Market Risk Premium and Risk Free Rate used for 51 countries in 2013: a survey with 6,237 answers

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ABSTRACT

This paper contains the statistics of the Risk-Free Rate and of the Equity Premium or Market Risk Premium (MRP) used in 2013 for **51 countries**. We got answers for 78 countries, but we only report the results for 51 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 Risk-Free rate used, comments from persons that do not use MRP, and comments from persons that do use MRP.

JEL Classification: G12, G31, M21

Keywords: equity premium; required equity premium; expected equity premium; historical equity premium; risk-free rate; heterogeneous investors

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1. Market Risk Premium (MRP) used in 2013 in 51 countries

We sent a short email (see exhibit 1) on May and June 2013 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 Risk Free Rate and the Market Risk Premium (**MRP**) **used** *"to calculate the required return to equity in different countries".*

By June 22, 2013, we had received 5,327 specific Risk Free Rates and MRPs used in 2013.[1] Other 775 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 1. MRP used in 2013: 6,237 answers

	Professors	Analyst and Financial companies	Non-financial companies	Total
Answers reported (MRP figures)	1,553	2,205	1,443	5,201
Outliers	13	8	39	60
Answers for countries with less than 5 answers	31	12	23	66
Only MRP or RF (not both)	19	37	79	135
Answers that do not provide figures	236	248	291	775
Total	1,852	2,510	1,875	6,237
Answers that do not provide a figure:				
Use a minimum IRR	28		15	43
Use multiples	39	93		132
We use only WACC			18	18
"MRP is a concept that we do not use"			115	115
Use a Required Return to Equity	11	29	9	49
"Confidential. We don't disclose the assumptions"		28	2	30
"The CAPM is not very useful"	3	11	47	61
"I think about premia for particular stocks"	11	23		34
"I teach derivatives: I did not have to use a MRP"	53			53
"I use whatever MRP is specified in the textbook"	27			27
"The MRP changes every day", or "monthly"	2	46		48
"I am an academic, not a practitioner"	3			3
Other reasons	59	18	85	162
SUM	236	248	291	775

Table 2 contains the statistics of the **MRP** used in 2013 **for 51 countries**. We got answers for 78 countries, but we only report the results for 51 countries with more than 5 answers. Fernandez et al (2012)[2] contains the statistics of the Equity Premium or Market Risk Premium (MRP) used in 2012 for 82 countries. Fernandez et al (2011a)[3] 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)[4] is an analysis of the answers for Spain. **Table 3** contains the statistics of the Risk-Free Rate (**RF**) used in 2013 in the 51 countries and table 4 contains the statistics of **Ke** (required return to equity (Ke = Risk-Free Rate + MRP).

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

[1] We considered 60 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).

[2] Fernandez, P., J. Aguirreamalloa and L. Corres (2012), "Market Risk Premium Used in 82 Countries in 2012: A Survey with 7,192 Answers", downloadable in **http://ssrn.com/abstract=2084213**

[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**

Table 2. Market Risk Premium (MRP) used for 51 countries in 2013

MRP	Number of answers	average	Median	St. Dev.	max	min	Av-Median
USA	2394	5.7%	5.5%	1.6%	15.8%	2.5%	0.2%
Spain	804	6.0%	5.5%	1.7%	15.0%	3.0%	0.5%
Germany	343	5.5%	5.0%	1.7%	18.0%	1.6%	0.5%
United Kingdom	247	5.5%	5.0%	1.4%	11.0%	2.0%	0.5%
Italy	205	5.7%	5.5%	1.5%	12.0%	3.0%	0.2%
France	134	6.1%	6.0%	1.6%	12.0%	3.0%	0.1%
Switzerland	113	5.6%	5.5%	1.5%	12.0%	3.0%	0.1%
Brazil	112	6.5%	6.0%	2.1%	12.0%	1.6%	0.5%
Canada	110	5.4%	5.3%	1.3%	12.0%	3.0%	0.1%
China	95	7.7%	7.0%	2.3%	14.0%	3.0%	0.7%
Portugal	52	6.1%	5.9%	2.3%	12.0%	2.5%	0.2%
Norway	51	6.0%	6.0%	1.8%	12.0%	3.0%	0.0%
Greece	50	7.3%	6.0%	4.1%	20.8%	3.0%	1.3%
Sweden	50	6.0%	5.9%	1.7%	12.0%	3.0%	0.1%
Belgium	48	6.1%	6.0%	1.8%	12.0%	3.0%	0.1%
Austria	47	6.0%	5.8%	1.9%	12.0%	3.0%	0.2%
Japan	28	6.6%	6.4%	2.7%	11.2%	2.0%	0.2%
Mexico	24	6.7%	6.3%	2.4%	13.6%	1.1%	0.4%
Argentina	20	10.6%	6.8%	8.1%	34.0%	4.0%	3.9%
Russia	18	7.3%	7.0%	4.1%	20.0%	1.0%	0.3%
Australia	17	6.8%	5.8%	4.9%	25.0%	3.0%	1.0%
Chile	17	5.0%	5.5%	2.2%	8.0%	1.0%	-0.5%
Malaysia	13	7.6%	7.5%	1.3%	10.0%	5.5%	0.1%
India	12	8.5%	8.8%	2.9%	13.4%	3.0%	-0.3%
Poland	12	6.3%	6.5%	1.0%	7.3%	5.0%	-0.2%
Colombia	11	8.4%	8.8%	3.4%	13.0%	1.2%	-0.4%
Korea(South)	11	7.0%	6.9%	1.8%	10.0%	4.0%	0.2%
Lituania	11	8.0%	8.0%	1.6%	11.0%	5.5%	0.0%
Hong Kong	9	7.4%	6.5%	2.7%	12.5%	3.6%	0.9%
Indonesia	9	7.8%	8.0%	1.4%	9.5%	5.5%	-0.2%
Netherlands	9	6.0%	5.8%	1.3%	8.9%	4.6%	0.2%
Peru	9	6.5%	6.8%	2.1%	8.4%	2.0%	-0.3%
Singapore	9	5.0%	5.8%	1.7%	6.0%	1.3%	-0.8%
Czech Republic	8	6.5%	7.0%	1.1%	8.0%	5.0%	-0.5%
New Zealand	8	5.4%	5.8%	1.8%	7.5%	2.5%	-0.4%
Finland	7	6.8%	6.0%	1.2%	8.7%	5.8%	0.8%
Ireland	7	6.2%	7.0%	3.3%	9.4%	2.7%	-0.7%
Taiwan	7	6.7%	6.9%	2.0%	11.0%	4.0%	-0.1%
Bulgaria	6	8.0%	8.4%	0.9%	9.0%	6.6%	-0.4%
Denmark	6	6.4%	5.9%	0.8%	7.4%	5.8%	0.5%
Hungary	6	8.2%	8.7%	1.6%	9.4%	5.5%	-0.5%
Israel	6	6.4%	7.0%	1.1%	7.1%	5.0%	-0.7%
South Africa	6	6.8%	7.0%	1.4%	8.1%	5.0%	-0.3%
Bolivia	5	10.6%	11.0%	1.7%	12.1%	8.0%	-0.4%
Egypt	5	9.2%	9.0%	1.2%	11.0%	8.0%	0.2%
Pakistan	5	16.0%	16.3%	0.6%	16.3%	15.0%	-0.3%
Romania	5	8.1%	8.8%	1.2%	8.8%	6.0%	-0.7%
Slovenia	5	7.4%	8.4%	1.5%	8.4%	5.5%	-1.1%
Thailand	5	7.6%	8.1%	0.6%	8.1%	7.0%	-0.4%
Turkey	5	8.2%	9.4%	2.9%	10.0%	3.0%	-1.2%
Venezuela	5	11.2%	11.8%	1.8%	12.5%	8.0%	-0.6%

