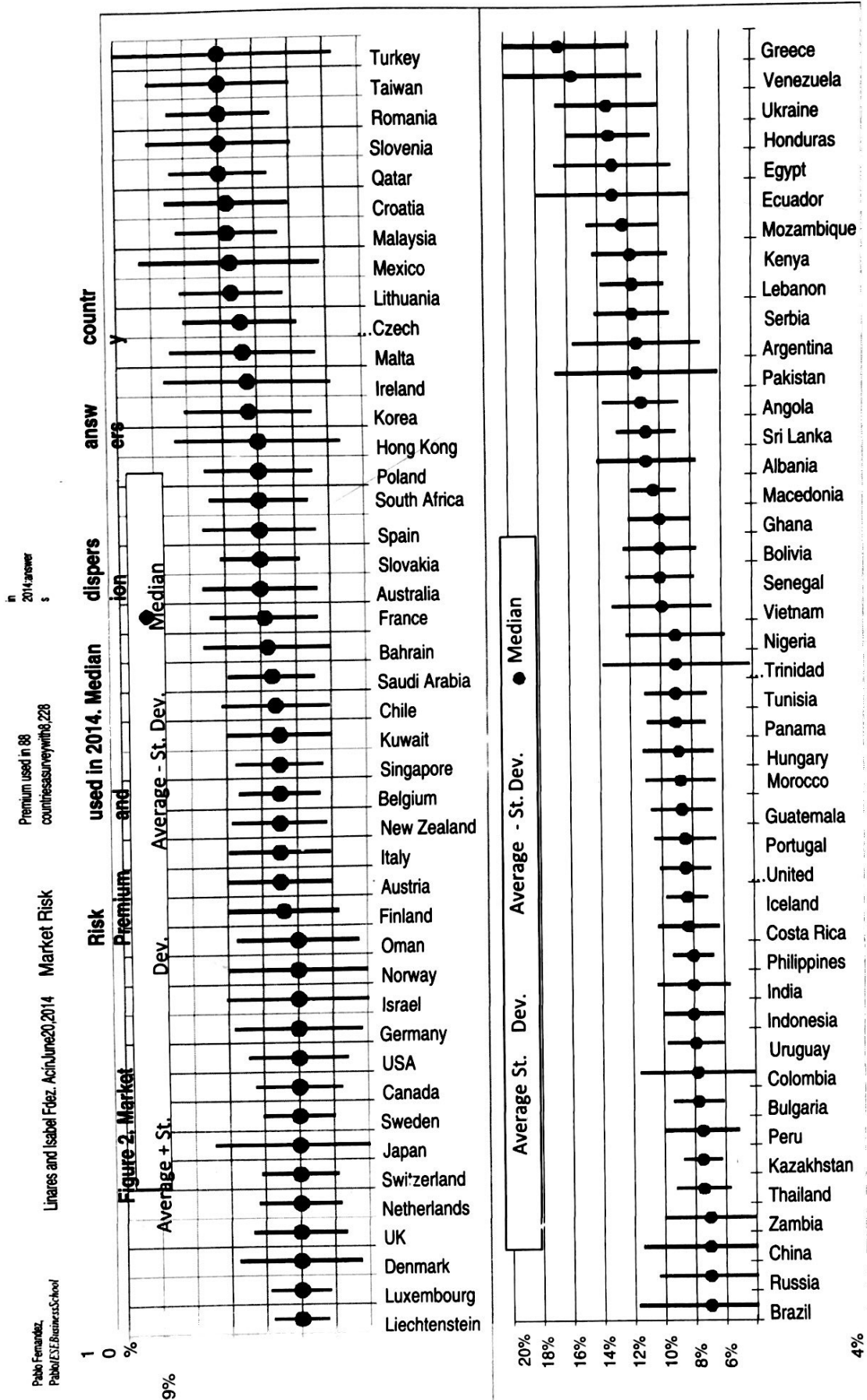
³Fernandez, P., J. Aguirreamalloa and L. Corres (2011b), "The Equity Premium in Spain: Survey 2011 (in Spanish)"

