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Required Market Risk Premium among countries in 2012

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Abstract

This paper contains the statistics of the Equity Premium or Market Risk Premium (MRP) used in 2012 for **82 countries**. We got 7192 answers for 93 countries, but we only report the results for 82 countries with more than 5 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.

The great dispersion of the answers to the survey shows that the assumption of a representative investor (or homogeneous expectations …) has little to do with the real world.

This survey also links with the Equity Premium Puzzle. It may be explained by the fact that many market participants use historical data and advice from textbooks and finance professors. Consequently, ex-ante equity premia have been high, most 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.

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

1. Market Risk Premium (MRP) used in 2012 in 82 countries

We sent a short email on May and June 2012 to about 21,500 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"***. Being Ke the required return to equity, R_F the risk-free rate and β the appropriate beta, $Ke = R_F + \beta\ MRP$. We also asked about "*Books or articles that I use to support this number*".

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Table 1
MRP used in 2012: 6014 answers.

	Professors	Analyst	Companies	Financial companies	Total
Answers reported (MRP figures)	**1611**	**1609**	**1901**	**1107**	**6228**
Outliers	18	2	53	7	**80**
Answers that do not provide a figure	202	101	246	335	**884**
Total	**1831**	**1712**	**2200**	**1449**	**7192**
Answers that do not provide a figure:					
Use a minimum IRR	12		*10*	*107*	129
Use multiples	26	27		*67*	120
"MRP is a concept that we do not use"			*97*	*22*	119
Use a Required Return to Equity	7	16	9	33	65
"Confidential. We don't disclose the assumptions"		16	2	30	48
"The CAPM is not very useful"	7		22	18	47
"I think about premia for particular stocks"	16	5	*9*	*15*	45
"I teach derivatives: I did not have to use a MRP"	43				43
"I use whatever MRP is specified in the textbook"	16				16
"The MRP changes every day", or "monthly"	2	9			11
"In my teaching I only use hypothetical numbers"	5				5
"I am an academic, not a practitioner"	5				5
Other reasons	63	28	97	43	231
SUM	202	101	246	335	884

By June 12, 2012, we had received 6308 specific MRP used in 2012.[1] Other 884 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 2012 **for 82 countries**. We got answers for 92 countries, but we only report the results for 82 countries with more than 6 answers.[2]

Figs. 1 and 2 are graphic representations of the MRPs reported in Table 2.

Table 2 reports the Market Risk Premium (**MRP**) used "to calculate the required return to equity in different countries".

Being Ke the required return to equity, R_F the risk-free rate and β the appropriate beta, $Ke = R_F + \beta\ MRP$.

2. Differences among professors, analysts and managers of companies

Table 3 shows the differences for the 53 countries that had at least 2 answers for each category (professors, analysts, managers of companies and managers of financial companies). Table 4 contains the difference of averages and standard deviations of the 3 groups considered.

3. Differences among respondents

Table 5 shows the differences in Market Risk Premium used by the same person for USA, Germany and UK: 215 respondents provided us with answers for USA and Germany; 111 provided us with answers for USA and UK (see Fig. 3).

4. References used to justify the MRP figure

Some respondents indicated which books, papers and others they use as a reference to justify the MRP that they use. Table 5 contains the most cited references.

[1] We considered 80 of them as outliers because they provided a very small MRP (for example, − 10% and 0 for the USA) or a very high MRP (for example, 30% for the USA).

[2] We got answers, but we do not report them here, for Angola, Haiti, Iceland, Latvia, Macedonia, Mozambique, Puerto Rico, Sri Lanka, Tunisia and. Ukraine.

Table 2
Market Risk Premium (%) used for 82 countries in 2012.