Table 3. Risk Free Rate (R_F) used for 51 countries in 2013

RF	Number of answers	average	Median	St. Dev.	max	min	Av-Median
USA	2394	2.4%	2.2%	1.0%	6.0%	0.1%	0.2%
Spain	804	4.4%	4.6%	0.9%	6.0%	0.5%	-0.2%
Germany	343	1.9%	2.0%	0.6%	6.5%	0.1%	-0.1%
United Kingdom	247	2.4%	2.1%	1.0%	7.0%	0.2%	0.3%
Italy	205	4.4%	4.5%	0.6%	8.0%	1.5%	-0.1%
France	134	2.0%	2.0%	1.0%	5.0%	0.1%	0.0%
Switzerland	113	1.3%	1.3%	0.3%	3.0%	0.6%	0.0%
Brazil	112	5.9%	4.9%	2.4%	10.1%	3.0%	1.0%
Canada	110	2.0%	2.0%	0.5%	5.0%	1.0%	0.0%
China	95	3.8%	4.0%	0.6%	6.0%	1.7%	-0.2%
Portugal	52	5.1%	5.2%	0.8%	5.7%	2.7%	-0.2%
Norway	51	2.4%	2.2%	1.2%	5.0%	0.1%	0.2%
Greece	50	9.6%	10.0%	1.3%	10.0%	1.8%	-0.4%
Sweden	50	2.3%	2.0%	1.2%	5.0%	0.1%	0.3%
Belgium	48	2.4%	2.2%	1.2%	5.0%	0.1%	0.2%
Austria	47	2.3%	2.0%	1.2%	5.0%	0.1%	0.3%
Japan	28	1.1%	0.9%	0.8%	4.0%	0.2%	0.2%
Mexico	24	4.9%	4.9%	1.2%	7.4%	2.5%	0.0%
Argentina	20	8.7%	8.8%	2.8%	12.5%	1.0%	0.0%
Russia	18	5.6%	5.0%	1.4%	7.5%	3.0%	0.6%
Australia	17	3.3%	3.3%	0.6%	5.0%	2.0%	0.1%
Chile	17	4.8%	5.0%	2.6%	14.0%	3.0%	-0.2%
Malaysia	13	4.0%	4.0%	1.1%	6.0%	2.5%	0.0%
India	12	6.9%	7.2%	1.3%	8.5%	4.0%	-0.4%
Poland	12	3.9%	4.0%	0.4%	4.5%	3.4%	-0.1%
Colombia	11	4.6%	4.7%	0.7%	5.7%	3.2%	-0.1%
Korea(South)	11	3.1%	3.0%	0.6%	5.0%	2.6%	0.1%
Lituania	11	3.6%	3.7%	0.2%	3.7%	3.0%	-0.1%
Hong Kong	9	1.3%	1.2%	1.2%	4.5%	0.3%	0.2%
Indonesia	9	5.9%	5.7%	0.5%	7.0%	5.5%	0.3%
Netherlands	9	2.0%	1.8%	0.8%	4.0%	1.5%	0.2%
Peru	9	4.7%	4.5%	2.0%	6.8%	1.3%	0.2%
Singapore	9	2.2%	1.5%	1.3%	5.2%	1.0%	0.7%
Czech Republic	8	1.7%	1.6%	0.5%	2.6%	1.0%	0.1%
New Zealand	8	3.5%	3.4%	0.6%	5.0%	3.0%	0.1%
Finland	7	1.7%	1.5%	0.4%	2.5%	1.5%	0.1%
Ireland	7	3.3%	3.3%	0.3%	3.5%	2.6%	0.0%
Taiwan	7	1.3%	1.3%	0.7%	2.0%	0.0%	0.1%
Bulgaria	6	2.9%	3.1%	0.4%	3.1%	2.2%	-0.2%
Denmark	6	1.6%	1.6%	0.1%	1.7%	1.5%	0.0%
Hungary	6	4.6%	5.1%	2.0%	6.0%	0.5%	-0.5%
Israel	6	3.3%	3.6%	0.9%	4.0%	1.5%	-0.2%
South Africa	6	6.4%	6.5%	0.6%	7.3%	5.6%	-0.1%
Bolivia	5	3.3%	2.5%	2.7%	7.0%	0.7%	0.8%
Egypt	5	12.7%	12.5%	0.8%	14.0%	12.0%	0.2%
Pakistan	5	10.9%	12.1%	1.6%	12.1%	9.0%	-1.1%
Romania	5	4.8%	4.9%	0.6%	5.5%	3.8%	-0.1%
Slovenia	5	5.6%	5.9%	0.9%	6.0%	4.0%	-0.4%
Thailand	5	3.7%	3.3%	0.6%	4.5%	3.3%	0.4%
Turkey	5	6.1%	6.2%	0.7%	7.0%	5.0%	-0.1%
Venezuela	5	8.1%	10.1%	3.0%	10.1%	3.2%	-2.0%

Table 4. Ke (Required return to equity: RF + MRP) used for 51 countries in 2013

Ke	Number of answers	average	Median	St. Dev.	max	min	Av-Median
USA	2394	8.0%	8.0%	2.0%	18.0%	3.0%	0.0%
Spain	804	10.4%	10.1%	2.1%	20.0%	5.7%	0.3%
Germany	343	7.5%	7.2%	1.8%	20.4%	4.0%	0.3%
United Kingdom	247	7.9%	7.6%	1.7%	13.1%	4.8%	0.3%
Italy	205	10.0%	10.0%	1.6%	16.5%	7.0%	0.0%
France	134	8.1%	8.0%	1.9%	14.0%	3.8%	0.1%
Switzerland	113	6.9%	6.4%	1.5%	13.3%	4.3%	0.5%
Brazil	112	12.4%	11.8%	3.4%	19.3%	5.0%	0.5%
Canada	110	7.4%	7.4%	1.4%	14.2%	4.0%	0.1%
China	95	11.5%	11.0%	2.4%	18.0%	7.0%	0.5%
Portugal	52	11.2%	10.8%	2.4%	17.2%	5.7%	0.3%
Norway	51	8.4%	8.0%	2.1%	14.0%	4.5%	0.4%
Greece	50	16.8%	16.0%	3.8%	29.0%	10.8%	0.8%
Sweden	50	8.3%	8.1%	2.1%	14.0%	4.5%	0.2%
Belgium	48	8.5%	8.5%	2.1%	14.0%	4.5%	0.0%
Austria	47	8.3%	8.0%	2.2%	14.0%	4.5%	0.3%
Japan	28	7.6%	7.4%	2.6%	12.0%	3.8%	0.2%
Mexico	24	11.2%	11.5%	2.6%	16.1%	5.1%	-0.3%
Argentina	20	19.4%	16.8%	6.3%	35.0%	13.5%	2.6%
Russia	18	13.4%	12.0%	3.8%	25.0%	9.5%	1.4%
Australia	17	10.2%	9.1%	4.9%	28.5%	6.0%	1.1%
Chile	17	9.8%	10.0%	2.6%	15.0%	4.3%	-0.2%
Malaysia	13	11.6%	10.6%	1.7%	15.0%	10.0%	1.0%
India	12	15.4%	15.9%	3.7%	20.9%	7.5%	-0.5%
Poland	12	10.2%	10.4%	0.9%	11.5%	9.0%	-0.2%
Colombia	11	13.1%	13.9%	3.8%	18.0%	5.5%	-0.8%
Korea(South)	11	10.2%	9.8%	2.0%	13.3%	6.6%	0.4%
Lituania	11	11.6%	11.7%	1.5%	14.7%	9.2%	-0.1%
Hong Kong	9	8.8%	8.3%	2.8%	13.5%	4.2%	0.5%
Indonesia	9	13.7%	14.5%	1.2%	15.3%	11.5%	-0.7%
Netherlands	9	8.0%	7.5%	1.3%	10.7%	6.5%	0.5%
Peru	9	11.2%	10.5%	3.6%	15.2%	5.0%	0.7%
Singapore	9	7.2%	7.3%	1.3%	9.0%	4.5%	-0.1%
Czech Republic	8	8.1%	8.7%	1.2%	9.5%	6.0%	-0.5%
New Zealand	8	8.9%	9.2%	1.7%	11.2%	5.5%	-0.3%
Finland	7	8.5%	8.5%	1.2%	10.3%	7.3%	0.0%
Ireland	7	9.5%	9.6%	3.4%	12.9%	6.0%	-0.1%
Taiwan	7	8.6%	8.1%	1.9%	13.0%	7.5%	0.5%
Bulgaria	6	10.9%	11.5%	1.2%	12.0%	8.8%	-0.6%
Denmark	6	8.0%	7.5%	0.9%	9.1%	7.3%	0.5%
Hungary	6	12.7%	13.6%	2.4%	14.5%	8.5%	-0.9%
Israel	6	9.7%	10.6%	1.8%	11.0%	6.5%	-0.9%
South Africa	6	13.2%	13.4%	1.5%	14.5%	11.1%	-0.2%
Bolivia	5	13.9%	14.5%	1.9%	16.0%	11.2%	-0.6%
Egypt	5	21.9%	22.5%	1.1%	23.0%	20.5%	-0.6%
Pakistan	5	26.9%	28.4%	2.1%	28.4%	24.0%	-1.4%
Romania	5	12.9%	13.7%	1.1%	13.7%	11.5%	-0.8%
Slovenia	5	12.9%	14.4%	2.2%	14.4%	9.5%	-1.4%
Thailand	5	11.3%	11.3%	0.2%	11.5%	11.0%	0.0%
Turkey	5	14.4%	15.6%	3.6%	17.0%	8.0%	-1.2%
Venezuela	5	19.2%	21.9%	3.6%	21.9%	15.0%	-2.6%

Table 5. Market Risk Premium (MRP), Risk Free Rate (RF) and Ke (Required return to equity: RF + MRP) used for 51 countries in 2013 used for 51 countries in 2013