Table 2 (cont). Market Risk Premium (%) used for 88 countries in 2014

	Country	Average	Median	St Dev	Q1	Q3	min	Max	Skewness
46	Egypt	12,9%	13,0%	3,8%	11,4%	15,9%	3,5%	19,0%	-0,4
47	Kazakhstan	7,0%	7,5%	1,3%	6,0%	8,0%	4,7%	9,0%	-0,3
48	Nigeria	10,4%	9,0%	3,3%	8,5%	12,0%	6,9%	20,0%	2,0
49	Saudi Arabia	6,2%	5,7%	1,2%	5,5%	6,8%	5,0%	10,6%	2,4
50	Romania	7,3%	7,0%	1,5%	6,3%	8,0%	5,0%	10,0%	0,4
51	Philippines	8,1%	8,0%	1,4%	7,0%	8,8%	6,4%	11,0%	0,7
52	Croatia	7,3%	6,8%	1,8%	6,0%	9,0%	4,4%	10,0%	0,3
53	Ecuador	12,2%	13,0%	5,0%	6,9%	16,3%	5,0%	20,0%	-0,1
54	Liechtenstein	4,8%	5,0%	0,8%	4,0%	5,5%	3,6%	6,0%	0,1
55	United Arab Emirates	7,7%	8,5%	1,7%	7,0%	9,0%	4,0%	9,7%	-0,9
56	Kuwait	6,1%	5,5%	1,5%	5,5%	6,8%	4,0%	10,6%	2,0
57	Bulgaria	7,9%	7,8%	1,7%	6,8%	8,8%	6,0%	12,0%	1,0
58	Senegal	9,8%	10,0%	2,3%	9,0%	10,0%	5,0%	14,0%	-0,2
59	Bahrain	6,9%	5,8%	1,8%	5,5%	8,2%	5,5%	11,1%	1,1
60	Vietnam	10,3%	9,9%	3,3%	8,4%	12,0%	3,9%	16,0%	-0,1
61	Oman	6,0%	5,0%	1,8%	5,0%	7,0%	5,0%	11,1%	2,2
62	Qatar	6,8%	7,0%	1,4%	7,0%	7,0%	4,0%	10,1%	0,2
63	Zambia	8,9%	7,0%	3,0%	7,0%	9,8%	6,6%	16,0%	1,5
64	Bolivia	10,3%	10,0%	2,4%	8,0%	12,0%	7,5%	15,1%	0,6
65	Kenya	11,6%	11,9%	2,5%	10,8%	13,3%	6,0%	15,0%	-0,9
66	Morocco	8,4%	8,8%	2,3%	7,0%	10,0%	5,0%	12,0%	-0,2
67	Lebanon	11,6%	11,8%	2,1%	9,5%	13,0%	9,0%	14,5%	-0,1
68	Slovenia	7,2%	7,0%	2,1%	6,0%	8,7%	3,6%	10,0%	-0,1
69	Uruguay	8,1%	7,9%	1,9%	7,0%	9,9%	5,0%	10,4%	-0,2
70	Panama	8,6%	9,0%	1,9%	7,2%	9,8%	6,0%	11,3%	-0,1
71	Ghana	10,6%	10,0%	2,0%	9,3%	11,9%	8,0%	14,0%	0,3
72	Ukraine	13,9%	13,4%	3,3%	12,0%	15,9%	8,0%	19,0%	0,0
73	Venezuela	14,0%	15,6%	4,6%	11,9%	17,5%	6,0%	19,0%	-0,9
74	Slovakia	6,1%	6,0%	1,1%	5,0%	7,0%	5,0%	8,0%	0,5
75	Costa Rica	8,2%	8,3%	2,0%	7,0%	10,0%	3,8%	10,0%	-1,3
76	Malta	6,3%	6,4%	2,1%	4,9%	8,0%	3,1%	9,3%	-0,1
77	Iceland	8,5%	8,4%	1,4%	7,0%	10,0%	7,0%	10,0%	0,1
78	Guatemala	9,0%	8,7%	2,0%	7,3%	10,0%	7,0%	13,0%	1,1
79	Albania	10,1%	10,9%	3,3%	8,3%	12,3%	5,0%	14,0%	-0,6
80	Tunisia	9,4%	9,0%	2,1%	7,8%	11,2%	7,0%	12,0%	0,3
81	Trinidad and Tobago	9,5%	9,0%	4,8%	6,7%	9,0%	6,0%	20,0%	2,2
82	Macedonia	10,2%	10,4%	1,5%	9,3%	11,2%	8,0%	12,0%	-0,1
83	Honduras	13,0%	13,3%	2,7%	10,8%	15,5%	9,5%	16,0%	-0,1
84	Lithuania	7,2%	6,7%	1,5%	6,0%	8,6%	6,0%	9,0%	0,5
85	Angola	11,1%	11,2%	2,5%	9,4%	12,0%	8,0%	15,0%	0,5
86	Serbia	11,2%	11,8%	2,5%	9,7%	12,7%	7,5%	14,0%	-0,6
87	Sri Lanka	11,3%	10,9%	2,0%	10,0%	12,7%	9,0%	14,0%	0,3
88	Mozambique	12,1%	12,4%	2,3%	10,4%	13,8%	9,0%	15,0%	-0,2

Figure 1. Market Risk Premium used in 2014 for some countries (plot of answers)





Differences among respondents

Table 3 and figure 3 show the differences in Market Risk Premium used by the same

person for 2 countries. 242 respondents provided us with answers for USA and Germany. 148 provided us with answers for USA and UK.

Table 3. Difference in the Market Risk Premium used in 2014 by the same person for two countries

	Average	Number of answers			
		Total	<0	0	>0
MRP: UK-USA	0,24%	148	23	70	55
MRP: Germany-USA	0,19%	242	61	113	68
MRP: Spain - USA	1,22%	456	28	96	332
MRP: Canada - USA	-0,04%	113	31	55	27
MRP: Spain-Germany	1,30%	134	1	50	83
MRP: Spain-Italy	0,09%	55	5	38	12