	Average	Median	St. Dev.	min	Q1	Q3	MAX	Number of answers	MAX-min
USA	5.5	5.4	1.6	1.5	4.5	6.0	15.0	2223	13.5
Spain	6.0	5.5	1.6	3.0	5.0	6.3	15.0	958	12.0
Germany	5.5	5.0	1.9	1.0	4.5	6.0	17.0	281	16.0
United Kingdom	5.5	5.0	1.9	1.5	4.5	6.0	22.0	171	20.5
Italy	5.6	5.5	1.4	2.0	4.8	6.1	10.0	120	8.0
Canada	5.4	5.5	1.3	3.4	4.7	6.0	10.5	94	7.1
Mexico	7.5	6.8	2.6	3.0	6.0	9.0	20.0	87	17.0
Brazil	7.9	7.0	4.7	1.8	5.3	8.6	30.0	86	28.2
France	5.9	6.0	1.5	2.0	5.0	6.1	11.4	85	9.4
China	8.7	7.1	4.6	3.9	6.6	9.4	30.0	82	26.1
Australia	5.9	6.0	1.4	3.0	5.0	6.0	10.0	73	7.0
South Africa	6.5	6.0	1.5	3.0	5.5	7.2	11.8	73	8.8
Netherlands	5.4	5.5	1.3	2.5	5.0	6.0	11.6	72	9.1
Russia	7.6	7.0	2.9	2.7	6.0	8.5	25.0	70	22.3
Switzerland	5.4	5.3	1.2	3.0	4.5	6.0	9.6	68	6.6
India	8.0	8.0	2.4	2.3	6.0	9.0	16.0	66	13.7
Chile	6.1	5.6	1.7	4.0	5.3	7.0	15.0	63	11.0
Norway	5.8	5.5	1.6	3.5	5.0	6.0	11.7	58	8.2
Sweden	5.9	6.0	1.2	3.9	5.0	6.5	10.6	58	6.7
Austria	5.7	6.0	1.6	2.5	5.0	6.0	14.3	57	11.8
Colombia	7.9	7.5	3.7	2.0	6.5	9.0	20.5	57	18.5
Belgium	6.0	6.0	1.1	3.0	5.0	7.1	8.1	54	5.1
Portugal	7.2	6.5	2.0	4.0	6.0	9.0	14.0	53	10.0
Argentina	10.9	10.0	3.6	5.0	8.5	14.8	20.0	50	15.0
Greece	9.6	7.4	4.4	3.0	6.1	12.2	20.0	47	17.0
Poland	6.4	6.0	1.6	4.4	5.0	7.5	10.0	45	5.6
Denmark	5.5	5.0	1.9	2.0	4.5	6.0	14.0	43	12.0
Japan	5.5	5.0	2.7	2.0	4.0	7.1	16.7	41	14.7
Peru	8.1	8.0	2.5	3.5	6.9	9.0	15.0	41	11.5
New Zealand	6.2	6.0	1.1	2.0	5.5	7.0	9.0	40	7.0
Czech Republic	6.8	7.0	1.6	4.3	5.6	7.3	12.1	38	7.8
Finland	6.0	6.0	1.6	3.5	5.0	6.0	12.0	37	8.5
Turkey	8.4	9.0	3.4	2.5	5.5	10.5	18.0	37	15.5
Luxembourg	6.0	6.0	0.8	4.0	6.0	6.1	8.7	35	4.7
Taiwan	7.7	7.1	2.0	4.3	6.5	8.0	15.0	32	10.7
Ireland	6.6	6.0	2.3	2.7	5.3	8.8	12.3	31	9.6
Israel	6.0	5.8	2.3	3.0	4.5	7.3	15.0	30	12.0
Korea (South)	6.7	7.3	1.4	2.0	6.4	7.5	11.1	30	9.1
Indonesia	8.1	8.0	1.7	4.5	7.3	9.6	11.4	28	6.9
Hungary	7.4	7.0	2.3	3.4	6.0	9.6	13.8	26	10.4
Hong Kong	6.4	6.2	1.7	3.5	5.5	6.4	11.9	24	8.4
Pakistan	9.5	9.5	3.7	5.0	6.5	11.3	15.0	24	10.0
Egypt	9.2	8.0	3.2	3.5	7.6	13.3	13.5	23	10.0
Singapore	6.0	5.7	1.1	3.9	5.5	6.0	9.6	23	5.7
Thailand	8.1	8.1	1.8	6.5	7.0	8.3	15.1	22	8.6
Malaysia	5.9	6.4	1.9	3.4	4.0	7.7	8.8	21	5.4
Saudi Arabia	6.5	6.5	1.2	5.5	5.5	7.1	10.6	21	5.1
Kazakhstan	7.5	8.0	1.2	4.7	7.4	8.6	8.6	20	3.9
Philippines	7.4	6.1	2.0	5.5	6.0	10.1	10.1	18	4.6
Kuwait	6.8	6.6	1.1	5.0	6.5	6.8	10.6	17	5.6
Nigeria	10.1	8.5	3.7	6.0	8.5	10.0	20.0	17	14.0
Romania	7.7	8.0	1.4	5.0	7.0	9.0	9.5	17	4.5
UAE	8.0	8.0	1.2	6.8	6.8	9.0	10.0	17	3.3
Ecuador	13.5	15.9	5.8	6.0	6.8	18.8	20.0	16	14.0
Bahrain	7.3	8.3	1.8	5.5	5.5	8.3	11.1	14	5.6
Croatia	7.8	9.0	1.4	5.5	6.6	9.0	9.0	14	3.5
Oman	6.6	7.3	1.7	5.0	5.0	7.3	11.1	14	6.1
Bulgaria	8.3	8.6	0.9	6.5	7.8	8.6	10.0	13	3.5

Table 2 (*continued*)