		Ke				RF				MRP			
	n	Aver.	St. Dev.	max	min	Aver.	St. Dev.	max	min	Aver.	St. Dev.	max	min
USA	2394	8.0%	2.0%	18.0%	3.0%	2.4%	1.0%	6.0%	0.1%	5.7%	1.6%	15.8%	2.5%
Spain	804	10.4%	2.1%	20.0%	5.7%	4.4%	0.9%	6.0%	0.5%	6.0%	1.7%	15.0%	3.0%
Germany	343	7.5%	1.8%	20.4%	4.0%	1.9%	0.6%	6.5%	0.1%	5.5%	1.7%	18.0%	1.6%
United Kingdom	247	7.9%	1.7%	13.1%	4.8%	2.4%	1.0%	7.0%	0.2%	5.5%	1.4%	11.0%	2.0%
Italy	205	10.0%	1.6%	16.5%	7.0%	4.4%	0.6%	8.0%	1.5%	5.7%	1.5%	12.0%	3.0%
France	134	8.1%	1.9%	14.0%	3.8%	2.0%	1.0%	5.0%	0.1%	6.1%	1.6%	12.0%	3.0%
Switzerland	113	6.9%	1.5%	13.3%	4.3%	1.3%	0.3%	3.0%	0.6%	5.6%	1.5%	12.0%	3.0%
Brazil	112	12.4%	3.4%	19.3%	5.0%	5.9%	2.4%	10.1%	3.0%	6.5%	2.1%	12.0%	1.6%
Canada	110	7.4%	1.4%	14.2%	4.0%	2.0%	0.5%	5.0%	1.0%	5.4%	1.3%	12.0%	3.0%
China	95	11.5%	2.4%	18.0%	7.0%	3.8%	0.6%	6.0%	1.7%	7.7%	2.3%	14.0%	3.0%
Portugal	52	11.2%	2.4%	17.2%	5.7%	5.1%	0.8%	5.7%	2.7%	6.1%	2.3%	12.0%	2.5%
Norway	51	8.4%	2.1%	14.0%	4.5%	2.4%	1.2%	5.0%	0.1%	6.0%	1.8%	12.0%	3.0%
Greece	50	16.8%	3.8%	29.0%	10.8%	9.6%	1.3%	10.0%	1.8%	7.3%	4.1%	20.8%	3.0%
Sweden	50	8.3%	2.1%	14.0%	4.5%	2.3%	1.2%	5.0%	0.1%	6.0%	1.7%	12.0%	3.0%
Belgium	48	8.5%	2.1%	14.0%	4.5%	2.4%	1.2%	5.0%	0.1%	6.1%	1.8%	12.0%	3.0%
Austria	47	8.3%	2.2%	14.0%	4.5%	2.3%	1.2%	5.0%	0.1%	6.0%	1.9%	12.0%	3.0%
Japan	28	7.6%	2.6%	12.0%	3.8%	1.1%	0.8%	4.0%	0.2%	6.6%	2.7%	11.2%	2.0%
Mexico	24	11.2%	2.6%	16.1%	5.1%	4.9%	1.2%	7.4%	2.5%	6.7%	2.4%	13.6%	1.1%
Argentina	20	19.4%	6.3%	35.0%	13.5%	8.7%	2.8%	12.5%	1.0%	10.6%	8.1%	34.0%	4.0%
Russia	18	13.4%	3.8%	25.0%	9.5%	5.6%	1.4%	7.5%	3.0%	7.3%	4.1%	20.0%	1.0%
Australia	17	10.2%	4.9%	28.5%	6.0%	3.3%	0.6%	5.0%	2.0%	6.8%	4.9%	25.0%	3.0%
Chile	17	9.8%	2.6%	15.0%	4.3%	4.8%	2.6%	14.0%	3.0%	5.0%	2.2%	8.0%	1.0%
Malaysia	13	11.6%	1.7%	15.0%	10.0%	4.0%	1.1%	6.0%	2.5%	7.6%	1.3%	10.0%	5.5%
India	12	15.4%	3.7%	20.9%	7.5%	6.9%	1.3%	8.5%	4.0%	8.5%	2.9%	13.4%	3.0%
Poland	12	10.2%	0.9%	11.5%	9.0%	3.9%	0.4%	4.5%	3.4%	6.3%	1.0%	7.3%	5.0%
Colombia	11	13.1%	3.8%	18.0%	5.5%	4.6%	0.7%	5.7%	3.2%	8.4%	3.4%	13.0%	1.2%
Korea(South)	11	10.2%	2.0%	13.3%	6.6%	3.1%	0.6%	5.0%	2.6%	7.0%	1.8%	10.0%	4.0%
Lituania	11	11.6%	1.5%	14.7%	9.2%	3.6%	0.2%	3.7%	3.0%	8.0%	1.6%	11.0%	5.5%
Hong Kong	9	8.8%	2.8%	13.5%	4.2%	1.3%	1.2%	4.5%	0.3%	7.4%	2.7%	12.5%	3.6%
Indonesia	9	13.7%	1.2%	15.3%	11.5%	5.9%	0.5%	7.0%	5.5%	7.8%	1.4%	9.5%	5.5%
Netherlands	9	8.0%	1.3%	10.7%	6.5%	2.0%	0.8%	4.0%	1.5%	6.0%	1.3%	8.9%	4.6%
Peru	9	11.2%	3.6%	15.2%	5.0%	4.7%	2.0%	6.8%	1.3%	6.5%	2.1%	8.4%	2.0%
Singapore	9	7.2%	1.3%	9.0%	4.5%	2.2%	1.3%	5.2%	1.0%	5.0%	1.7%	6.0%	1.3%
Czech Republic	8	8.1%	1.2%	9.5%	6.0%	1.7%	0.5%	2.6%	1.0%	6.5%	1.1%	8.0%	5.0%
New Zealand	8	8.9%	1.7%	11.2%	5.5%	3.5%	0.6%	5.0%	3.0%	5.4%	1.8%	7.5%	2.5%
Finland	7	8.5%	1.2%	10.3%	7.3%	1.7%	0.4%	2.5%	1.5%	6.8%	1.2%	8.7%	5.8%
Ireland	7	9.5%	3.4%	12.9%	6.0%	3.3%	0.3%	3.5%	2.6%	6.2%	3.3%	9.4%	2.7%
Taiwan	7	8.6%	1.9%	13.0%	7.5%	1.3%	0.7%	2.0%	0.0%	6.7%	2.0%	11.0%	4.0%
Bulgaria	6	10.9%	1.2%	12.0%	8.8%	2.9%	0.4%	3.1%	2.2%	8.0%	0.9%	9.0%	6.6%
Denmark	6	8.0%	0.9%	9.1%	7.3%	1.6%	0.1%	1.7%	1.5%	6.4%	0.8%	7.4%	5.8%
Hungary	6	12.7%	2.4%	14.5%	8.5%	4.6%	2.0%	6.0%	0.5%	8.2%	1.6%	9.4%	5.5%
Israel	6	9.7%	1.8%	11.0%	6.5%	3.3%	0.9%	4.0%	1.5%	6.4%	1.1%	7.1%	5.0%
South Africa	6	13.2%	1.5%	14.5%	11.1%	6.4%	0.6%	7.3%	5.6%	6.8%	1.4%	8.1%	5.0%
Bolivia	5	13.9%	1.9%	16.0%	11.2%	3.3%	2.7%	7.0%	0.7%	10.6%	1.7%	12.1%	8.0%
Egypt	5	21.9%	1.1%	23.0%	20.5%	12.7%	0.8%	14.0%	12.0%	9.2%	1.2%	11.0%	8.0%
Pakistan	5	26.9%	2.1%	28.4%	24.0%	10.9%	1.6%	12.1%	9.0%	16.0%	0.6%	16.3%	15.0%
Romania	5	12.9%	1.1%	13.7%	11.5%	4.8%	0.6%	5.5%	3.8%	8.1%	1.2%	8.8%	6.0%
Slovenia	5	12.9%	2.2%	14.4%	9.5%	5.6%	0.9%	6.0%	4.0%	7.4%	1.5%	8.4%	5.5%
Thailand	5	11.3%	0.2%	11.5%	11.0%	3.7%	0.6%	4.5%	3.3%	7.6%	0.6%	8.1%	7.0%
Turkey	5	14.4%	3.6%	17.0%	8.0%	6.1%	0.7%	7.0%	5.0%	8.2%	2.9%	10.0%	3.0%
Venezuela	5	19.2%	3.6%	21.9%	15.0%	8.1%	3.0%	10.1%	3.2%	11.2%	1.8%	12.5%	8.0%

Figure 1. Ke (Required return to equity: RF + MRP) used in 2013 for some countries (plot of answers)

