US Market Risk Premium used in 2011 by Professors, Analysts and Companies: a survey with 5.731 answers

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ABSTRACT

The average Market Risk Premium (MRP) used in 2011 by professors for the USA (5.7%) is higher than the one used by analysts (5.0%) and companies (5.6%).

The standard deviation of the MRP used in 2011 by analysts (1.1%) is lower than the ones of companies (2.0%) and professors (1.6%).

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 58 persons that do not use MRP, and comments of 110 that do use MRP. The comments illustrate the various interpretations of the required MRP and its usefulness.

Professors, analysts and companies that cite Ibbotson as their reference use MRP for USA between 2% and 14.5%, and the ones that cite Damodaran as their reference use MRP between 2% and 10.8%.

JEL Classification: G12, G31, M21

Keywords: equity premium; required equity premium; expected equity premium; historical equity premium

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1. Market Risk Premium (MRP) used in 2011 for the USA

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

By April 8, 2011, we had received 5,731 responses. 3,768 of these answers provided a specific MRP used in 2011.[1] 1,438 provided the MRP used in 2011 for the USA.

Table 1. MRP used in 2011: 5,731 answers

	Professors	Analyst	Companies	Total
Answers reported (MRP figures)	823	1,397	1,439	3,659
Outliers	38	12	59	109
Answers that do not provide a figure:	704	303	956	1,963
Total	1,565	1,712	2,454	5,731
Answers that do not provide a figure:				
"I think about premia for particular stocks"	137	5	*35*	177
"MRP is a concept that we do not use"			*390*	390
"I use whatever MRP is specified in the textbook"	31			31
"The CAPM is not very useful nor is the concept of MRP"	140		70	210
"I did not have to use an estimate of the MRP in 2011"	38			38
"I am an academic, not a practitioner"	17			17
"I teach derivatives: I did not have to use a MRP"	35			35
"The MRP changes every day", "weekly" or "monthly"	34	95		129
"It is confidential"		16	83	99
Use a Required Return to Equity	65	38	22	125
Use a minimum IRR	34		*236*	270
Use multiples	32	127	*89*	248
Other reasons	141	22	31	194
SUM	704	303	956	1,963

Table 2 contains the statistics of the MRP used in 2011 **for the USA**. It is worth mentioning that the average MRP used by professors and companies is higher than the one used by analysts[2]. There is a great dispersion in the MRP used by the professors of the same country.

Figure 1 is a graphic representation of the MRPs considered in table 2.

Table 2. Market Risk Premium used for the USA in 2011 by professors, analysts and companies

(%)	Professors	Analyst	Companies	Total
Average	5,7	5,0	5,6	5,5
St. Dev.	1,6	1,1	2,0	1,7
MAX	15,0	10,0	15,0	15,0
Q3	6,5	5,5	6,0	6,0
Median	5,5	5,0	5,2	5,0
Q1	5,0	4,5	4,5	4,5
min	2,0	2,0	1,5	1,5
Number of answers	514	311	613	1,438
Justify the number:				
I do not justify the number / do not answer	169	147	182	498
Books, articles, databases	341	166	555	1062
Own research/calculations	28	55	64	147
Historic Data	54	10	38	102
Experience, subjective, own judgement	52	19	23	94
Other	109	23	81	213

[1] We considered 109 of them as outliers because they provided a very small MRP (for example, -23% and 0 for the USA) or a very high MRP (for example, 30% for the USA).
[2] When a range was provided, we considered the medium point of the range.