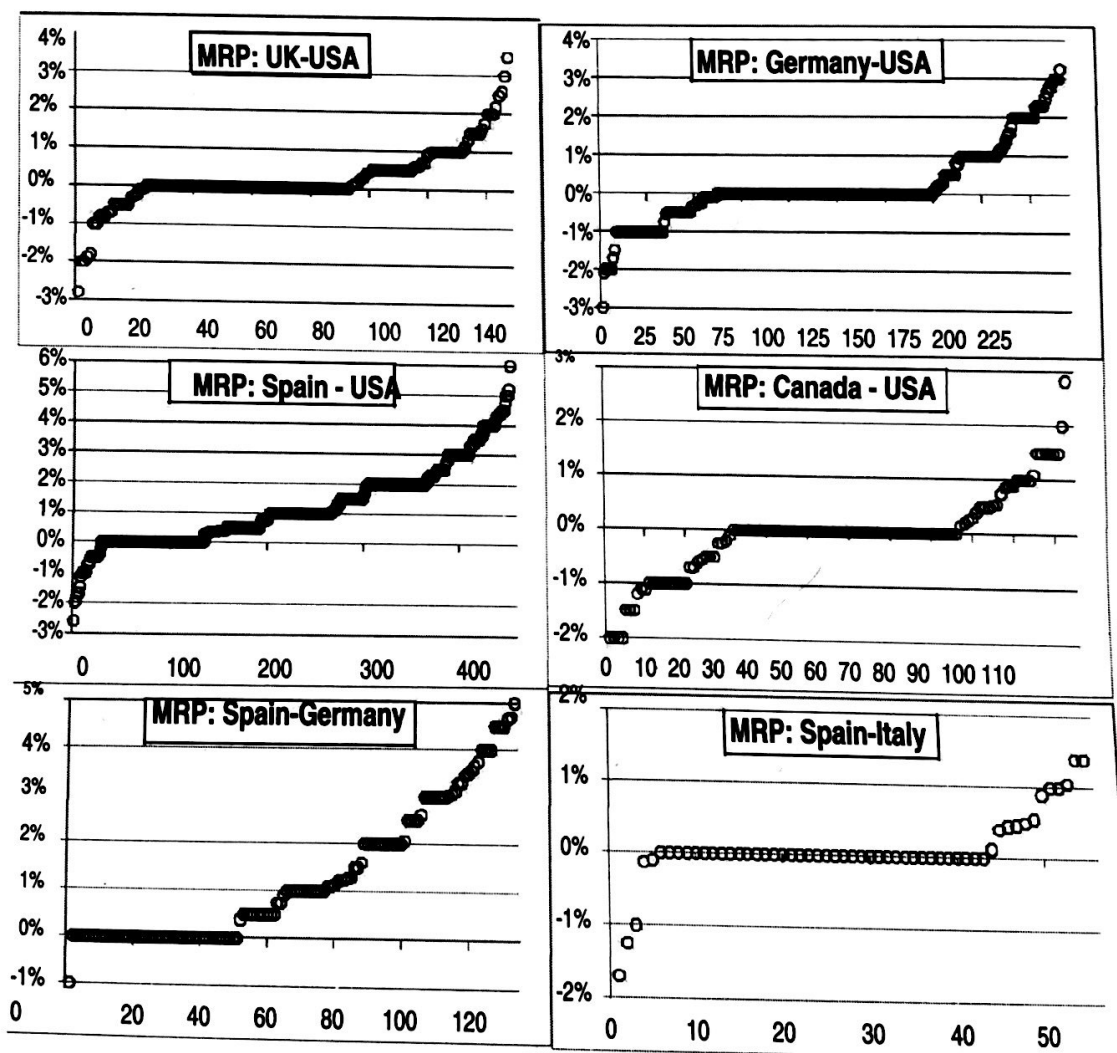


Figure 3. Difference in the MRP used by the same in 2014 for several Countries

References used to justify the MRP figure

Some respondents indicated which books, papers... they use as a reference to justify the MRP that they use. The most cited references were: Damodaran, Internal estimate, Historical data, Ibbotson /Morningstar, Duff&Phelps,

Fernandez, DMS, Graham-Harvey, Bloomberg, Analysts, Experience, Own judgement, Grabowski , Pratt's & Grabowski, Mckinsey (Copeland), Brealy & Myers, Siegel.