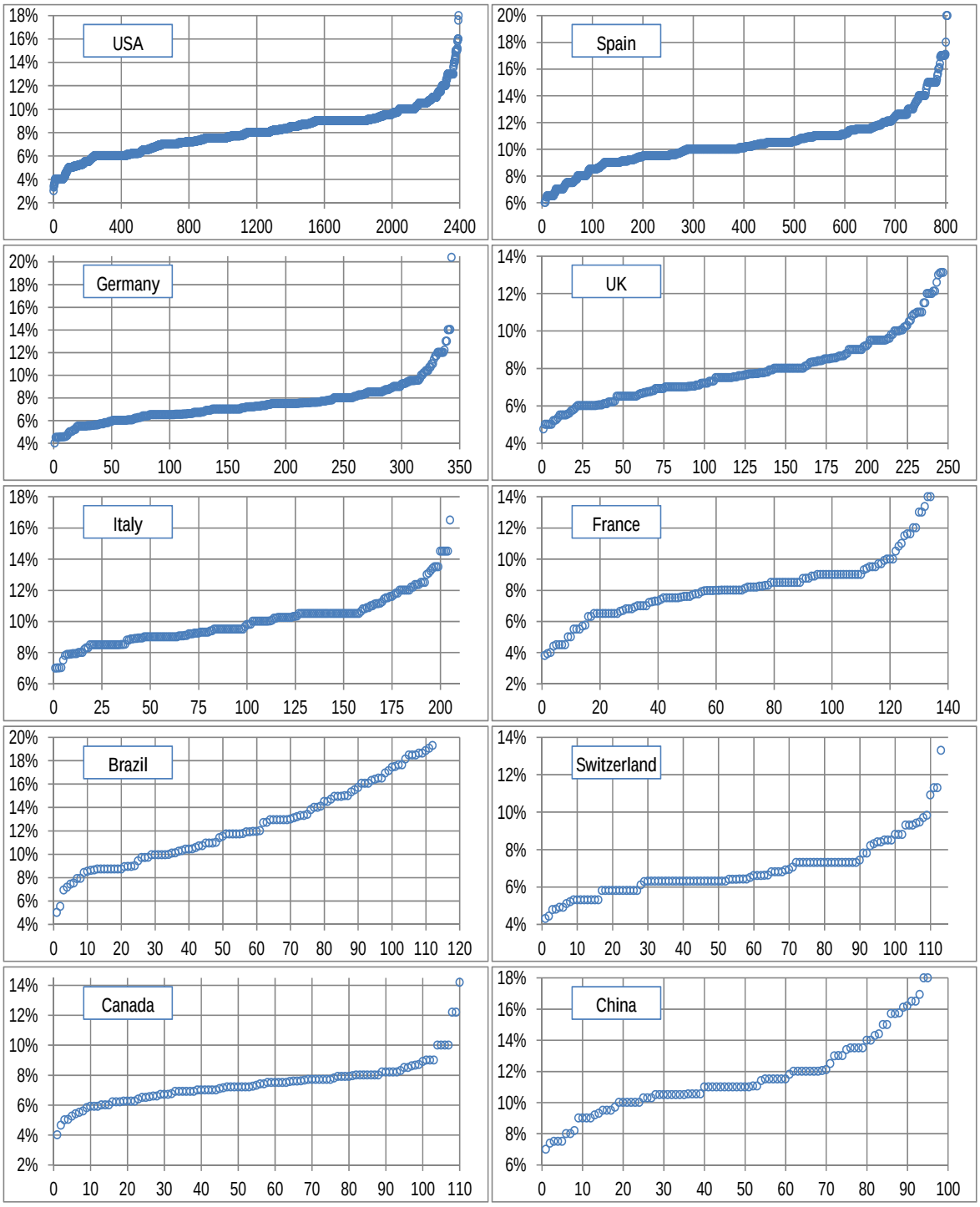
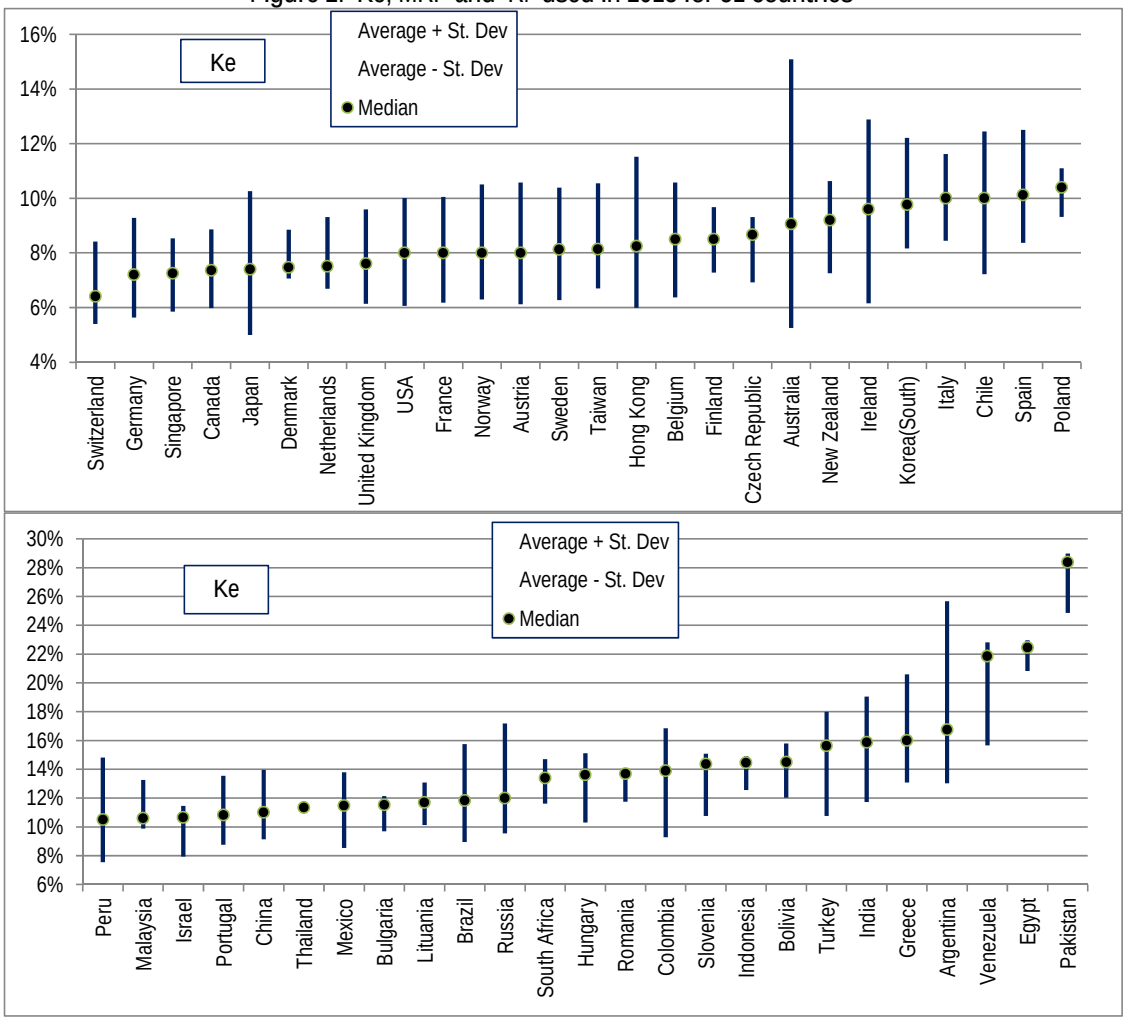
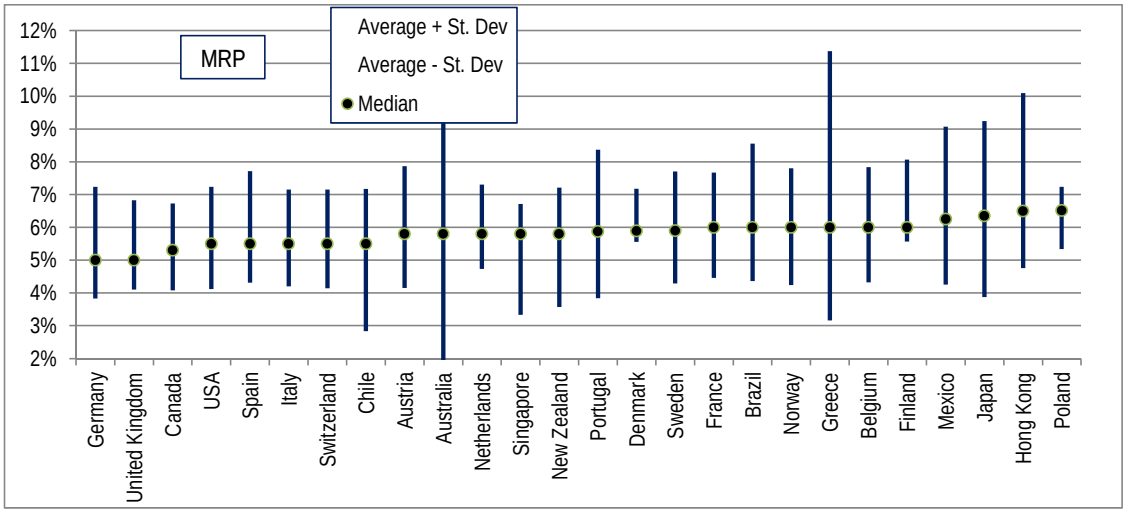
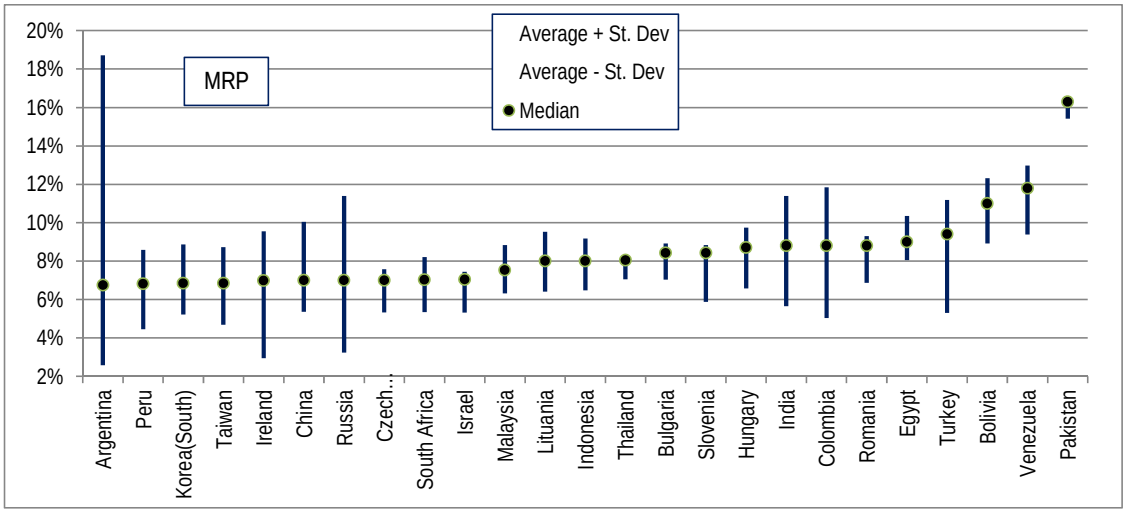
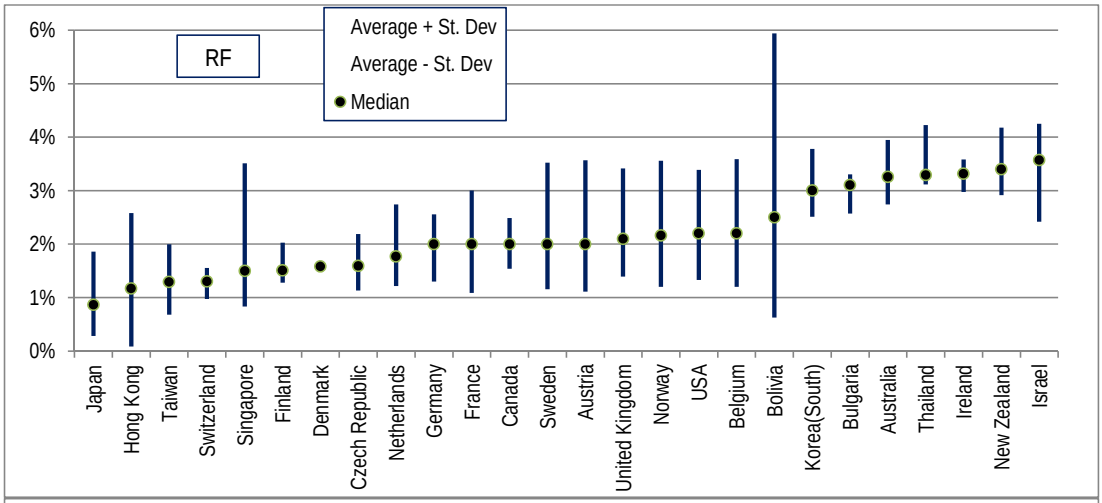