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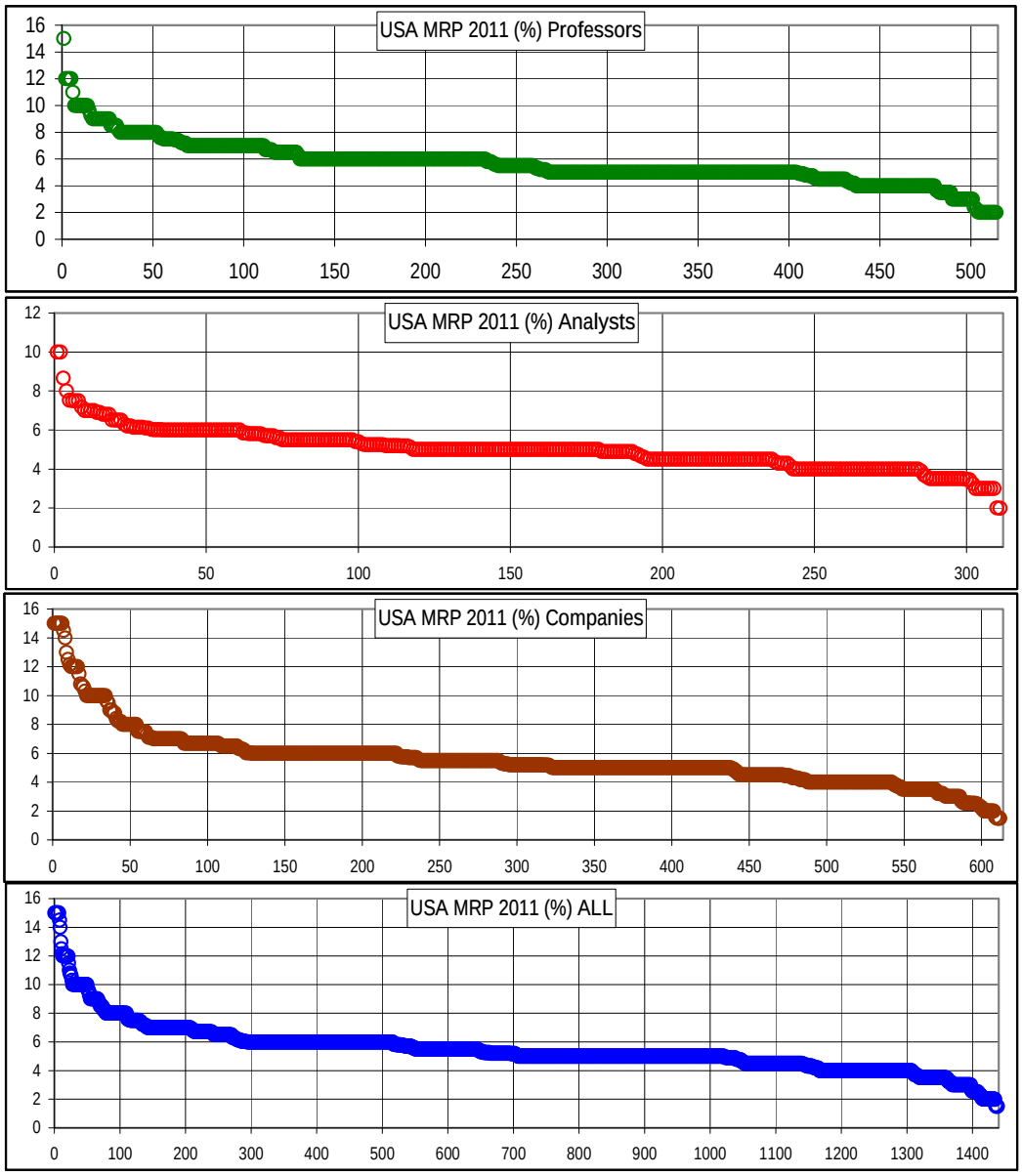
Figure 1. Market Risk Premium for the USA used in 2011



	Professors		Analyst		Companies	
(%)	2011	2010	2011	2010	2011	2010
Average	5,7	6.0	5,0	5.1	5,6	5.3
St. Dev.	1,6	1.7	1,1	1.1	2,0	1.8
MAX	15,0	12.0	10,0	10.0	15,0	11.2
Median	5,5	6.0	5,0	5.0	5,2	5.0
min	2,0	2.0	2,0	2.5	1,5	1.9
Number of answers	514	462	311	104	613	205

2. References used to justify the MRP figure

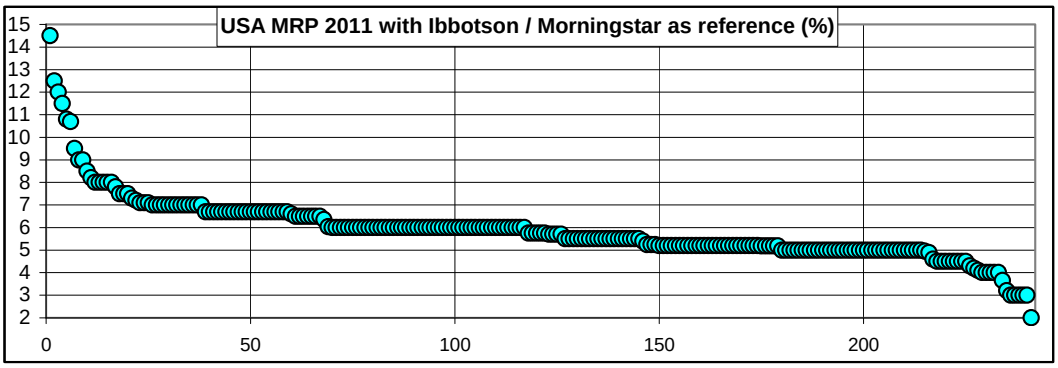
Many respondents indicated which books, papers… they use as a reference to justify the MRP that they use (330 of them provided more than a reference). **Table 3** contains the most cited references and **Figure 2** contains the dispersion of the MRP used in 2010 by the professors that cited the most popular references: Ibbotson and Damodaran.