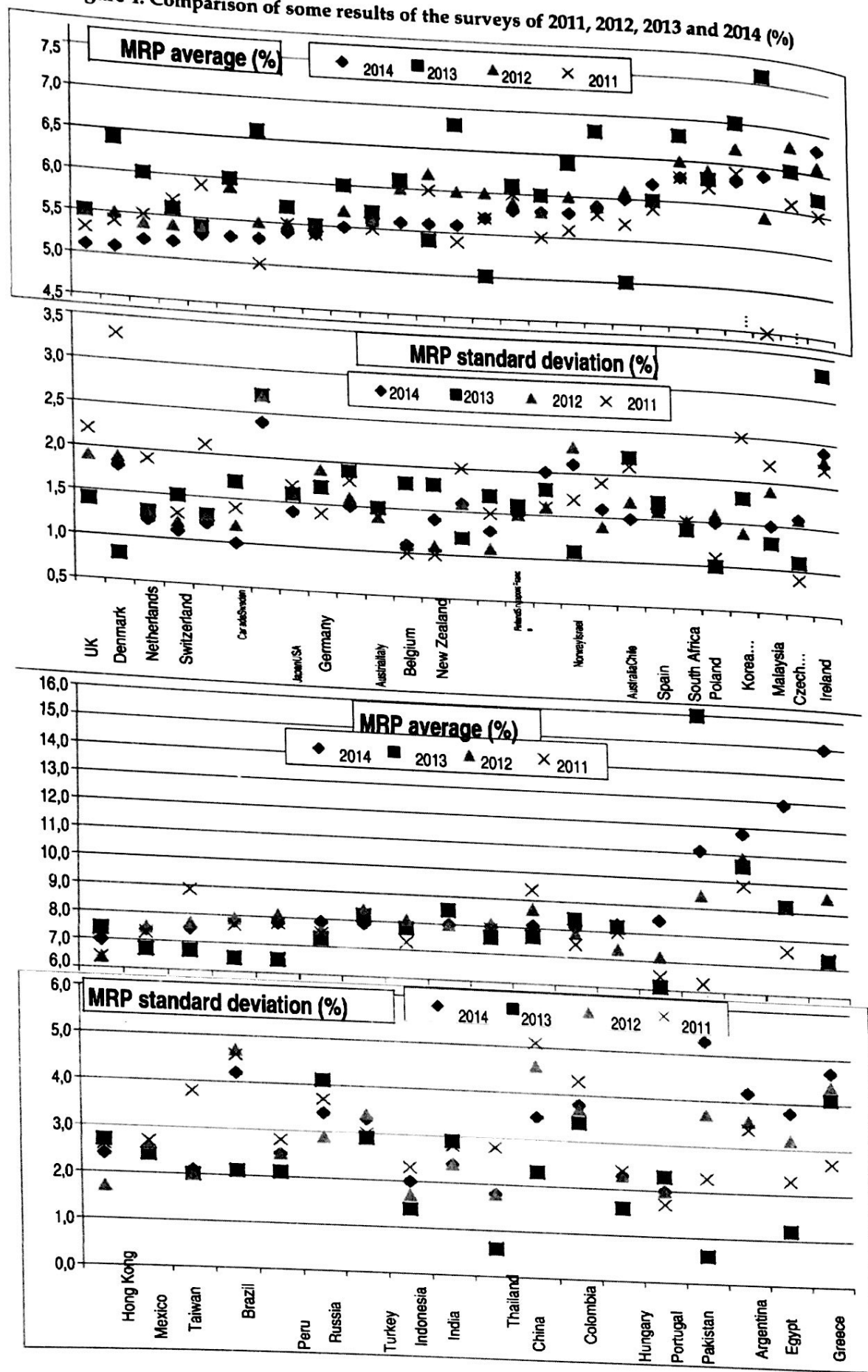
Comparison with previous surveys

Table 4 and figure 4 compare some results of this survey with the results of 2011, 2012 and 2013.

Table 4. Comparison of some results of the surveys of 2011, 2012, 2013 and 2014 (%)
(in bold : higher in 2014 than in 2013)

	Average				Median				St. Dev.			
	2014	2013	2012	2011	2014	2013	2012	2011	2014	2013	2012	2011
UK	5,1	5,5	5,5	5,3	5,0	5,0	5,0	5,0	1,4	1,4	1,9	2,2
Denmark	5,1	6,4	5,5	5,4	5,0	5,9	5,0	4,5	1,8	0,8	1,9	3,3
Netherlands	5,2	6,0	5,4	5,5	5,0	5,8	5,5	5,0	1,2	1,3	1,3	1,9
Switzerland	5,2	5,6	5,4	5,7	5,0	5,5	5,3	5,5	1,1	1,5	1,2	1,3
Canada	5,3	5,4	5,4	5,9	5,0	5,3	5,5	5,0	1,2	1,3	1,3	2,1
Sweden	5,3	6,0	5,9	5,9	5,0	5,9	6,0	5,5	1,0	1,7	1,2	1,4
Japan	5,3	6,6	5,5	5,0	5,0	6,4	5,0	3,5	2,4	2,7	2,7	3,7
USA	5,4	5,7	5,5	5,5	5,0	5,5	5,4	5,0	1,4	1,6	1,6	1,7
Germany	5,4	5,5	5,5	5,4	5,0	5,0	5,0	5,0	1,7	1,7	1,9	1,4
Austria	5,5	6,0	5,7	6,0	5,5	5,8	6,0	5,7	1,5	1,9	1,6	1,8
Italy	5,6	5,7	5,6	5,5	5,5	5,5	5,5	5,0	1,5	1,5	1,4	1,4
Belgium	5,6	6,1	6,0	6,1	5,5	6,0	6,0	6,1	1,1	1,8	1,1	1,0
New Zealand	5,6	5,4	6,2	6,0	5,5	5,8	6,0	6,0	1,4	1,8	1,1	1,0
Finland	5,6	6,8	6,0	5,4	5,4	6,0	6,0	4,7	1,6	1,2	1,6	2,0
Singapore	5,7	5,0	6,0	5,7	5,5	5,8	5,7	5,0	1,3	1,7	1,1	1,5
France	5,8	6,1	5,9	6,0	5,9	6,0	6,0	6,0	1,5	1,6	1,5	1,5
Norway	5,8	6,0	5,8	5,5	5,0	6,0	5,5	5,0	2,0	1,8	1,6	1,6
Israel	5,8	6,4	6,0	5,6	5,0	7,0	5,8	5,0	2,1	1,1	2,3	1,7
Australia	5,9	6,8	5,9	5,8	6,0	5,8	6,0	5,2	1,6	4,9	1,4	1,9
Chile	6,0	5,0	6,1	5,7	5,6	5,5	5,6	5,3	1,5	2,2	1,7	2,1
Spain	6,2	6,0	6,0	5,9	6,0	5,5	5,5	5,5	1,6	1,7	1,6	1,6
South Africa	6,3	6,8	6,5	6,3	6,0	7,0	6,0	6,0	1,4	1,4	1,5	1,5
Poland	6,3	6,3	6,4	6,2	6,0	6,5	6,0	6,0	1,5	1,0	1,6	1,1
Korea (South)	6,3	7,0	6,7	6,4	6,3	6,9	7,3	6,5	1,8	1,8	1,4	2,5
Malaysia	6,4	7,6	5,9	4,5	6,8	7,5	6,4	3,5	1,5	1,3	1,9	2,2
Czech Republic	6,5	6,5	6,8	6,1	6,5	7,0	7,0	6,0	1,6	1,1	1,6	0,9
Ireland	6,8	6,2	6,6	6,0	6,3	7,0	6,0	5,1	2,4	3,3	2,3	2,2
Hong Kong	7,0	7,4	6,4	6,4	6,0	6,5	6,2	5,0	2,4	2,7	1,7	2,6
Mexico	7,4	6,7	7,5	7,3	6,7	6,3	6,8	6,4	2,4	2,4	2,6	2,7
Taiwan	7,5	6,7	7,7	8,9	7,0	6,9	7,1	8,0	2,1	2,0	2,0	3,8
Brazil	7,8	6,5	7,9	7,7	7,0	6,0	7,0	7,0	4,2	2,1	4,7	4,6
Peru	7,8	6,5	8,1	7,8	7,5	6,8	8,0	7,5	2,5	2,1	2,5	2,8
Russia	7,9	7,3	7,6	7,5	7,0	7,0	7,0	6,5	3,4	4,1	2,9	3,7
Turkey	7,9	8,2	8,4	8,1	7,0	9,4	9,0	8,2	3,3	2,9	3,4	3,0
Indonesia	7,9	7,8	8,1	7,3	8,0	8,0	8,0	7,5	2,0	1,4	1,7	2,3
India	8,0	8,5	8,0	8,5	8,0	8,8	8,0	7,8	2,4	2,9	2,4	2,8
Thailand	8,0	7,6	8,1	7,9	7,5	8,1	8,1	6,5	1,8	0,6	1,8	2,8
China	8,1	7,7	8,7	9,4	7,0	7,0	7,1	7,8	3,5	2,3	4,6	5,1
Colombia	8,1	8,4	7,9	7,5	7,8	8,8	7,5	7,0	3,8	3,4	3,7	4,3
Hungary	8,3	8,2	7,4	8,0	8,9	8,7	7,0	8,0	2,3	1,6	2,3	2,4
Portugal	8,5	6,1	7,2	6,5	8,5	5,9	6,5	6,1	2,0	2,3	2,0	1,7
Pakistan	11,1	16,0	9,5	6,3	11,5	16,3	9,5	7,5	5,3	0,6	3,7	2,3
Argentina	11,8	10,6	10,9	9,9	11,5	6,8	10,0	9,0	4,2	8,1	3,6	3,4
Egypt	12,9	9,2	9,2	7,6	13,0	9,0	8,0	7,0	3,8	1,2	3,2	2,3
Greece	15,0	7,3	9,6	7,4	16,5	6,0	7,4	7,2	4,7	4,1	4,4	2,7