	Average	Median	St. Dev.	min	Q1	Q3	MAX	Number of answers	MAX-min
Qatar	7.1	7.0	0.9	6.8	6.8	7.0	10.1	13	3.3
Bolivia	10.2	10.5	1.8	7.5	8.4	12.0	13.1	12	5.6
Lebanon	9.0	9.0	3.1	6.0	6.0	12.0	12.0	12	6.0
Morocco	7.3	7.3	2.4	5.0	5.0	9.6	9.6	12	4.6
Senegal	11.0	11.0	2.0	8.0	10.0	12.0	16.0	12	8.0
Vietnam	10.8	12.0	2.4	3.9	10.0	12.0	12.0	12	8.1
Panama	9.2	9.0	1.4	6.0	9.0	9.6	11.3	11	5.3
Venezuela	12.2	12.0	3.6	6.0	12.0	13.5	17.8	11	11.8
Malta	6.6	7.5	1.6	3.1	6.6	7.5	7.5	10	4.4
Slovenia	6.5	7.3	1.2	3.6	6.0	7.3	7.3	10	3.7
Zimbabwe	10.5	12.5	3.0	5.5	8.0	12.5	12.5	10	7.0
Costa Rica	8.5	9.0	1.8	3.8	9.0	9.0	10.0	9	6.2
Cyprus	7.9	9.0	2.4	2.5	9.0	9.0	9.0	9	6.5
Iran	17.2	19.5	7.9	5.0	10.0	22.9	26.5	9	21.5
Kenya	6.2	7.0	1.4	3.0	6.2	7.0	7.0	9	4.0
Slovakia	6.9	7.3	0.8	5.0	7.3	7.3	7.5	9	2.5
Uruguay	9.3	9.6	1.3	6.0	9.6	9.6	10.4	9	4.4
Zambia	7.2	7.0	1.0	6.0	7.0	7.0	9.8	9	3.8
Albania	11.1	12.0	2.5	5.0	12.0	12.0	12.0	8	7.0
Trinidad&Tobago	9.8	8.3	4.1	8.3	8.3	8.4	20.0	8	11.8
Guatemala	10.1	9.6	1.3	9.6	9.6	9.6	13.0	7	3.4
Honduras	13.9	13.5	0.9	13.5	13.5	13.5	16.0	7	2.5
Lituania	7.9	8.3	0.9	6.0	8.3	8.3	8.3	7	2.3
Ghana	9.6	10.0	1.7	8.0	8.0	10.0	12.0	6	4.0

5. Comparison with previous surveys

Table 6 compares some results of this survey with last year results.

Welch (2000)[20] 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.[3] Welch (2001)[21] 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[17] 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[14] 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[18] 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)[16] 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)[3] 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"* (see Table 7).

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

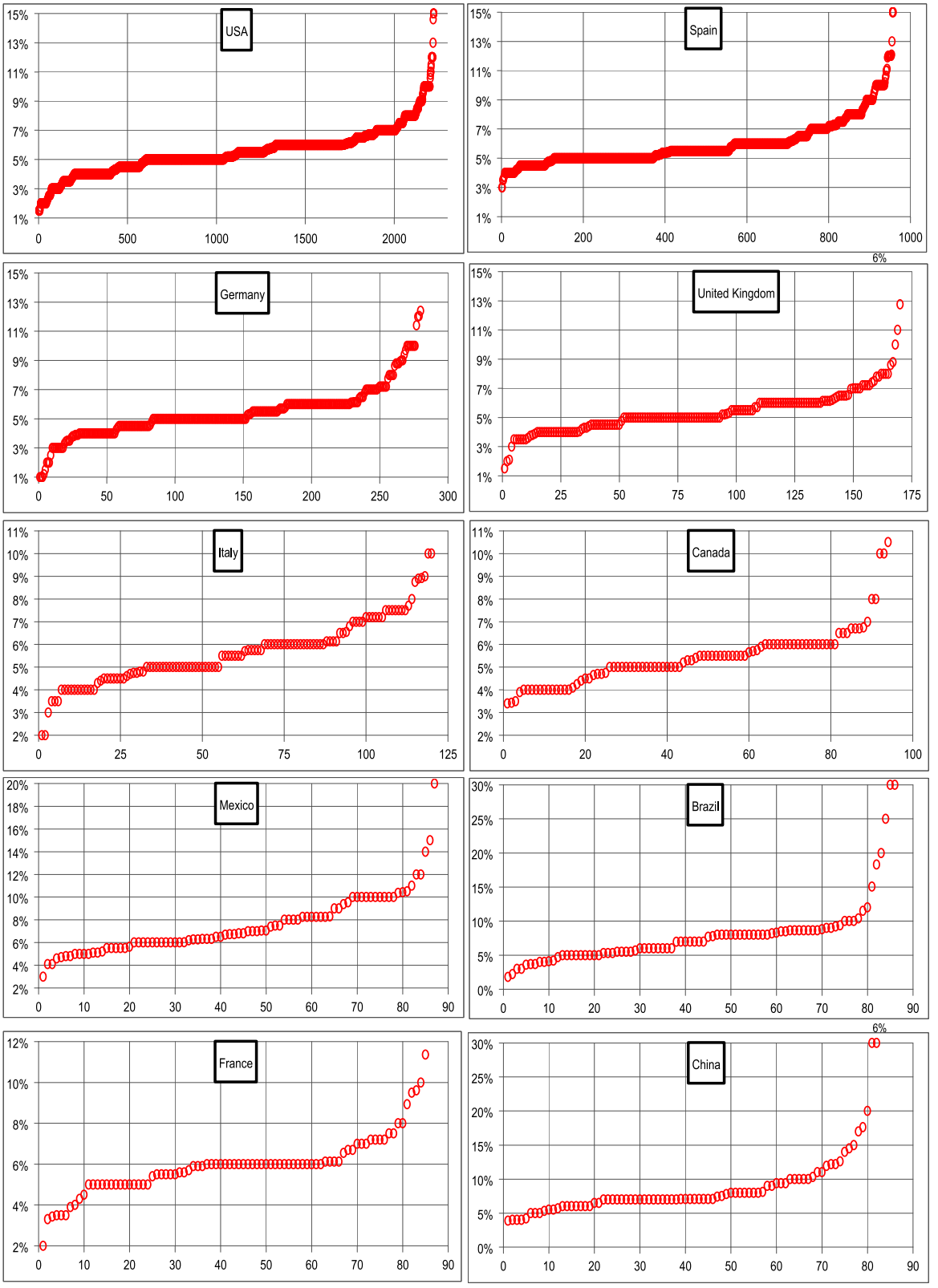

Fig. 1. Market Risk Premium used in 2012 for some countries (plot of answers).