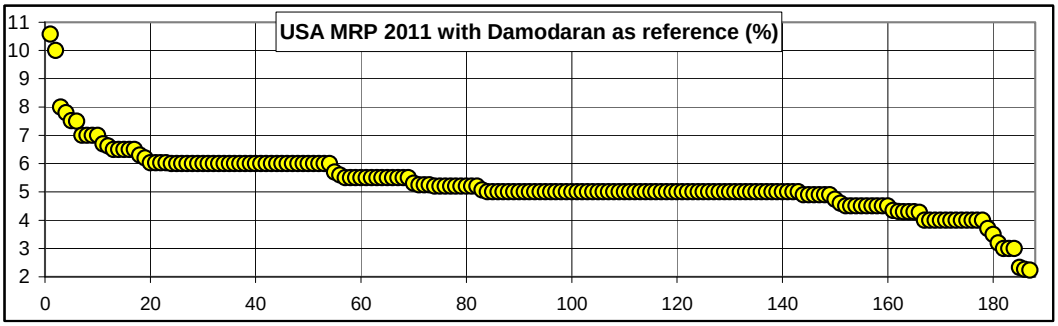
Table 3. References used to justify the Market Risk Premium

References	Professors	Analyst	Companies	Total
Ibbotson / Morningstar	50	29	162	241
Damodaran	67	26	94	187
Internal (own) estimate	14	53	50	117
Experience, subjective, own judgement	52	19	23	94
Analysts / Inv. Banks	13	17	50	80
Bloomberg	7	39	31	77
historic data	41	9	27	77
Fernandez	26	5	22	53
Duff&Phelps	2	0	31	33
Grabowski / Pratt's and Grabowski	1	5	23	29
surveys, conversations,…	11	1	14	26
DMS	13	1	11	25
Mckinsey, Copeland	5	4	13	22
Brealy & Myers	14	2	5	21
Ross/Westerfield	13	0	1	14
Fama and French (2002)	10	0	3	13
CFA books	2	4	5	11
Others*	134	36	115	285
I do not justify the number / do not answer	169	147	182	498

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

Figure 2. Dispersion of the MRP used in 2011 for the USA by the professors, analysts and companies that cited the most popular references: Ibbotson / Morningstar and Damodaran.





3. Comparison with previous surveys

Table 4 shows the evolution of the main statistics of the previous surveys (Fernandez et al, 2009, 2010a and 2010b) and this one.

Table 4. Market Risk Premium used for the USA in 2011, 2010, 2009 and 2008

		Professors	Analyst	Companies
2011	Average	5.7	5.0	5.6
2010	Average	6.0	5.1	5.3
2009	Average	6.4	5.5	5.5
2008	Average	6.3		
2011	St. dev.	1.6	1.1	2.0
2010	St. dev.	1.7	1.1	1.8
2009	St. dev.	2.4	1.3	1.8
2008	St. dev.	2.2		
2011	Median	5.5	5.0	5.2
2010	Median	6.0	5.0	5.0
2009	Median	6.0	5.0	5.5
2008	Median	6.0		
2011	Respondents	514	311	613
2010	Respondents	462	104	205
2009	Respondents	448	99	189
2008	Respondents	487		

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.[3] 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%.

Table 5 compares the main results of Ivo Welch with some results of table 4.

Table 5. Comparison of previous surveys with this one

	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

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

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%.

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

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

Ilmanen (2003) argues that surveys tend to be optimistic: *"survey-based expected returns may tell us more about hoped-for returns than about required returns".* Damodaran (2008) points out that *"the risk premiums in academic surveys indicate how far removed most academics are from the real world of valuation and corporate finance and how much of their own thinking is framed by the historical risk premiums... The risk premiums that are presented in classroom settings are not only much higher than the risk premiums in practice but also contradict other academic research".*

The magazine *Pensions and Investments* (12/1/1998) carried out a survey among professionals working for institutional investors: the average EEP was 3%. Shiller[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 Industry Association (SIA) found that the median EEP of 1500 U.S. investors was about 8.3%. Merrill Lynch surveys more than 300 institutional investors globally in July 2008: the average EEP was 3.5%.

A main difference of this survey with previous ones is that this survey asks about the **Required** MRP, while most surveys are interested in the **Expected** MRP. Exhibits 2 and 3 contain comments from 168 respondents.

4. 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

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

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

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

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.

5. Relationship of the results of the survey with the recommendations of finance textbooks

Fernandez (2009b) reviews 150 textbooks on corporate finance and valuation published between 1979 and 2009 by authors such as Brealey and Myers, Copeland, Damodaran, Merton,

Ross, Bruner… and finds that their recommendations regarding the equity premium range from 3% to 10%, and that 51 books use different equity premia in various pages. **Figure 3** contains the evolution of the Required Equity Premium (REP) used or recommended by the books, and helps to explain the confusion that exists about the equity premium.