Figure 4. Comparison of some results of the surveys of 2011, 2012, 2013 and 2014 (%)



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 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 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%.

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 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".

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 2008	Europe 2008	US 2009	Europe 2009
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".

++ 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>

Table 6. Estimates of the EEP (Expected Equity Premium) according to other surveys

Authors	Conclusion about EEP	Respondents
<i>Pensions and Investments</i> (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
Graham and Harvey (2014)	3.73%.	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

The magazine *Pensions and Investments* (12/1/1998) carried out a survey among professionals working for institutional investors: the average EEP was 3%. Shiller⁵ 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**.

MRP or EP (Equity Premium):

Four 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 (P_0) is the present value of expected dividends discounted at the required rate of return (K_e). If d_1 is the dividend per share expected to be received in year 1, and g the expected long term growth rate in dividends per share,

$$P_0 = d_1 / (K_e - g), \text{ which implies: } IEP = d_1 / P_0 + g R_f \quad (1)$$

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.

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 2014 for 88 countries.

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 several persons that do not use MRP, and comments from others that do use MRP. Fernandez et al. (2011a)⁶ has additional comments. 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.

ANNEXURE

EXHIBIT 1.

Mail sent on May and June 2014

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.

3 questions:

1. The Market Risk Premium that I am using in 2014 for my country _____ is: _____ %
2. The Market Risk Premium that I am using in 2014 for USA is: _____ %
3. Books or articles that I use to support this number:

EXHIBIT 2

Comments of Respondents That Did Not Provide The MRP Used In 2014

I am not sure why you differentiate between a MRP for a company based in the USA or a company elsewhere. For me the MRP is the same everywhere in the world. Although it is often based on US stocks one should ideally derive the MRP from volatility data based on all stocks listed everywhere. However we add a country risk premium to calculate the cost of equity depending on where the company derives most of its cash flow from.

Different investors have different hurdle rates.

I can't help you since I don't use MRP for valuation purposes. I consider this as pretty useless numbers. But I consider almost all economic-concepts as pretty useless. E.g. the whole market-efficient discussion.

Our Hedge-Fund invests in different strategies I have developed in the past. An important signal is the IVTS (Implied-Volatility-Term-Structure). If the IVTS gets to high, there is danger ahead, we go to the sideline. When we are involved with equities, it is usually at the venture stage, with required rates of return on equity in the 20-30% range.

That sort of ERP analysis is only really valuable with large established companies. With newer seed stage companies, it is more important to manage other risks. In other words, what is the point of having a perfect denominator when the errors on your numerator move all over the place? That sort

of precision is misleading. There are alternative ways to look at deals and valuation of companies, involving scenarios and ranges.

As we are not using CAPM based CoE (with its known limitations) we cannot contribute to your survey. I have been using the Morningstar, now Duff & Phelps ERP using the build up Method for USA companies. For us MRP does not exist. We measure risk at an individual company level with it being derived from the certainty of cashflows as the risk free is only risk free because its cashflows are 100% predictable. Like the growth and profitability components of valuation this is a forecast.

I understand your question as a former certified business appraiser and having a master in finance. However, as CEO of an international company doing business in multiple countries, I view this as a distraction for which the accountants waste time and my money. We are a startup company so when raising capital, we look at the transaction and say does this make sense to us to move us forward. We let the investor determine the rate of return he requires, not some number some one pulled out of the air.