Figure 2. Ke, MRP and RF used in 2013 for 51 countries






MRP
Average + St. Dev
Average - St. Dev
Median
20%
18%
16%
14%
12%
10%
8%
6%
4%
2%
Argentina
Peru
Korea(South)
Taiwan
Ireland
China
Russia
Czech...
South Africa
Israel
Malaysia
Lituania
Indonesia
Thailand
Bulgaria
Slovenia
Hungary
India
Colombia
Romania
Egypt
Turkey
Bolivia
Venezuela
Pakistan


RF
Average + St. Dev
Average - St. Dev
Median
6%
5%
4%
3%
2%
1%
0%
Japan
Hong Kong
Taiwan
Switzerland
Singapore
Finland
Denmark
Czech Republic
Netherlands
Germany
France
Canada
Sweden
Austria
United Kingdom
Norway
USA
Belgium
Bolivia
Korea(South)
Bulgaria
Australia
Thailand
Ireland
New Zealand
Israel

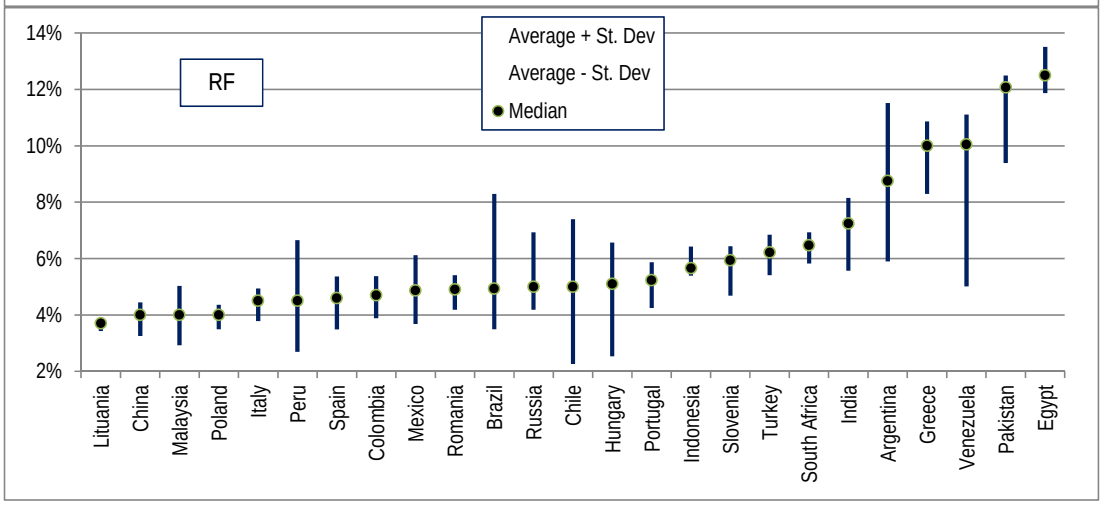
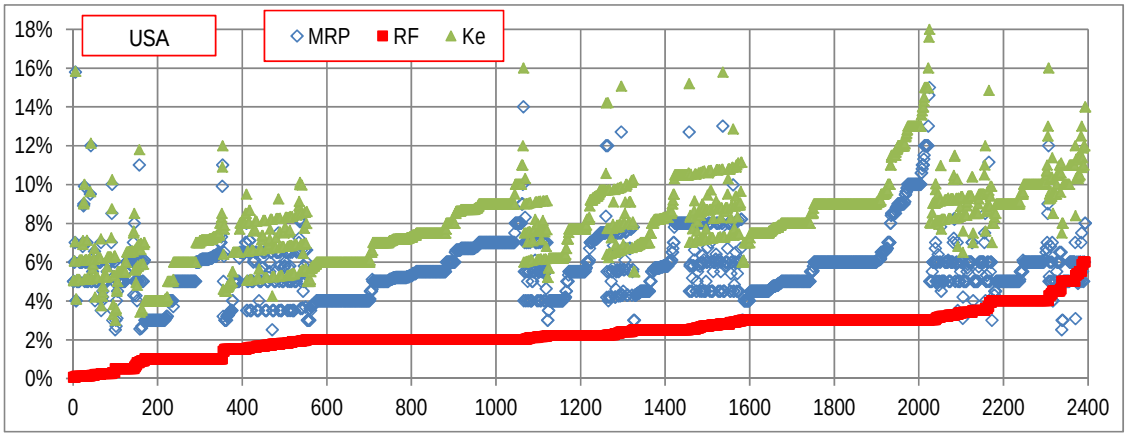
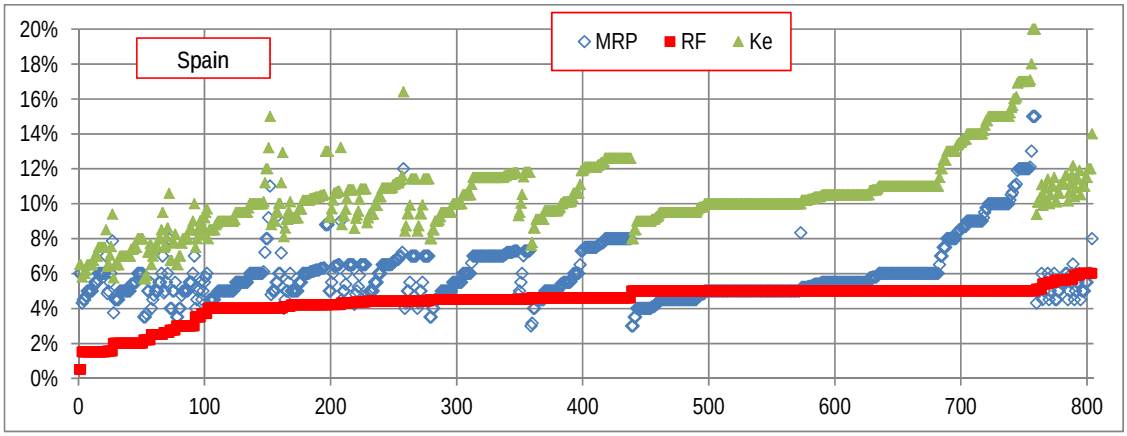