Figure 3. Evolution of the Required Equity Premium (REP) used or recommended in 150 finance and valuation textbooks. *Source: Fernandez (2009b)*

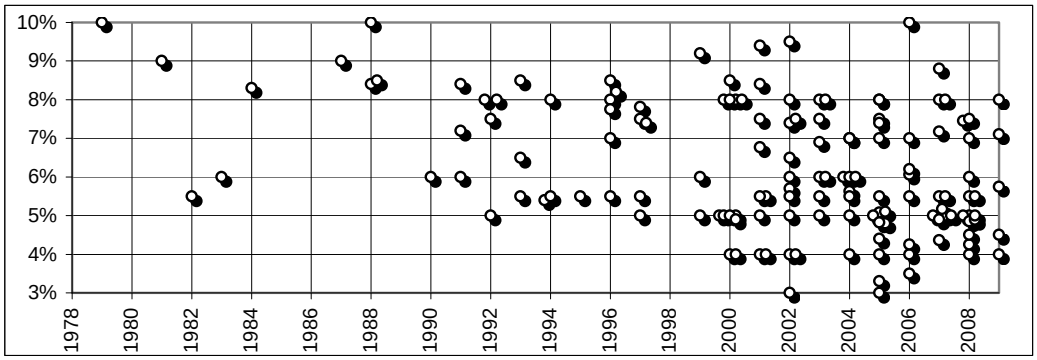
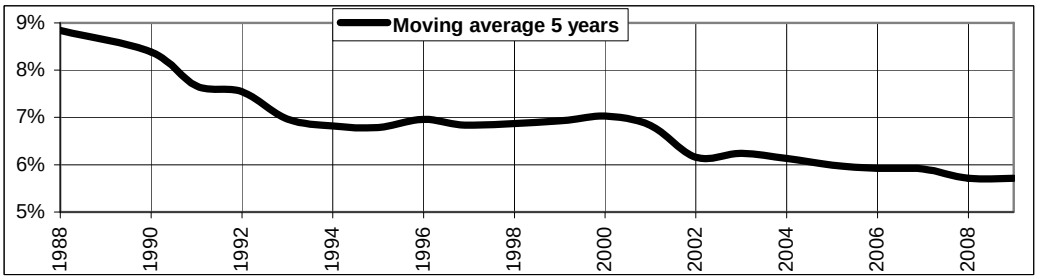


Figure 4 contains the moving average of the recommendations in Figure 5 which is in line with the findings of Welch (see table 9) and with the results of this survey: the 5-year moving average has declined from 8.4% in 1990 to 5.7% in 2008 and 2009.

Figure 4. Average of the Required Equity Premium (REP) used or recommended in 150 finance and valuation textbooks. *Source: Fernandez (2009b)*



6. Conclusion

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

The average Market Risk Premium (MRP) used in 2011 by professors for the USA (5.7%) is higher than the one used by analysts (5.0%) and companies (5.6%).

The standard deviation of the MRP used in 2011 by analysts (1.1%) is lower than the ones of companies (2.0%) and professors (1.6%).

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 58 persons that do not use MRP, and comments of 110 that do use MRP. The comments illustrate the various interpretations of the required MRP and its usefulness.

There is a lack of consensus among professors, analysts and companies about the magnitude of the MRP for USA: the dispersion of the MRP used is high.

There is also a great dispersion in the MRP used even if it is justified with the same reference. Professors, analysts and companies that cite Ibbotson as their reference use MRP for USA between 2% and 14.5%, and the ones that cite Damodaran as their reference used MRP between 2% and 10.8%.

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

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

This survey links with the *Equity Premium Puzzle*: Fernandez et al (2009), argue that the equity premium puzzle may be explained by the fact that many market participants (equity investors, investment banks, analysts, companies…) do not use standard theory (such as a standard representative consumer asset pricing model…) for determining their Required Equity Premium, but rather, they use historical data and advice from textbooks and finance professors. Consequently, ex-ante equity premia have been high, market prices have been consistently undervalued, and the ex-post risk premia has been also high. Many investors use historical data and textbook prescriptions to estimate the required and the expected equity premium, the undervaluation and the high ex-post risk premium are self fulfilling prophecies.

EXHIBIT 1. Mail sent on March and April 2011

We are doing a survey about the Market Risk Premium (MRP) that companies, analysts and professors use to calculate the required return to equity in different countries.
We will be very grateful to you if you kindly reply to the following 3 questions.
Of course, no companies, individuals or universities will be identified, and only aggregate data will be made public.