MRP is a not a consideration in selecting our investment ideas or building our equity portfolios. Our method of selecting equities is price target driven based on normalized multiple to normal earnings. We expect that the market will advance 10% per annum so our long ideas must usually have price targets greater than 20% higher than current price.

In my country, Market Risk Premium (MRP) is calculated as exceed of market portfolio return minus governmental securities return. Therefore we have not a specific MRP. This year (2014) the rate of governmental securities return is 20% which is based on or parliament act. We use financial metrics that our clients give us based on their financial and economic advisors... this is not our expertise. We apply whatever they tell us they are using to value deals.

for valuation. I will not be able to help much in your survey as we are a USA and Canada company only and we don't associate any 'market' risk when we evaluate our projects. I do not do generic premiums for any country. Both the specific industry and location (eg which state or province) can be more significant than a generic country. Ukraine at this time may be a good example of this issue. Also, the company may be situated in one country but operate in other countries. For example, a mining exploration company may be headquartered in Canada, but its ability to raise funds is likely international, and its properties could be in many other countries-in this instance, a risk/opportunity matrix may be useful.

In our country and most that I have worked in, the rate is for a discount rate and not a cap rate. Most of the time that rate will absolutely depend on the risk of the particular type of business. Ibbotson is the main source for information by type of company. For years everyone seems to gravitate to 10% discount rate on various business as the one when everything is generally stable. What is strange about it is that when the finance rate or cost of capital went down and the investment on saving is almost non-existent for interest at almost nothing, the risk must have gone up as the 10% was still being used. For us it changes on ever deal and we go through all of the steps using CAPM and the develop our own including doing it for problem companies using specific company risk added to the CAPM formula. Each deal can have different risks and we have no stable one for Steel or electronics or standard fabrication and so forth if you were to ask about a specific segment of industry. If this is a housing or real estate question, that is not where I do most of my work. I also am not sure you might not be asking about the beta which again we have to measure the market to see if it is 1 or below or above.

EXHIBIT 3

Comments of Respondents That Did Provide The MRP Used In 2014

Historically the actual average since 1900 is 8%. I know people use lower MRP these days but I stick to what I think is the long run premium. In calculating long term EVA/ DCF valuations I

take a WACC number of 9% through the years. 7%, historically too high, but taking into account the unnaturally low present day interest rates I rather stick to long term reliable numbers for long term valuations.

Today's bond market is completely distorted by unconventional monetary policy. A traditional ERP is not useful in this environment. To consider an ERP one cannot use the 10 year bond yield as the risk free rate, but must use an adjusted risk free rate. What is that adjusted rate? I have no idea, but it is higher than the rates I see on my screen. As a guess I might use 5% for the UK and the US, and that makes both markets look quite expensive to me. As a result, I do not expect the 10 year real return of equities in the UK and the US to be very substantial.

The older I grow, the more I am puzzled by the MRP concept: polling various people or entities (analysts, professors, firms) seems to be the right approach. Perhaps you could ideally include investors' expectations at some point? End of day, it is all about future, not history ("the past performance is not a guarantee for future performance", as they keep saying in every IPO prospect...)

The Fed liquidity, and atypical low VIX, make for uncertainties in setting a MRP. If you go with what you'd prefer, say 4.8% most doesn't make the hurdle. Considering ~ 83% of this yr's IPOs have no earnings (second only to 84% in tech bubble) the market has very loose benchmarks. 3.73% is where analytics say to me it should be; but I've gone with 4.10%. I base this on my knowledge of the finance academic literature, market information and my own judgment.

I use the S & P 500 as the market index to obtain the US market rate of return for 2014 (approx 6.42% using daily returns), and the 91 day T-Bill is used as proxy for the risk-free rate (approx 0.02%) for 2014. I teach that the risk premium varies with respect to the average level of risk aversion and the volatility of the market. 1928-2013 geometric average return of S&P 500 index over 30-year treasury bond yield.

We use basically the same MRP in 2014 for Germany and the US. Risk free rate is higher for

We do not use MRPs per country as we have found that in our experience a country risk investor perception is generally a binary decision making factor for most of our clients, i.e. they chose whether or not to invest in a region rather than what sort of premium they choose to entice them into that region. We have also found that the market is very immature in assessing this risk - the "Stans" are all lumped together by fund managers despite the fact that they offer very different returns.

After 25 years practicing private equity, I came to some rather radical views (my apologies if this sounds arrogant, I'm just trying to put it in a nutshell) : Never use DCF... at least when you're investing. From a theoretical standpoint, very weak mixture of past, present and future data. From an experimental standpoint, generated masses of disasters.

When investing in midsized businesses, forget about MRPs. If we spend hundreds of hours to analyse the risks and potential of each company, it precisely is to build our own vision of the valuation multiples we are ready to pay for that investment. The split between beta and risk premium becomes pointless in my opinion: my valuation of company X will not change by even 0.1% because the market RP has moved.

Financial models are failing badly: in my own experience, none (really none) of our investments made since 2000 reached its IRR target, nor even reached anything between -700bp/+700bp of the initial target, which is both humbling and inspiring on what counts in this business (I should add here that over the period we've been solidly into first quartile, so hopefully the latter conclusion is not the consequence of blatant incompetence !). And when I tried to measure correlation between exit multiples on our equity and entry leverage, I found a foggy cloud of dots with a flat regression line whose r^2 was 0.0005 - no correlation between my returns and initial leverage.

I use a different methodology termed Decoupled Net Present Value to value investments to avoid precisely that issue, having to estimate a MRP.