RF
Average + St. Dev
Average - St. Dev
Median
14%
12%
10%
8%
6%
4%
2%
Lituania
China
Malaysia
Poland
Italy
Peru
Spain
Colombia
Mexico
Romania
Brazil
Russia
Chile
Hungary
Portugal
Indonesia
Slovenia
Turkey
South Africa
India
Argentina
Greece
Venezuela
Pakistan
Egypt

Figure 3. Ke, MRP and RF used in 2013 for USA and Spain (plot of answers)





2. Differences among professors, analysts and managers of companies

Table 6 shows the differences for the 20 countries that had at least 2 answers for each category (professors, analysts, managers of companies and managers of financial companies).

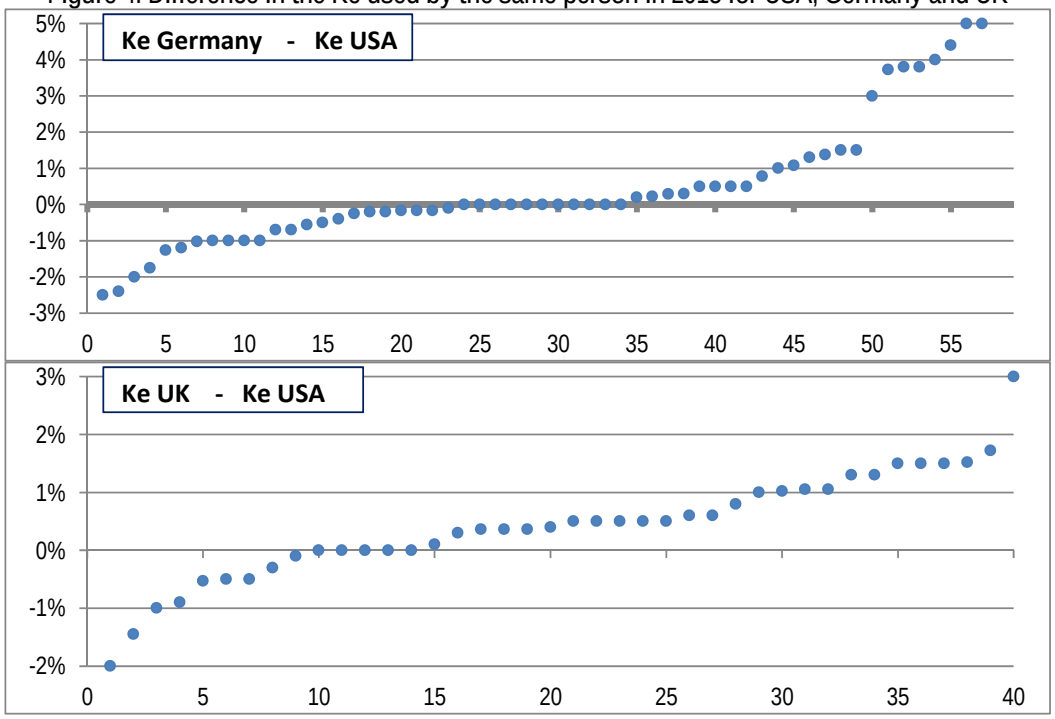
Table 6. Ke used for 20 countries in 2013 by professors; analysts and managers of financial (fin); and managers of non- financial companies (co)

	average				Standard deviation				Number of answers		
	Prof	fin	co	Max-min	Prof	fin	co	Max-min	Prof	fin	co
USA	8.1%	8.0%	8.0%	0.1%	2.0%	1.9%	2.0%	0.1%	934	832	628
Spain	10.1%	10.4%	10.6%	0.5%	1.9%	1.8%	2.4%	0.6%	106	399	299
Germany	8.0%	7.4%	7.2%	0.8%	2.3%	1.6%	1.7%	0.7%	73	186	84
Italy	10.5%	9.9%	9.8%	0.6%	1.5%	1.6%	1.5%	0.2%	57	113	35
United Kingdom	7.7%	8.0%	7.7%	0.3%	1.6%	1.8%	1.7%	0.2%	49	139	59
Switzerland	6.7%	7.1%	6.5%	0.6%	1.5%	1.6%	1.1%	0.5%	34	63	16
Canada	7.6%	7.1%	7.7%	0.6%	1.6%	1.0%	1.7%	0.6%	33	42	35
China	11.3%	11.5%	11.8%	0.5%	2.5%	2.6%	2.0%	0.6%	29	41	25
France	8.2%	8.4%	7.5%	0.9%	2.0%	2.0%	1.8%	0.2%	29	72	33
Brazil	13.9%	11.7%	12.7%	2.2%	3.0%	3.3%	3.5%	0.5%	21	64	27
Greece	17.1%	17.1%	15.1%	2.1%	4.5%	3.7%	1.6%	2.9%	13	31	6
Norway	8.3%	8.5%	7.9%	0.6%	2.6%	1.8%	3.2%	1.4%	13	33	5
Portugal	11.3%	11.2%	10.4%	0.9%	3.0%	2.3%	1.8%	1.2%	13	34	5
Sweden	8.4%	8.4%	7.9%	0.5%	2.7%	1.7%	3.2%	1.5%	12	33	5
Austria	8.5%	8.3%	7.9%	0.6%	2.8%	1.9%	3.2%	1.2%	11	31	5
Belgium	8.7%	8.5%	7.9%	0.7%	2.7%	1.7%	3.2%	1.4%	11	32	5
Chile	9.3%	10.1%	10.3%	1.0%	2.2%	3.1%	2.5%	0.9%	6	8	3
Mexico	10.3%	11.6%	11.1%	1.3%	3.8%	2.4%	0.8%	3.0%	6	14	4
Argentina	22.3%	17.7%	20.8%	4.6%	6.0%	6.4%	6.5%	0.5%	3	11	6
Colombia	11.3%	15.0%	9.8%	5.2%	5.0%	2.8%	0.5%	4.5%	3	6	2

3. Differences among respondents

Figure 4 shows the differences in the Ke used by the same person for USA, Germany and UK. 57 respondents provided us with answers for USA and Germany. 40 provided us with answers for USA and UK.