Best regards and thanks,
Pablo Fernandez
Professor of Finance. IESE Business School. Spain
http://www.iese.edu http://ssrn.com/author=12696

3 questions:

1. The Market Risk Premium that I am using in 2011 for my country _____ is: _____%

2. The Market Risk Premium that I am using in 2011 for USA is: _____%

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

Comments

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

1. As a Marxist political economist and philosopher, I find it unethical to practice such thinking in my personal and professional life.
2. US valuator. Your question is too general: it demonstrates that you don't understand how it is determined. The MRP is the systematic portion of risk in excess of the risk free rate, and is made of a large company risk premium and a small company risk premium, both of which are systematic, determined from the market. Added to these is the unsystematic risk premium of the specific company risk for the nuances of the particular company you are looking at.
3. US appraisal firm: A fee is required.
4. I cannot answer because I work in a constant "time condition shortage"

5. As far as I know the MRP in any country depends on the particular industry examined. For instance, there is a different market risk for construction industry than for electronics or automobiles etc.
6. Factoring the recent movement and rotation of/in the market, coupled with the methodologies available one may be better off using astrology as astrology too uses maths.
7. I put all my money in the CD at US banks.
8. I use 10% as a standard discounting rate but then I apply a margin of safety specific to the company situation.
9. We don't generate estimates of equity risk premia. While this may be an interesting theoretical exercise for academic purposes, it has no or extremely limited use for a practitioner. Furthermore, forecasting one year returns or risk premiums for any market is in our view an exercise in futility and hubris.
10. We invest when we believe a security can be bought at a reasonable price and offers a good prospect of return and a margin of safety. We believe that is what all investors should be doing.
11. My guess is that your survey results will suffer immensely from an anchoring bias. Virtually everyone has been told to believe that the long-term equity risk premium is somewhere between 3% and 6%, and many people blindly rely on such numbers from "articles or books" without understanding or appreciating how it impacts their decision making.
12. As for the US equity markets in aggregate (leaving aside individual securities), they are overvalued and our estimates of stock market investment returns over the next 7 years is that they will be roughly zero in real terms. You can flip the sign on whatever you believe the risk-free rate of return is to figure out what equity risk premium that implies.
13. CAPM is not a tool we use in our distressed fund. Required return is very situation specific and jurisdiction is but a small part.
14. I do not use a MRP; certainly not one that conjoins with the CAPM model.
15. We do not use the DCF methodology any longer to evaluate transactions. We generally utilize multiples of adjusted EBITDA as banks follow the same route
16. I don't model in such a sophisticated way... looking at actual companies' prospects the risks of everyday life are bigger by far than such risk premia. The share price ratings are subjective.
17. I do not "use" a MRP for 2011 and future years.
18. US Professor. You might be much better served by using something like Survey Monkey, Qualtrics or Survey Gizmo to gather these responses. All of these offer free web-based surveys (each offers different features, and also offers some paid services), and you won't have to hire anyone to do your data entry.
19. US Bank. We are not allowed to hand out such information.
20. US Consultant. We use the data from Morningstar and Duff & Phelps. I have not yet received the Morningstar yearbook, so I am unable to comment for 2011 at this time.
21. The new Ibbotson book is not out yet so we are still using 2009 data.
22. I work at a quant firm and don't make explicit MRP assumptions for our analysis.
23. Bank: I do not apply MRPs as I consider these risks to be diversifiable.
24. Consultant: we don't calculate 1 year MRP's, only for longer forward looking time periods.
25. US Professor. After 10+ years of ups and down (net down) in the US stock market it is hard to justify the previously conventional 8%. I have no idea what the risk premium is or even if it is meaningful in any practical sense.
26. This is not a significant consideration in the deals I am involved in: almost all of the transactions are in the lower end of the middle market and involve a strategic buyer.
27. The answer to all 3 questions is "I haven't the slightest idea".
28. I belong to the camp that despises the "pump and dump" of models of risk or anything else for that matter, and belong to the lateral thinking qualitative camp.
29. I do not use a MRP in my calculation of required return to equity.
30. I am a PhD economist and do a lot of benefit-cost analysis of social programs. But I have no idea what you mean by MRP. That may be the term used in financial market analysis but it is not a correct English translation of any of the terms I use related to discounting and the risk premium included in selecting a discount rate for public investment (which relates to whether the particular government program offers a larger or smaller return when the economy is bad & unemployment is high).
31. The premise of one standard figure is wrong for me. It all depends on stage and sector, regulatory issues and capital intensity.
32. US bank. We do not have any international business, therefore, we have not used any MRP.
33. I do not use the MRP because I do not use the CAPM to compute the cost of equity. I rather use a model based on volatility to compute the cost of equity capital, as I believe non systematic risk also has to be rewarded. In respect of market risk, I would use the same model based on volatility. This also means that diversification is creating value, lowering risk and the cost of economic capital. The results I get are about 150 to 200bp above the classical CAPM computation for the cost of equity capital of a stock. I am certainly

not alone as banks and insurance companies who use economic capital recognize the value of diversification in their portfolio