I proceed as follows. I take consensus forecasts for stock-market earnings growth over the next two years. Several firms provide these. I make

my own assumptions about potential GDP growth in each country and I project forward current inflation rates to get expected long run nominal GDP growth. I assume for year 3 to 10 ahead, earnings will converge from two year forecast growth to the forecast growth of nominal GDP and will continue like that indefinitely. I then calculate the discount rate required to get the current market price level from that projected earnings stream. I subtract from that discount rate the longest run government bond yield available in the country in question. What is left is the equity risk premium. This can be compared across countries and (more tenuously) across time as one component in deciding whether a market is cheap or dear. I never attempt to forecast the equity risk premium and I do not look at assumptions about it made by investment banks or others.

I don't use MRP. It's a flawed model.

Human error, señor f., human error. In the real world, Spain would have sued Argentina and won. Instead, human error occurred and they settled.

I do not use MRP measures in making investment decisions. Rather, I teach individual assessment techniques based on a modified Altman model, a Chanos model, and a Pustylnick model. These models identify for me: overall corporate health, shifts in leverage, and changes in corporate financial well being. These models are applied to not only the entity under study, but also to its largest three customers, competitors, and suppliers. This is the largest environment I use in making investment decisions. My preference however is for Swiss company stocks that address fundamental needs. The Swiss know how important business is, have appropriate tax laws, and host a number of really great companies (Nestle, Novartis, ABB, etc.).

I would suggest in your solicitation you describe the "MRP" a bit more. Do you mean: "the equity of medium and large sized businesses, before any adjustment for size, extra risk, specific industries?" I would also ask people if they do not use a MRP in their calculations, which may be the case for investors in entrepreneurial firms, or for people that reject the DCF model or the CAPM model

the US than in Germany but we assume a somewhat higher equity MRP for Germany (equity markets not so developed as in US, more volatility during crises)

The MRP can be calculated by subtracting historical treasury returns from stock returns. However, there are varying opinions as to which time period (e.g. 1926-2007, or something shorter), which calculation method (arithmetic or geometric mean), and whether bill or bond yields should be used. The arithmetic mean has produced a range of 1.7% to 6.7% depending on the time interval.

During an August 2013 discussion with E&Y they indicated they currently use 6.5%. KPMG indicates they use 6.0%. Using forecasted stock market returns, treasury returns, and dividend yields the implied R_m can be calculated. Using internal economic assumption of forecasted 8% equity returns and 2.57% treasury yield, and a current S&P500 dividend yield of 2.01% the implied R_m is 7.43% ($8\% - 2.57\% + 2.01\%$). However, this percentage is biased upwards due below average treasury yields.

Tenemos como referencia "Damodaran" y lo penalizamos levemente. I use a 52 week moving average for the 10-year treasury & the 52 week return for the DJIA from Bloomberg - all easy for the students to access, collect, and understand.

Although may be trivial I would also add the currency. US\$ for US and what about the local market? Is there a point in comparing MRP in euros and rubels? At least I would mark to provide MRP for local market in local currency. It would be great you could publish all results on the net (also the historical ones) not just some of them in a paper. Your last paper dropped a lot of partial (probably for you less important) data for example on Hungary. This would be of extremely great value plus I could refer to your database in my lectures just like the Damodaran page.

In my previous role I was an equity research analyst with global investment firm. I use my own implied risk estimates for India. Currently with BSE Sensex at 24,500, implied risk premium is around 6%.

I use less and less the MRP concept for asset allocation advice to clients, since fundamental analysis is now secondary to what I would call 'interventional' analysis - given the increasingly enormous role that central banks and other policy makers play in the market price discovery process.

MRP is a range typically between 4-6% and we use a longer term average. The above request is somewhat confusing. The underlying risk free rate for a country takes care of differential country risk weightings. In RSA this rate is 5.5% while in the US and UK it hovers around 1% or less depending on what measure you use. Or alternatively the differential on 10 year government bonds will address a similar issue. Did I miss something? As regards the above range this relates to the difference between the biggest listed entities and much smaller private companies as a generalisation, but does ignore any number of specialised risk premiums that you may consider adjusting the required equity return by.

We are using the same risk-free rate and equity risk premium for all European countries and have not changed them for at least 10 years. We use these numbers because we believe them to be conservative and based on past observations. We aim to keep them constant as long as reasonable, as we pursue a very long-term oriented investment strategy (investment horizon 5 years +) and try to avoid the possibility of manipulating stock valuations through opportunistic fiddling with discount factors. 4% is the reference. But further adjustments were in place mainly through the main part of the financial crisis. Adjustments were 100% embedded in the Beta. As an example a Beta of 1.3x could be leverage up to 5% and above. I always assume 10% (for developed markets). But I am not particularly wedded to it - if a client has different views I'm happy to use it.

We calculate MRP as discount rate that equates index value with discounted sum of projected dividend flows. We use the regression equations for the appropriate portfolios that match the Subject Company.

We used 5.5% ERP for USA papers till 2014, then we increased the rate to 6.5%. For Russian equity shares Eurobond interest parity is used to adjust the equity cost. Since articles need time to get published, I don't think it is proper to use numbers in available literature to predict 2014 MRP.

It is a number that was introduced to the company decades ago and the sources justifying this number are unknown. Basic financial theory says the return on the stock market is the real rate + inflation + risk premium. Today the real rate remains historically about 2-3%, inflation is hidden due to government manipulation so this is difficult to estimate. The risk free rate, which should be real + inflation is priced at about the real rate (or less in some cases). The historical return on the major U.S stock market should be about 11%. So, I would price the MRP at 9% because of the volatility and the meddling by the central bank (government).