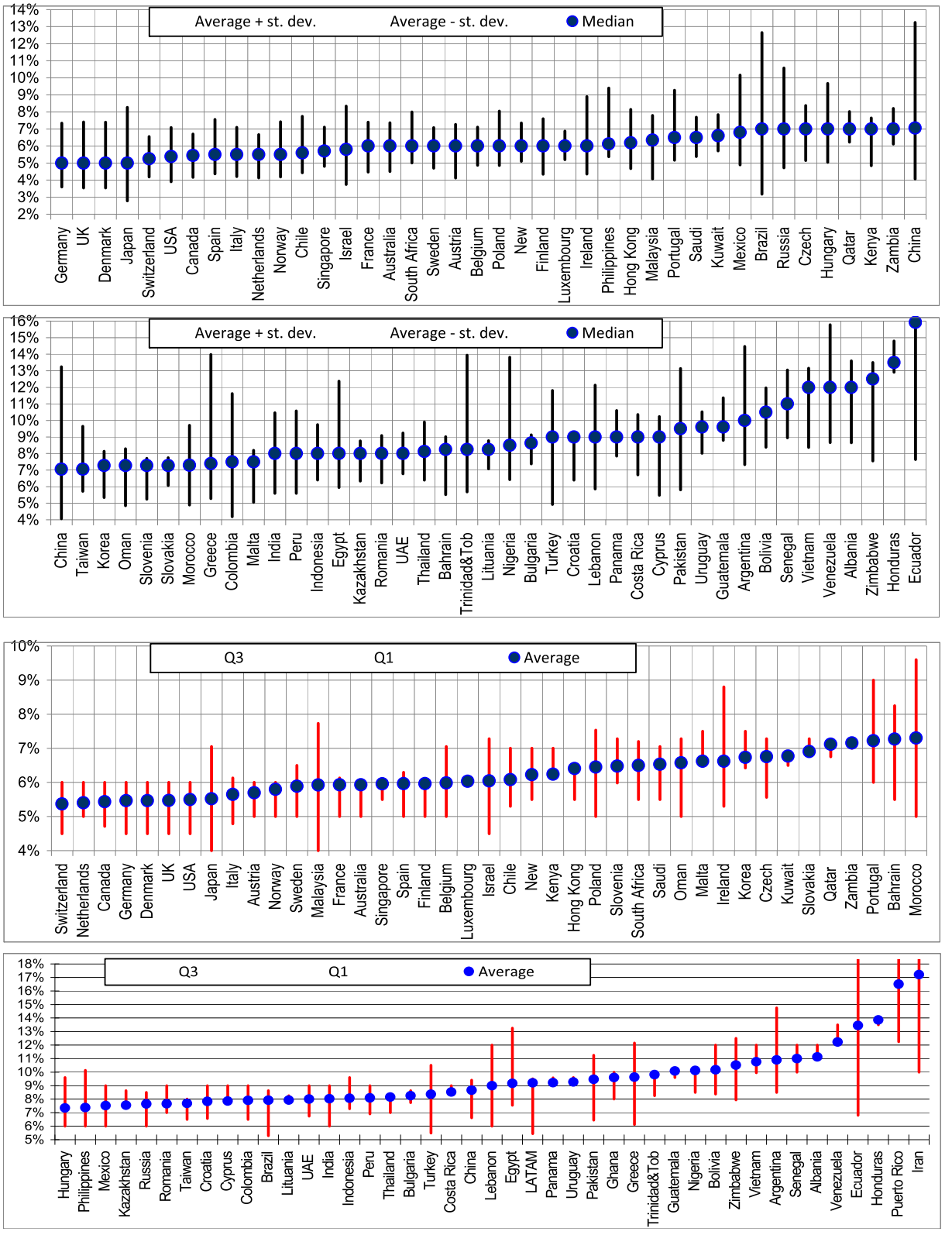

Fig. 2. Market Risk Premium used in 2012. Median and dispersion of the answers by country.

Table 3
Market Risk Premium (%) used for 53 countries in 2012 by professors, analysts and managers of companies and financial companies.