34. We are advocates of Fama-French methodologies so do not use this approach for investment decisions.
35. I don't use MRP at all... and I doubt that other Venture Capital Firms do (VC is different than PE)!
36. I use a MRP combined with a size premium. The premium is basically different for different size companies. This combined premium is obtained from Duff & Phelps Risk Premium Report.
37. I currently use the Chance of a Loss model.
38. We have found that risk premiums suggested by the CAPM are too low to meet the returns demanded by our investors, which tend to be in around 30% per annum. While we do not achieve such equity returns consistently (in fact, less than half of our deals meet achieve this IRR), we nonetheless target such returns when making investments.
39. All of our investments are risk adjusted based upon the asset – the only time country specific factors come into play are when there are local regulatory issues or "banking" issues – which either would impact the commercialization of a healthcare product or the ability to "export" funds generated in that county. The risk premium we generally use adds up to a discount of 20-30%
40. Achieving a return on equity of greater than 18% in North America is going to be a challenge due to the position of the global economy generally speaking.
41. US Professor. I believe MRP amounts to a guess that doesn't really assist long-term investors
42. These questions are not directly answerable. I do not use some cookie cutter rate for anything.
43. Who knows. Question is entirely speculative.
44. I consider that those Premiums are not static data but are moving with the market valuation and anticipation. Those questions seem irrelevant according to my use and understanding of the concepts. I will be glad to receive your study on this subject.
45. I use biotech discount factors relevant to the science Biotech companies in my universe are not correlated to the variations of the economy
46. I use my endogenous data-sets so that it is difficult to directly compare your MRP with my indicators relying on the measure of the differences between actual and endogenous data
47. Depends on the property type, I generally use the variance between Junk bond rates and the corresponding time period equity return rates in a cap rate.
48. I reflect country premiums in the risk free rate used based on bond yields
49. We have a value investor discipline and use one discount rate for all companies during all time periods. During certain periods we demand more margin for safety than others so we expect a larger gap between the value and fmv.
50. When I use the Duff & Phelps data, the risk premium is based on size so it varies based on the company.
51. We customize each return to equity based on the specific company, so I'm not comfortable sending a generalized percentage
52. We are a US based lower middle market PE fund investing in the US. We are requiring an absolute return on invested capital of 20%, with a minimum expected multiple of invested equity of 2.0x.
53. We do not use a MRP in our group, preferring to do portfolio valuation instead of beta-based
54. Market risk depends on the industry. We don't use standard numbers
55. We are a venture capital firm. Our risk premium is huge and does not change with short term market fluctuations.
56. I do only small business and don't use a build up MRP
57. Sitting in the US I only invest in non US dollar secuities when (1) the investment environment in the US is poor, or (2) the currency risk vis-a-vis the US$ is nil.I account in the purchasing power of the US $ and my research risk increases the further I drift away from the accounting rules and regulatory rules with which I am familiar.
58. After 20 years as an analyst I believe that valuations must be based on reasonable PE multiples, so when I am forced to use a DFCF I adjust the assumptions to get a PE at target that makes sense

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

1. Just tradition, really
2. History, history, I know forecasters are using 5-6%, but the unknown is also forecast with a systemic risk, at least 2%
3. I can tell you are an academic. In the real world of business sales, very few buyers consider risk premiums, but rather think in terms of required rate of return given the risk of the business. I handle small to low end middle market businesses in both my business brokerage practice as well as my business valuation practice. In this market no one thinks in terms of premiums. In reality, the range of required rates of return have not changed significally in 20 years. Just because the risk free rate changes, it does not imply that the overall rate of return for the acquisition of businesses will change. To calculate the risk premium is an academic exercise to support the final rate.
4. US equity risk premium of 6.0% plus size premium which ranges from -0.38% to +6.36%
5. My assessment of MRP is the result of observation of market performance over time (short to medium term) and the size of the return on other investment types including government and corporate bond yields and rental yields.
6. The figures I currently use are at best educated estimates and I cannot back them with any specific financial model or theory.
7. Shiller earnings yield minus rate on long-term TIPS
8. I am of the opinion that whatever risk premia is used today, the resulting output will be skewed due to the current interest market and outlook. Hence I decided to use the long-term mean as a overlay to my portfolio return estimates.
9. It's my view that the MRP is unknowable with any precision beyond + or minus 5% around 6%
10. Arithmetic mean annual historical risk premium is higher, and the 85-year geometric mean is lower. I tell my students that 7% is a rough estimate of the geometric mean risk premium for medium-term projects (e.g., 10 years).
11. Since the risk free is low, the slope with the efficient frontier is higher: The probability of an increase in risk free rate is very high...
12. The number I use for MRP is based on conversations with local analysts at Merril Lynch.
13. I started to ask my MBA students to read your risk-premium papers. At least they demonstrate that ... we all tend to disagree
14. Basically the average dividend yield on the S&P and the Dow plus a 3% GDP growth rate less the two year Treasury yield
15. My students are allowed to use any risk premium metric as long as they can justify why they think it is most appropriate. We walk through historical risk premium data and calculations as well as the historical implied risk premium calculated by Damodaran.
16. I believe it is lower than it was 50 years ago, in general
17. According to French website, MRP in January 2011 is 2.05%. For the last 3 month 9.64%; for the last 12 month 24.47%.
18. I think the low risk-free interest rate in USA will persist for a while
19. I feel that the risk premium that I use should go up, but I am hesitating to do so, since the risk premium should reflect a long term orientation.
20. I computed average excess returns for a set of countries as a starting point. I then made some "judgment calls." I have to admit my 95% confidence interval is rather large
21. Gut feel on this one. I use a range generally of 3%, when things are going great, to 5%, when things seem to be going poorly. I'm somewhere in the middle during the present time.
22. Most major text books refer to Roger Ibbotson's as a basis for the 5%. There are several arguments which would lead to adjustments, but most are just splitting hairs. The reality is that it is just a guess which only has value in the long run.
23. I do not attempt to justify the MRP as it is based on CAPM which I think is irretrievably flawed as a method for determining the cost of capital
24. I found the compound average annual growth rate of total return on S&P 500 from 1 January 1871 through 31 December 2010 to be 8.92%. I also found the current (yesterday) rate on 10-year government bond to be 3.33%.
25. The 9% risk premium is based on the average annual spread for the last 80 years between the return on the Standard and Poor 500 returns and the 90 day US Treasury bill return. There are, not surprisingly, several caveats with using this measure. First, it is definitely ad hoc. Second, it is but the average, and there have been large variations in this spread over time. Third, a good argument could be made that the relevant risk free rate could better be approximated by a longer term Treasury security, such as the 10 year T bond rather