I would like equities to give me a minimum return of 8% so I back into the MRP based on the 10 year yield. 5% assumes current 10 year yield of 3% For US Equity Premium (ERP), we use the spread between the arithmetic average historical returns of S&P and T.Bonds (10y). In this case we use a long historical series (1928 - 2013). This is one of the suggestions for ERP found on Damodaran materials. For Brazil, we add a Country Risk Premium (CRP). We always update (and lock) this value the day we start a new valuation process. We consider 'Brazilian ERP' as 'US ERP' + 'CRP'. Notice that these are US\$ yields.

This number fluctuates with time and the methodologies differ across authors. There are measurement issues of choosing between geometric and arithmetic averages to look at the past and there is the challenge of mining the data to figure out what investors think about the future. I usually negotiate it out with the students. One of my thoughts is that recently the fed has artificially distorted the yield curve and some of the specific interest ranges within it. During the very low interest rate era of the recent past, there has been a threat to the accuracy of corporate valuation because the risk

free rate was so nominally low. However, there has been an underlying expectation within the financial community that rates would shift upward at some point in the future. As a result, I have concluded that, either the inflation premium in the yield curve has been artificially low, or we have experienced artificially and distorted low negative real interest rates. Together, these hold down the nominal "risk free" rates that are used in CAPM calculations that lead into value. The result is to over-value corporate cash flows. To offset this impact, when I think the rates are unduly low, I add to the MRP in calculations and move to the higher end of my range (or even above it). When the fed's actions are negligible and it seems that markets are setting the rates without one eye on the fed, I would shift to the bottom half of my range.

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Our MRP is based on an assumption that global equities are 3 times as risky as global bonds, and then adjusted for the global market weights of those respective asset classes. MRP in my country is 5% (in 2007, a couple brokerage houses used for short time 4.5%). 6% is a maximum risk premium used by brokerage houses. The theoretical approach with the temporal CAPM of Merton. The probability than the risk free increase, implied a more risk premium since prices will decrease if interest rate increase.

We are much more about employing cost of capital as an opportunity cost that will vary with the perceived risk and volatility of a given entity's cash flows. We typically adjust the reported "Historical" risk premium to reflect the ex-ante, in contrast to ex-post, risk premium being sought. The "premium" is based on our

cost of capital, which for us as a private equity shop is about 8%. So if you are using the 10-Year Treasury as a benchmark the premium is as stated above.

I do change my MRP over time only for a change in the yield curve (liquidity premium). This may lead to lower market valuation targets vs the market when general expectations are for lower risk and vice versa. Let's keep in mind that markets adjust their expectations in a procyclical way, i.e. market risk and liquidity risk premiums are often lowered while E or CF expectations are raised (and vice versa). Keeping the underlying MRP (without liquidity risk) stable, which also makes sense intuitively, leads to some 'smoothing' in a DDM or similar model. If no major MACRO issues (political, legal) change, I do not play with the MRP.

Based on investing experience. I think MRP is generally understated as there is also risk in the "risk-free" rate and in market "operations" (e.g. manipulation, regulation, technology, etc.) that have been under appreciated.

I agree with with Damodaran's methodology in computing the equity risk premium.

I use the constant growth DDM (dividend yield plus estimated long-term growth rate) to estimate a forward looking expected return on the S&P 500, then subtract the YTM on the 10-yr Treasury.

It is a weighing of numerous book sources, analysing long term market returns, and keeping abreast of current market and economic market factors. All feed into an intuition of a reasonable MRP.

A problem encountered is the risk free rate (3 month T Bill)--effectively 0 in the US. I do not think this is a market rate, but reflects Federal Monetary policy. I think a market risk free rate in the US today would be 3% and (Heaven help me) use that.

"What is the range?" Unconditional ERP Range - The objective is to establish a reasonable range for a normal or unconditional ERP that can be expected over an entire business cycle. Based on an analysis of academic and financial literature and various empirical studies, we have concluded that a reasonable long-term estimate of the normal or unconditional ERP for the U.S. is in the range of 3.5% to 6.0%. "Where are we in the range?" Conditional ERP - The objective is to

determine where within the unconditional ERP range the conditional ERP should be, based on current economic conditions. Research has shown that ERP fluctuates during the business cycle. When the economy is near (or in) a recession, the conditional ERP is at the higher end of the normal, or unconditional ERP range. As the economy improves, the conditional ERP moves back toward the middle of the range and at the peak of an economic expansion, the conditional ERP approaches the lower end of the range.

Hasn't changed for a number of years, no specific reference for it (except your past surveys). Our team uses Brazilian MRP as of USA MRP (5.7%) + Sovereign spread ("Brazil's risk", 230 bps). They don't use books or articles to support the number. They take into account past market performance (last 10 years), current and also future expectations; thus they make a simple average to reach the market return expected.

In ZZ we don't have equity markets and hence we cannot estimate neither market returns nor betas. I adjust the US ERP with ZZ country risk to have an estimate of the Guatemalan MRP. The 8.6% MRP that I am using for ZZ is in US Dollars (I usually add an inflation differential to discount cash flows in domestic currency).

For Greek equity risk premium I use the MRP (US) plus the Greek Country RP (latest current default spread of the 10yrGrBond over the US 10yr TB = $3.81\% \times 0.84$ which is the relative volatility of the Greek equity market over the Greek bond market over the last year 2013, see also at Damodaran's references) = $5.8\% + (3.81\% \times 0.84) = 9\%$

My numbers are estimated using historical data for the past 15 years for a broadbased market index. I cross check the numbers, for any major discrepancy, with data sources like Bloomberg, Datastream.

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