	Average				Standard deviation				Number of answers			
	Prof	Anal	Comp	FINCO	Prof	Anal	Comp	FINCO	Prof	Anal	Comp	FINCO
USA	5.6	5.0	5.5	5.6	1.6	1.1	1.6	1.9	751	314	781	377
Spain	5.7	5.6	6.3	5.9	1.2	1.2	1.9	1.5	102	262	393	201
Germany	5.7	5.5	5.1	5.2	1.8	1.4	2.2	2.2	61	66	83	71
United Kingdom	5.6	5.4	5.3	5.8	3.1	1.7	1.3	1.3	35	67	49	20
Italy	5.8	5.9	5.6	5.2	1.4	1.3	1.6	1.5	34	33	24	29
Canada	5.4	5.9	5.4	5.1	1.4	1.5	1.2	0.9	30	13	29	22
Mexico	9.2	6.7	7.5	7.1	2.2	1.8	2.3	4.3	19	33	23	12
Brazil	7.4	7.4	8.1	8.5	1.5	2.8	5.3	6.9	14	20	28	24
France	5.7	6.2	5.7	6.0	1.3	1.7	1.0	2.0	17	28	27	13
China	7.3	7.7	10.0	9.5	2.0	2.5	5.5	7.0	23	18	29	12
Australia	5.8	5.9	6.8	5.9	1.4	1.5	1.8	1.2	28	27	5	13
South Africa	7.1	6.8	6.1	6.3	1.3	1.9	1.5	1.0	12	19	23	19
Netherlands	5.1	5.9	4.8	5.4	1.1	1.4	1.2	0.8	21	29	14	8
Russia	7.5	6.7	8.5	8.1	1.0	1.7	3.9	2.3	6	28	29	7
Switzerland	5.1	5.7	5.1	5.0	1.0	1.3	1.1	1.0	20	30	11	7
India	7.8	7.6	8.3	8.6	1.5	2.2	3.1	1.1	20	13	28	5
Chile	6.2	5.9	5.8	6.4	0.7	1.4	1.2	2.5	10	23	13	17
Norway	5.7	6.5	5.3	5.6	0.6	2.5	0.9	1.1	10	18	19	11
Sweden	5.9	6.0	5.4	5.9	1.0	1.4	0.7	1.2	15	26	9	8
Austria	5.2	6.2	5.6	4.9	1.2	1.9	0.5	1.5	13	27	9	8
Colombia	7.8	6.4	10.1	7.6	2.3	2.5	5.0	2.3	10	25	18	4
Belgium	6.1	5.9	6.2	5.9	0.8	1.3	1.1	1.2	11	26	10	7
Portugal	8.1	6.0	7.4	8.6	2.6	0.8	1.6	2.1	12	22	9	10
Argentina	10.9	10.4	11.9	10.6	3.1	3.4	4.5	3.7	14	17	11	8
Greece	11.2	7.0	11.8	12.8	5.2	2.1	4.1	4.3	14	21	6	6
Poland	7.0	6.3	6.1	6.6	0.9	1.7	1.2	2.3	9	18	10	8
Denmark	4.8	5.9	5.6	5.6	1.5	2.7	0.7	1.5	12	15	6	10
Japan	4.8	5.6	5.0	6.4	2.2	4.5	1.9	2.2	13	8	6	14
Peru	7.4	7.7	9.5	7.7	1.9	1.2	4.1	1.6	8	16	10	7
New Zealand	6.1	6.0	6.5	6.5	1.6	0.6	0.7	0.8	15	11	8	6
Czech Republic	6.4	7.1	6.6	6.4	0.8	2.1	1.0	1.6	8	17	10	3
Finland	6.0	5.5	6.4	6.4	1.3	1.2	2.8	1.6	10	13	6	8
Turkey	10.1	7.5	8.4	8.8	1.7	2.6	5.6	2.4	8	17	9	3
Luxembourg	6.0	6.2	6.0	5.3	0.5	1.0	0.0	1.0	8	19	4	4
Taiwan	7.9	7.3	8.0	7.5	2.4	1.9	1.1	1.8	13	9	6	4
Ireland	7.0	5.8	6.6	8.1	2.2	2.4	1.8	2.3	8	12	6	5
Israel	6.6	4.5	7.2	7.3	2.8	0.9	1.8	0.0	13	10	5	2
Korea (South)	5.6	7.2	8.1	7.5	2.0	1.8	0.7	0.4	12	10	4	4
Indonesia	8.7	8.2	7.1	8.1	1.2	1.6	2.1	1.8	5	13	6	4
Hungary	9.0	6.7	7.6	7.3	0.9	2.5	2.4	2.7	5	13	4	4
Hong Kong	6.7	6.7	5.6	5.4	1.6	2.1	0.7	1.7	9	9	3	3
Pakistan	11.8	9.5	7.3	12.2	4.5	1.3	3.1	4.9	5	7	9	3
Egypt	11.4	7.5	8.2	13.5	3.1	1.7	4.1	0.0	6	11	4	2
Singapore	5.7	6.1	5.9	6.0	0.4	1.5	1.4	0.0	6	12	3	2
Thailand	7.8	8.1	8.8	8.3	0.8	2.3	1.1	0.0	5	12	3	2
Malaysia	6.2	5.3	6.0	7.7	1.7	2.0	2.3	0.0	7	9	3	2
Saudi Arabia	6.6	5.5	6.7	8.2	0.7	0.0	0.4	2.0	7	6	5	3
Kazakhstan	8.2	7.5	6.5	8.3	0.6	1.2	1.4	0.7	5	7	5	3
Romania	9.0	7.0	7.8	7.8	0.0	1.5	1.0	2.0	3	7	4	3
UAE	8.0	8.9	6.9	6.8	1.7	0.4	0.2	0.1	5	7	2	3
Ecuador	18.8	13.8	10.0	12.5	0.0	5.3	5.9	7.2	3	5	4	4
Bulgaria	8.6	7.4	8.1	8.7	0.0	1.1	0.5	1.1	3	3	3	4
Vietnam	12.0	7.7	11.0	12.0	0.0	3.4	1.4	0.0	4	3	2	3

Table 4
Differences between professors, analysts and managers.