Figure 4. Difference in the Ke used by the same person in 2013 for USA, Germany and UK



4. Comparison with previous surveys

Table 7 compares some results of this survey with the results of the surveys of 2011 and 2012

Table 7. Comparison of the results of the surveys of 2011, 2012 and 2013. MRP (Market Risk Premium)

	2013	2012	2011	2013	2012	2011
	Average	Average	Average	Median	Median	Median
USA	5.7%	5.5%	5.5%	5.5%	5.4%	5.0%
Spain	6.0%	6.0%	5.9%	5.5%	5.5%	5.5%
Germany	5.5%	5.5%	5.4%	5.0%	5.0%	5.0%
United Kingdom	5.5%	5.5%	5.3%	5.0%	5.0%	5.0%
Italy	5.7%	5.6%	5.5%	5.5%	5.5%	5.0%
France	6.1%	5.9%	6.0%	6.0%	6.0%	6.0%
Switzerland	5.6%	5.4%	5.7%	5.5%	5.3%	5.5%
Brazil	6.5%	7.9%	7.7%	6.0%	7.0%	7.0%
Canada	5.4%	5.4%	5.9%	5.3%	5.5%	5.0%
China	7.7%	8.7%	9.4%	7.0%	7.1%	7.8%
Portugal	6.1%	7.2%	6.5%	5.9%	6.5%	6.1%
Norway	6.0%	5.8%	5.5%	6.0%	5.5%	5.0%
Greece	7.3%	9.6%	7.4%	6.0%	7.4%	7.2%
Sweden	6.0%	5.9%	5.9%	5.9%	6.0%	5.5%
Belgium	6.1%	6.0%	6.1%	6.0%	6.0%	6.1%
Austria	6.0%	5.7%	6.0%	5.8%	6.0%	5.7%
Japan	6.6%	5.5%	5.0%	6.4%	5.0%	3.5%
Mexico	6.7%	7.5%	7.3%	6.3%	6.8%	6.4%
Argentina	10.6%	10.9%	9.9%	6.8%	10.0%	9.0%
Russia	7.3%	7.6%	7.5%	7.0%	7.0%	6.5%
Australia	6.8%	5.9%	5.8%	5.8%	6.0%	5.2%
Chile	5.0%	6.1%	5.7%	5.5%	5.6%	5.3%
Malaysia	7.6%	5.9%	4.5%	7.5%	6.4%	3.5%
India	8.5%	8.0%	8.5%	8.8%	8.0%	7.8%
Poland	6.3%	6.4%	6.2%	6.5%	6.0%	6.0%
Colombia	8.4%	7.9%	7.5%	8.8%	7.5%	7.0%
Korea (South)	7.0%	6.7%	6.4%	6.9%	7.3%	6.5%
Hong Kong	7.4%	6.4%	6.4%	6.5%	6.2%	5.0%
Indonesia	7.8%	8.1%	7.3%	8.0%	8.0%	7.5%
Netherlands	6.0%	5.4%	5.5%	5.8%	5.5%	5.0%
Peru	6.5%	8.1%	7.8%	6.8%	8.0%	7.5%
Singapore	5.0%	6.0%	5.7%	5.8%	5.7%	5.0%
Czech Republic	6.5%	6.8%	6.1%	7.0%	7.0%	6.0%
New Zealand	5.4%	6.2%	6.0%	5.8%	6.0%	6.0%
Finland	6.8%	6.0%	5.4%	6.0%	6.0%	4.7%
Ireland	6.2%	6.6%	6.0%	7.0%	6.0%	5.1%
Taiwan	6.7%	7.7%	8.9%	6.9%	7.1%	8.0%
Denmark	6.4%	5.5%	5.4%	5.9%	5.0%	4.5%
Hungary	8.2%	7.4%	8.0%	8.7%	7.0%	8.0%
Israel	6.4%	6.0%	5.6%	7.0%	5.8%	5.0%
South Africa	6.8%	6.5%	6.3%	7.0%	6.0%	6.0%
Egypt	9.2%	9.2%	7.6%	9.0%	8.0%	7.0%
Pakistan	16.0%	9.5%	6.3%	16.3%	9.5%	7.5%
Thailand	7.6%	8.1%	7.9%	8.1%	8.1%	6.5%
Turkey	8.2%	8.4%	8.1%	9.4%	9.0%	8.2%

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.[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 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 4 of Fernandez et al (2011a) 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).

Table 8. 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". 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

Table 9. 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

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

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.

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 (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,

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

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.

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

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 Risk-Free rate and of the Equity Premium or Market Risk Premium (MRP) used in 2013 for **51 countries**.

Most previous surveys have been interested in the Expected MRP, but this survey asks about the Required MRP. The paper also contains comments from persons that do not use MRP, and comments from persons that do use MRP. Fernandez et al. (2011a)[7] and Fernandez et al. (2012)[8] 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, the undervaluation and the high ex-post risk premium are self fulfilling prophecies.

[7] 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**

[8] Fernandez, P., J. Aguirreamalloa and L. Corres (2012), "Market Risk Premium Used in 82 Countries in 2012: A Survey with 7,192 Answers", downloadable in **http://ssrn.com/abstract=2084213**

EXHIBIT 1. Mail sent on May and June 2013

Market Risk Premium: 2 Questions. 2013

We are doing a survey about the Market Risk Premium (MRP or Equity Premium) and Risk Free Rate that companies, analysts and professors use to calculate the required return on equity in different countries.
We would be grateful if you would kindly answer the following 2 questions. No companies, individuals or universities will be identified, and only aggregate data will be made public.

2 questions:

1. The Market Risk Premium that I am using in 2013
for USA is: _____ %
for_____ is: _____ %
for_____ is: _____ %

2. The Risk Free Rate that I am using in 2013
for USA is: _____ %
for _____ is: _____ %
for _____ is: _____ %

Best regards and thanks,
Pablo Fernandez
Professor of Finance, IESE Business School, Spain

EXHIBIT 2. COMMENTS OF RESPONDENTS THAT DID NOT PROVIDE THE MRP USED IN 2013

1. I don't believe in the MRP. I use a 10% cost of equity for most stocks; 15% if it is particularly risky. (If I did utilities I might use a lower one too but I doubt it).
2. There is greater risk and opportunity in Spain than in the U.S. Best outcome might be a new government in Spain.
3. I'm not using this method during these turbulent times. I don't think it is a good way to approach how to find an appropriate return on equity now.
4. Many of us will use varying rates according *to the day*, not the year. Both your ERP and Rf1 can wobble according to readily available granular data. Rather than doing a survey of normative results, perhaps a better question (and tabulation) would be why US professionals in the field chose varying holding periods reflecting the quantitative adjustments.
5. Actually I prefer to reverse the calculation and determine the ERP implied by market valuations (eg Earnings Yield + LT growth – LT real rates).
6. Comparing this to historical I decide if the risk premium is adequate to compensate for risks.
7. For the recent period, I consider the ERP to be excessively high despite the challenging local environment for equities.
8. For the international markets, I see lower premiums but a better environment so also a good trade-off.
9. Please note that this does not necessarily represent the company view, but only my own.
10. I do not apply the concept of a market risk premium in practice. However, I do chart the major indices in an attempt to observe market's opinion of the risk premium in the aggregate and whether it may be changing. It appears that since 2012 the total risk premium based on the S&P500 has been approximately 15%. Within this major trend rate, the latest short term up leg beginning November 2011 is displaying a 37% rate. A mean reversion is due at some point I think. Meanwhile, 2012 S&P earnings growth was nearly zero, but 2013 is estimated to grow at about 14%, approximately equal to the leading PE. So, a total discount rate of 15% seems to be what the market is pricing in I think.
11. I employ an inflation-adjusted discount factor of around 9%. This is an arithmetic discount rate since it is discounting future cash flows. The expected geometric (or compounded) long-term rate of return would be Arithmetic Return less one-half of market variance. That is GR = AR – Variance/2
12. This would reduce the long-term expected geometric return to perhaps 7%+ in the USA.
13. The inflation adjusted return on "safe" or short-term money market debt instruments is probably around -1%. This represents essentially zero nominal interest rates less a core inflation rate in the USA of around 1%+.
14. Finally, based on the current levels of equity valuation in the USA, the current expected return on common equities should be much higher than the numbers I have shown above.
15. We don't use *either number* during periods of financial repression – such as we see globally today.
16. Our decision-making process does not depend on them. The ERP is evanescent in the best of times (see Dimson, et al.).
17. The lack of a RFR is annoying, however. We would rather have one than not have one. Some indicators are rendered useless without one. That is the effect of Central Bank price fixing; they destroy "free" market information signals. With indicators thus blinded, the net effect of all such CB "help" is to marginally destabilize markets.