than by the 90 day T bill rate. In that case, the risk premium would shrink to approximately 6%. However, if one were to be consistent in its usage, then the 9% spread should provide an acceptable estimation. The problem would still remain, however, that such a spread would be but an average which is subject to wide variation over time.

26. I usually stress the importance of trying different scenarios to my students (a sensitivity analysis). But I usually use a RP between 6% and 7.5%
27. I tell my students that 4-8% is a reasonable risk premium, based on historical data. But when the market appears grossly overvalued (e.g., 2000), you can argue for a MRP as low as 2%, and when we are having a financial panic (e.g., 2009) and AAA-rated bonds are yielding 8% over the riskless rate, you can argue for a much higher MRP.
28. I rely heavily on Damodaran's work and his definitions of the various types of MRPs, i.e. implied, historical, etc
29. My logic continues to be a long-term historical average. However, as diversification opportunities are much better today than in the past I believe the MRP should be lower today than in the past. As forward-looking premium seems to be lower than 5% I am tempted to lower my MRP to 4% ... but I have not yet done it.
30. I only use a number so that I can show the calculations.
31. I use an implied cost of capital based on a residual income model and analyst forecasts of earnings. The 5.3% yields approximately half the firms as over valued and half the firms as under valued, as of today.
32. I do this only with students, not for firms or as a consultant, I make my students decide, requiring them to have a positive MRP in the SML
33. Is used as the long run risk premium by several of the big 4 auditor firms when they value firms
34. I am slightly familiar with the research reports of Dimson, March and Staunton (2002) and Ibbotsen & Associates' publication Bonds, Bills, Stocks and Inflation (sic). In this data, DMS have calculated the 1900 to 2006 average annual return for U.S. common stocks (I do not know what index or sample size they used) as being 11.7% against an average annual return for long-term government bonds of 5.2%, so this Marlet Risk Premium would be about 6.5%.
35. I require an anticipated 4% real rate of return. I think that bond yields are excessively low right now, so I do not go for a certain premium over current bond yields
36. Economic fundamentals would suggest GDP growth + Inflation + perhaps 1%
37. I'm not particularly satisfied with what I use, and am always, always looking for a better answer, particularly when it comes to calculating the WACC for an international subsidiary
38. The MRP Is currently higher than its historical norm due to a low interest rate environment and uncertainties in financial markets.
39. U.S. Market rates are a total mess at this point in time. Federal Reserve Policy has pushed the interest rates very low. Quantitative Easing and other policies make the traditional relationship in the rate structure somewhat uncertain.
40. As we become ever more connected globally we are all more likely to experience system shocks together. Also, the U.S. and regulators have not handled the “too big to fail” problem, so the moral hazard risk is still high and perhaps even increasing, rather than decreasing. One questions whether a 4% or even higher risk premium is enough enticement to commit much to the markets, given the potential volatility due to endogenous risk.
41. I think we are in a converging 'developed market' world where global investment flows 'tier' market premiums in a range from 4-10% (the latter for the most weakly structured emerging or developing markets). With macro funds able to move money around the globe so quickly, it suggests a convergence of like typed markets.
42. I use 5.7%, because that is the rate you found.
43. We have to inflate our way out of the current mess and that is why I am persuaded to use the above rates.
44. As the models are variations of what have become standard valuation formulations (Gordon constant growth DDM, plowback, and adjusted E/P with PVGO adjustment to find real Ke proxy), citing a specific book or article(s) seemed inappropriate. Although on the list might be the now large body of literature on implied cost of equity. Let me know if you want more detail.
45. Just standard formula for ERP calculation
46. We have vociferous arguments internally about whether should use anything from 4% to 5%, frankly it doesn't really matter provided you're comparing like with like and the assumptions are explicit
47. I want a minimum return from equities of 8%, coupled with a margin of safety. The bond yield is an irrelevance. Its the return that matters. The rest is pseudo science, and given I read your stuff I suspect you think the same.
48. USA s&p index market performance for 2011 is targeted at 11% (Based on a 15 PER ratio). Minus Risk free rate for 2011 (10 yr note estimated at 3.5%) = 7.5%
49. I just rely on my own sensitiveness on what the appropriate risk premium should be
50. Historical studies of beta, excess return of Equities over bonds are of historical interest only.Key is what excess return an Investor putting Money into Equities today is targeting/expecting on their Money – not what they eventually receive