	Difference of averages			Difference of st. Deviations		
	Prof − Anal	Prof − Comp	Prof − FinCo	Prof − Anal	Prof − Comp	Prof − FinCo
USA	0.6%	0.2%	0.0%	0.5%	0.0%	−0.4%
Spain	0.1%	−0.5%	−0.2%	0.1%	−0.6%	−0.3%
Germany	0.2%	0.6%	0.5%	0.4%	−0.4%	−0.5%
UK	0.2%	0.3%	−0.2%	1.4%	1.7%	1.8%
Italy	0.0%	0.2%	0.7%	0.0%	−0.2%	−0.1%
Canada	−0.5%	0.0%	0.3%	−0.1%	0.2%	0.5%
Mexico	2.5%	1.7%	2.1%	0.4%	−0.1%	−2.0%
Brazil	0.1%	−0.6%	−1.0%	−1.3%	−3.7%	−5.4%
France	−0.5%	0.0%	−0.4%	−0.4%	0.3%	−0.7%
China	−0.4%	−2.7%	−2.2%	−0.6%	−3.5%	−5.0%
Australia	−0.1%	−1.0%	0.0%	−0.1%	−0.4%	0.2%
South Africa	0.3%	1.1%	0.8%	−0.6%	−0.2%	0.3%
Netherlands	−0.8%	0.3%	−0.3%	−0.3%	−0.1%	0.2%
Russia	0.8%	−1.0%	−0.7%	−0.7%	−2.9%	−1.3%
Switzerland	−0.6%	0.0%	0.2%	−0.3%	0.0%	0.0%
India	0.3%	−0.4%	−0.8%	−0.7%	−1.6%	0.4%
Chile	0.3%	0.4%	−0.2%	−0.7%	−0.5%	−1.9%
Norway	−0.9%	0.4%	0.0%	−1.9%	−0.2%	−0.5%
Sweden	−0.1%	0.5%	0.0%	−0.4%	0.3%	−0.2%
Austria	−1.0%	−0.3%	0.3%	−0.7%	0.7%	−0.3%
Colombia	1.3%	−2.3%	0.1%	−0.1%	−2.7%	0.0%
Belgium	0.3%	0.0%	0.3%	−0.4%	−0.2%	−0.4%
Portugal	2.2%	0.7%	−0.5%	1.8%	1.0%	0.5%
Argentina	0.4%	−1.1%	0.2%	−0.3%	−1.4%	−0.6%
Greece	4.2%	−0.6%	−1.5%	3.0%	1.1%	0.9%
Poland	0.7%	0.9%	0.4%	−0.8%	−0.3%	−1.4%
Denmark	−1.2%	−0.8%	−0.8%	−1.1%	0.9%	0.1%
Japan	−0.8%	−0.2%	−1.6%	−2.3%	0.3%	0.0%
Peru	−0.3%	−2.1%	−0.3%	0.7%	−2.2%	0.3%
New Zealand	0.1%	−0.4%	−0.4%	1.0%	1.0%	0.8%
Czech Republic	−0.8%	−0.2%	0.0%	−1.3%	−0.2%	−0.8%
Finland	0.5%	−0.4%	−0.3%	0.0%	−1.5%	−0.3%
Turkey	2.6%	1.7%	1.3%	−0.8%	−3.9%	−0.7%
Luxembourg	−0.2%	0.0%	0.8%	−0.5%	0.5%	−0.5%
Taiwan	0.6%	−0.1%	0.4%	0.5%	1.3%	0.6%
Ireland	1.2%	0.4%	−1.2%	−0.2%	0.4%	−0.1%
Israel	2.1%	−0.6%	−0.7%	1.9%	1.0%	2.8%
Korea (South)	−1.6%	−2.4%	−1.9%	0.2%	1.3%	1.7%
Indonesia	0.5%	1.6%	0.6%	−0.4%	−0.9%	−0.6%
Hungary	2.3%	1.4%	1.7%	−1.6%	−1.5%	−1.8%
Hong Kong	0.1%	1.1%	1.3%	−0.6%	0.9%	−0.1%
Pakistan	2.3%	4.5%	−0.4%	3.1%	1.3%	−0.5%
Egypt	3.8%	3.2%	−2.2%	1.5%	−1.0%	3.1%
Singapore	−0.4%	−0.2%	−0.3%	−1.1%	−1.0%	0.4%
Thailand	−0.3%	−0.9%	−0.4%	−1.5%	−0.3%	0.8%
Malaysia	1.0%	0.2%	−1.5%	−0.3%	−0.6%	1.7%
Saudi Arabia	1.1%	−0.1%	−1.6%	0.7%	0.3%	−1.4%
Kazakhstan	0.6%	1.7%	−0.1%	−0.6%	−0.8%	0.0%
Kuwait	0.2%	0.4%	−1.4%	0.1%	−1.0%	−2.1%
Romania	2.0%	1.3%	1.2%	−1.5%	−1.0%	−2.0%
UAE	−0.9%	1.1%	1.2%	1.3%	1.5%	1.6%
Ecuador	4.9%	8.8%	6.3%	−5.3%	−5.9%	−7.2%
Croatia	1.3%	−0.9%	−0.9%	0.6%	1.8%	1.8%
Bulgaria	1.2%	0.5%	0.0%	−1.1%	−0.5%	−1.1%
Vietnam	4.3%	1.0%	0.0%	−3.4%	−1.4%	0.0%