18. If we felt compelled to have an RFR, we would probably back into something via the Taylor Rule and our long-standing 3% long-term inflation rate projection. Off the top of my head, that might translate to something like a RFR of 0.75% in the US, today.
19. I would have thought your survey might have been improved by offering a Not Using option for each number.
20. I don't use MRP as a factor in managing the hedge fund! RFR for us would be LIBOR, but only to the extent that we use total return swaps (otherwise, RFR doesn't matter either).
21. This cannot be answered. You did not specify arithmetic or compound.
22. I stop to use it as an input. I now look at the implied risk premium

EXHIBIT 3. COMMENTS OF RESPONDENTS THAT DID PROVIDE THE MRP USED IN 2013

1. Based on the 36 and 60 month beta, industry smoothed beta, and the level of the VIX of the S&P 500. The 30 year Tbond yield.
2. Average 6 months 10YR Bond yield
3. In our methodology, we just consider USA figures as a basis in order to calculate the Cost of Capital of other countries
4. Emerging markets is:Govt borrowing rate minus sovereign risk premium
5. Equity Risk Premium per Ibbotson Study = USA = 6.62 percent; Risk-free rate is whatever 20 year TBond rate is for that business day.
6. For free risk we tend to use the average rate of return on State Bond of similar length, even if we knoe that this normally implies a country risk. Normally it is around 3,5%.
7. For MRP for fixed income, I'm going to use investment-grade corporate spreads. For risk free rate, I'm going to use regional government bond yields (for simplicity's sake, the 5 year bond yield). In EUR I'm going to use German Bunds.
8. For risk free rate I am using Euribor/Libor 3m rates (e.g. 0.20% for Euro)
9. For risk-free rate i use the formula: T-bond (30 year) rate - 1%.
10. For the market rate, I add the risk-free rate to Ibbotson's 2013 historical equity premium, which is 6.7%.
11. For USA MRP is 5,5%, RFR is 2.3% (T-bill yields are much lower, but I rather take the 10-yr yield + 0,5% premium for skewed market – that is the QE effects on bond prices/yields).
12. I actually think that the obsession about the Market Risk Premium is completely misguided. Time diversification is demonstrably wrong. The Market Risk Premium is often associated with the idea of Expected Returns for long-horizon investments in risky assets. This is just wrong. "Expected Returns" are effectively estimated as long-term averages, which in turn are close to the estimated medians of long term returns. Everyone who invests "for the long term" based on commonly estimated Market Risk Premiums has about a 50% probability of NOT achieving the Expected Return even in the long run. All of this can be demonstrated rigorously from the data. Unfortunately, even academics get blindsided by focusing on the statistics of "annualized" returns, which is wrong. As a result, the risks of long term investments increase with time, as opposed to common wisdom. Therefore, estimates of the Market Risk Premium are subject to huge errors.
13. I am using 1%+5%=6% in my courses for the US. Sometimes 0% too
14. I answer as if 'market' means S&P500. I am a small cap specialist, so market, for me, is entirely different.
15. I use current rates provided by Bloomberg on or before each quarter end.
16. I use the appropriate Duff & Phelps equations to calculate the size adjusted equity risk premium for each case.
17. I use the current Ibbotson equity risk premium and the 20-yr US treasury bond yield as of the date of value
18. Ibbotson Supply-Side MRP and Valuation Date Yield on 20yr Treasury Bond
19. Note that my answers are based on my PhD research topic which is "Real Options Valuation in the U.S. REIT Industry".
20. Our estimates of RFR and premiums remain unchanged: we use 3.5% for risk free rate – based on the expected 12M LT UST yields, Furthermore, we have 2.5% as country risk premium – based on Russia' sovereign spread for Eurobonds and 2% of additional corporate risk premium. On top of that we add 5% of the residual equity risk premium with the total of 13% - this is our base cost of equity for blue chips
21. We find the country risk premium from Bloomberg's CRP. Bloomberg derives the expected market return for a certain economy (e.g. Hong Kong) from the capital weighted average of the internal rate of return for all major index members in that country. The 10-year government bond yield is adopted as the risk free rate. Both of these changes from day to day.
22. RFR - Government of Canada Marketable Bonds - 10+ years yield (series V39062) as of valuation date; ERP - Long Horizon Equity Risk Premium per Ibbotson SBBI Valuation Yearbook (for appropriate year).
23. You should make clear whether it is an arithmetic or geometric equity risk premium that you are asking about.
24. South Africa… general consensus remains in the order of 6%...
25. Thank you for your continued work in this area. For the last few US valuations I have completed, some of which were purchase price allocations, I included a risk-free rate equal or equivalent to the yield on the 20-year Treasury Bond, i.e. 2.75%, plus or minus a few bps. For the equity risk premium, I have generally been around 6.25% to 6.50%. I look forward to the results of your latest inquiry.
26. The 20 year US Treasury yield, unadjusted
27. The EQUITY risk premium reported by company size by Ibbotson Morningstar, adjusted by industry volatility also reported by Ibbotson Morningstar %.

28. The ERP determined by Ibbotson each year.
29. The market risk premium I use for real estate is the adjusted Baa bond rate. Depending on the particular real estate investment, the bond rate is adjusted for illiquidity, management intensity versus passive, tenant strength and market risks (small market or large market). My last appraisal the Baa rate was 4.65%. The four adjustments indicated 5.50% and the discount was 10.15% (4.65% + 5.50%). Another assignment with a credit tenant and long term lease, the discount rate was 7.6% (4.6% bond rate plus 3.0% for the factors listed above).
30. The Risk Free rate that I am using in 2013 for USA is: 4% (2% - 10 year UST yields + 2% - risk factor adjusted for the inherent risk in bonds in the current economic cycle with the ultra-loose monetary policy)
31. The Risk Free Rate used is based in the 10 year Governmental Bond yield of each country at 31 December of 2012. For countries with currency different than euro, pound or dollar, I adjust the Risk Free rate to the currency risk (exchange rate and inflation forecast).
32. We continue to use what has been researched as a "long-term" MRP for New Zealand – that The risk free rate we use is determined by reference to NZ Government Stock yields for long dated (i.e. 10 years plus) bonds at any given time, depending on the valuation date we are working to.being 7.5% By way of example, a recent valuation we completed used a risk free rate of 3.67%
33. We use is the supply side Ibbotson's Valuation Yearbook at ~6.1%.
34. We use the following for 2013 calculations: Market Risk = Ibbotson = 6.14%; Risk Free = Quarterly posted 20-yr U.S. t-bill rate = 2.54%
35. We use: RFR of 5% (not market price but equities are of perpetual duration so we are uninterested in pricing cyclical moves in the yield curve)
36. With Risk up to 10% depending on the Risk , could be as low as 9% If the Risk is lowered it would fall around 7% unless it was a very strong low risk then 6%
37. MRP: usually a one-year forward consensus by economists. RFR: this one is timeline-specific, thus varies: can be 10-yr treasuries, can be 30-yr.
38. Our target equity IRR for the fund is 20%. We may aim for a higher Equity IRR (in excess of 25% for riskier investments) or slightly below 20% if we conclude that the company is rather safe and has the right size for an easy future exit.
39. Kd will depend on the size and structure of the transaction. In today´s market I would set for 6.5%-7% fixed (assuming D/E of 50/50 and Debt/EBITDA of 3x
40. 1: Ibbotson's SBBI 20-year ERP (to match the U.S. Treasury 20-year period). 2: the Prime rate 3.25% (I increase the Fed's U.S. Treasury securities 20-year daily rate to the prime rate)
41. We use SWAP curves for market risk. Then we have target "risk-adjusted return on equity" with parameters dependent on the underlying credit risk (PD, EEPE, LGD, M) as well as an operational risk component which is based on the "origination" desk. Bank is managed via a "socialization" of its cost of capital, liquidity, tax and optimization cost (ie balance sheet management). The Risk-Free rate is currently set at 0.8% compounded across duration on a risk-free curve
42. The market rate premium is generally based upon size using Duff & Phelps LLC annual study. Risk-free rate is 20 yr Tbill yield as reported by the Federal Reserve, and changes daily.
43. I don't base my equity risk premium on the risk free rate. I base my equity premium of 0.37% to the Baa yield for long term bonds, which is not the risk free rate. I consider the risk free rate to be the 30 year bond.
44. Baa yield is 4.75%. Since 1919 (where Baa data starts) Stock's earnings yield has been 0.37% more than the Baa yield. Equity premium is therefore 0.37%. Therefore, "fair value" for the S&P would be 4.75% + 0.37% = 5.12%.
45. It is better to use either the AAA Corp or the Baa Corp since companies cannot print money. Treasuries are not appropriate in my view.
46. The 30 year bond yield is 3.19%. Since 1977, the 30-year has yielded 0.85% MORE than stocks earnings yield (7.27% to 6.42%). By this metric, stocks are radically undervalued.
47. When bond yields collapse, stocks typically rally about 37-39% over the next 16 months. This would suggest 1850 on the S&P by late November.
48. In spite of low "mathematical" ERP calculated with CAPM I prefer to use a 6% ERP.I have seen that some analysts advise 5.46% and others 6.5%. For Russia, many valuators apply a Wacc of 20% since they consider talking of a risk-free rate is meaningless!
49. I look at the Philadelphia Fed's Survey of Professional Forecastors. For question one I take their median forecast of the S&P500 return over the next 10 years minus their forecast for the 3-month Tbill over the next 10 years. For question 2, it would be their forecast of the Tbill over the next 10 years. The Survey includes these forecasts once per year. I think the last time I looked the premium was around 3.0 to 3.5 %.
50. I don't have my own independent estimate. I usually use your survey. Thanks for providing this resource to the profession.

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

Fernandez, P., J. Aguirreamalloa and L. Corres (2011c), "Market Risk Premium Used in 56 Countries in 2011: A Survey with 6,014 Answers", downloadable in http://ssrn.com/abstract=1822182

Fernandez, P., J. Aguirreamalloa and L. Corres (2012), "Market Risk Premium Used in 82 Countries in 2012: A Survey with 7,192 Answers", downloadable in http://ssrn.com/abstract=2084213

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.