(*continued on next page*)

Table 4 (*continued*)

	Difference of averages			Difference of st. Deviations		
	Prof − Anal	Prof − Comp	Prof − FinCo	Prof − Anal	Prof − Comp	Prof − FinCo
average	0.6%	0.3%	−0.1%	−0.3%	−0.5%	−0.4%
MAX	4.9%	8.8%	6.3%	3.1%	1.8%	3.1%
min	−1.6%	−2.7%	−2.2%	−5.3%	−5.9%	−7.2%

Table 5a
Difference in the Market Risk Premium used by the same person for USA, Germany and UK.

	Average	Number of answers			
		<0	0	>0	Total
MRP 2012 (USA−Germany)	−0.23%	53	106	56	215
MRP 2012 (USA−UK)	−0.27%	34	57	20	111

Table 5b
References used to justify the Market Risk Premium.

	Professors	Analysts	Companies	Financial companies	Total
Damodaran	67	28	108	50	253
Ibbotson/Morningstar	49	18	130	52	249
Internal (own) estimate	25	50	52	30	157
Historical data	41	9	30	22	102
Bloomberg	8	20	41	21	90
Analysts/Inv. Banks	9	12	48	14	83
Experience, subjective, own judgment	38	15	19	5	77
Fernandez	35	4	24	13	76
DMS	20	1	18	12	51
Duff&Phelps	2	1	21	20	44
Surveys, conversations, …	12	2	8	6	28
Grabowski/Pratt's and Grabowski	1	3	14	6	24
Brealy & Myers	15	2	2	2	21
Mckinsey, Copeland	2	2	9	6	19
CFA books	2	4	6	5	17
Economic Press	7	0	8	2	17
Reuters	1	4	8	3	16
Internet	1	1	12	0	14
Fama and French (2002)	9	0	0	4	13
Implied MRP	4	2	2	2	10
Ross/Westerfield	10	0	0	0	10
Siegel	4	0	3	2	9
Others[a]	107	26	103	37	273
SUM	469	204	666	314	1653

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

Table 4 of Fernandez et al[11] shows the evolution of the Market Risk Premium used for the USA in 2011, 2010, 2009 and 2008 according to previous surveys.[6,7,9,10]

The magazine *Pensions and Investments* (12/1/1998) carried out a survey among professionals working for institutional investors: the average EEP was 3%. Shiller[4] 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

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

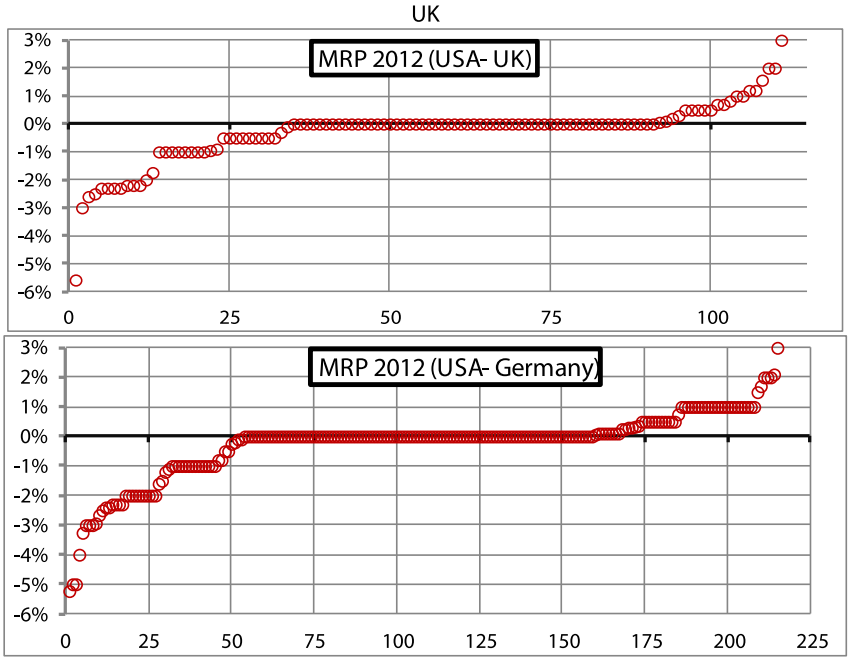

Fig. 3. Difference in the Market Risk Premium used by the same person in 2012 for USA, Germany and UK.

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% (see Table 8).

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.

6. MRP or EP (Equity Premium): 4 different concepts

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.[4]

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[1], 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**.

Table 6
Comparison of the results of the surveys of 2011 and 2012.

	Average		Median		St. Dev.	
	2012	2011	2012	2011	2012	2011
USA	5.5	5.5	5.4	5.0	1.6	1.7
Spain	6.0	5.9	5.5	5.5	1.6	1.6
Germany	5.5	5.4	5.0	5.0	1.9	1.4
United Kingdom	5.5	5.3	5.0	5.0	1.9	2.2
Italy	5.6	5.5	5.5	5.0	1.4	1.4
Canada	5.4	5.9	5.5	5.0	1.3	2.1
Mexico	7.5	7.3	6.8	6.4	2.6	2.7
Brazil	7.9	7.7	7.0	7.0	4.7	4.6
France	5.9	6.0	6.0	6.0	1.5	1.5
China	8.7	9.4	7.1	7.8	4.6	5.1
Australia	5.9	5.8	6.0	5.2	1.4	1.9
South Africa	6.5	6.3	6.0	6.0	1.5	1.5
Netherlands	5.4	5.5	5.5	5.0	1.3	1.9
Russia	7.6	7.5	7.0	6.5	2.9	3.7
Switzerland	5.4	5.7	5.3	5.5	1.2	1.3
India	8.0	8.5	8.0	7.8	2.4	2.8
Chile	6.1	5.7	5.6	5.3	1.7	2.1
Norway	5.8	5.5	5.5	5.0	1.6	1.6
Sweden	5.9	5.9	6.0	5.5	1.2	1.4
Austria	5.7	6.0	6.0	5.7	1.6	1.8
Colombia	7.9	7.5	7.5	7.0	3.7	4.3
Belgium	6.0	6.1	6.0	6.1	1.1	1.0
Portugal	7.2	6.5	6.5	6.1	2.0	1.7
Argentina	10.9	9.9	10.0	9.0	3.6	3.4
Greece	9.6	7.4	7.4	7.2	4.4	2.7
Poland	6.4	6.2	6.0	6.0	1.6	1.1
Denmark	5.5	5.4	5.0	4.5	1.9	3.3
Japan	5.5	5.0	5.0	3.5	2.7	3.7
Peru	8.1	7.8	8.0	7.5	2.5	2.8
New Zealand	6.2	6.0	6.0	6.0	1.1	1.0
Czech Republic	6.8	6.1	7.0	6.0	1.6	0.9
Finland	6.0	5.4	6.0	4.7	1.6	2.0
Turkey	8.4	8.1	9.0	8.2	3.4	3.0
Luxembourg	6.0	6.1	6.0	6.1	0.8	1.3
Taiwan	7.7	8.9	7.1	8.0	2.0	3.8
Ireland	6.6	6.0	6.0	5.1	2.3	2.2
Israel	6.0	5.6	5.8	5.0	2.3	1.7
Korea (South)	6.7	6.4	7.3	6.5	1.4	2.5
Indonesia	8.1	7.3	8.0	7.5	1.7	2.3
Hungary	7.4	8.0	7.0	8.0	2.3	2.4
Hong Kong	6.4	6.4	6.2	5.0	1.7	2.6
Pakistan	9.5	6.3	9.5	7.5	3.7	2.3
Egypt	9.2	7.6	8.0	7.0	3.2	2.3
Singapore	6.0	5.7	5.7	5.0	1.1	1.5
Thailand	8.1	7.9	8.1	6.5	1.8	2.8
Malaysia	5.9	4.5	6.4	3.5	1.9	2.2
Saudi Arabia	6.5	6.3	6.5	6.0	1.2	0.4
Kazakhstan	7.5	7.5	8.0	7.5	1.2	0.1
Philippines	7.4	5.6	6.1	5.5	2.0	0.2
Kuwait	6.8	6.6	6.6	6.5	1.1	0.2
Nigeria	10.1	6.9	8.5	6.0	3.7	1.6
UAE	8.0	9.7	8.0	10.0	1.2	0.8
Zimbabwe	10.5	6.5	12.5	5.5	3.0	2.4
Iran	17.2	22.9	19.5	19.5	7.9	17.8
Kenya	6.2	6.2	7.0	5.0	1.4	2.9
Zambia	7.2	6.6	7.0	6.0	1.0	1.6

Table 7
Comparison of previous surveys.

	Surveys of Ivo Welch					Fernandez et al[8−10]			
	Oct 97−Feb 98[a]	Jan−May 99[b]	Sep 2001[c]	Dec. 2007[d]	January 2009[e]	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

[a] 30-Year forecast. Welch (2000)[20] first survey.
[b] 30-Year forecast. Welch (2000)[20] Second survey.
[c] 30 year Equity Premium Forecast (Geometric). "The Equity Premium Consensus Forecast Revisited" (2001).
[d] 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.
[e] 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.

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 in year 1, and g the expected long term growth rate in dividends per share,

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

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[2], IEP = 3%), (Marston (2001)[15], IEP = 7.14%) and (Ritter and Warr[19], 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 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 that the phrase *equity premium* designates: Historical equity premium, Expected equity premium, Required equity premium and Implied equity premium. 129 of the books reviewed 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. 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 2012 for 82 countries. There is a great dispersion in the answers,

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

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)[14]	Sep. 2000. Mean: 4.65%. Std. Dev. = 2.7%	CFOs
Graham and Harvey (2007)[14]	Sep. 2006. Mean: 2.93%. Std. Dev. = 2.47%	CFOs
Welch update	December 2007. Mean: 5.69%. Range 2%−12%	Finance professors
O'Neill, Wilson and Masih (2002)[18]	3.9%	Global clients Goldman

This survey links with the *Equity Premium Puzzle*: Fernandez et al[8] argue that the equity premium puzzle may be explained by the fact that many market participants 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.

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