51. We typically use 4-5% across all geographies. Disclosure rarely allows to run a DCF for each country/region. And in many cases business risk seems more important than geographic risk.
52. It would be useful to try and determine what a "perceived MRP" in addition to the actual MRP, based on rigorous mathematical calculations. My experience is that investors are often wrong because of the short term nature of their views, and that this may be due to a "perceived" short term view of what the risk premium in the market may be.
53. MRP based on value widely used by market analysts, adjusted for perceived change in investor risk appetite.
54. After finding out that a capital budgeting's NPV is more afected by the volatility of the FCF than by the choice of discount rate, I don't care too much about what the market premium is. The typical sales forecast error is 10%. This has more impact on NPV than a difference of 1% in the cost of capital.
55. Note that the Ibbotson supply side is close to the mid-point between the historical ERP of 6.7 from 1926-2010 and the historical ERP of 4.4% from 1963-2010
56. We use a MRP over the risk free rate (usually the US 20 year government T bill rate) and then account for the large cap risk and the small cap risk using Ibbotson data or just the market risk as calculated by Duff & Phelps (Grabowski). The risk free rate is around 5% and market risk is usally around 12% for a total of 17%.
57. My sense is that the MRP may increase slightly as we move through 2011 because of: i) increasing economic uncertainty resulting from geopolitical risks in the Middle East and the affects of the disasters in Japan; ii) rising oil/fuel and food prices; iii) foreign and domestic debt concerns; and iv) drag from continuing high unemployment/falling consumer sentiment
58. Typically would then add a premium above the calculated rate based on the size of the companies we are analyzing vs. the large cap companies used to calculate the 6.7%
59. The range is 5 to 7%. this is before any small stock premium consideration. Also in process of review with new Ibbotson data
60. Estimates range from 3 to 4% across various market cycles and markets. I use the upper end.
61. My MRP is based on my own research of historical MRPs. It is based on the average MRP over a 20-30 year period in order for the average premium to stabilize. In 2009, the average was 5.5%. I also average the rolling "average premiums" over the last 5, 10, 15, 20, 25 & 30 years to investigate the trend and compare to the last year's (2009 average) 20-30 year premium.
62. If there is not an extra 15% available return for an equity venture, the potential is too low.
63. Up to this point we have typically used Ibbotson's supply-side ERP for our domestic valuations. This will be updated as the year-end 2010 data comes out shortly. Although we favor using Duff & Phelps Study for the size premiums, we do calculate the Cost of Equity using multiple approaches and make our determination after evaluating all of the results.
64. I say approximately 11% since I use Ibbotson Equity Risk Premium of 7.1% plus the U.S. 20 year treasury yield on the valuation date as the Risk Free Rate. I know many people use a flat "market rate" reflecting both components in one rate.
65. My definition of long-term MRP is: The difference between the expected return on a market portfolio and the risk-free rate. The bond market has historically paid a 5% return in the US. The stock marker has paid 10% over the last 100 years in the US.
66. We use a proprietary model based on general bond pricing theory to price our investments and a component of that model generates a risk premium based on several research sources. The risk premium component of the model includes a risk-free rate (LIBOR swap curve), equity return requirements and capital allocation requirements
67. My interpretation of this is as a 10-year approach, thus expecting US stocks outperforming risk free treasuries by at least 1.6% annually over the next 10-years.
68. Generally we are ok with a rang from 4.5% to 6%. While we refer to Damodaran calc. Hostorically we have not directly relied on it
69. General sense that ERPs have come down over last decade or so although recent volatility arising from the financial crisis may have negated that…longer term outlook of further lowering of ERP by 0.5%.
70. Keep in mind that MRP is the systematic or non-diversifiable risk. The Equity Risk Premium for a particular company will not necessarily be the same as the MRP
71. I look at risk premiums by sector not country, and reflect country premiums in the risk free rate used based on bond yields. I reflect volatility by beta. I look forward to receiving the results of the anonymous survey
72. I also use firm specific risk. specific company risk is a judgment call based on the subject company
73. I suspect those numbers overstate the premium that equity investors will actually receive over the next 20 years. I also believe that the consensus will move to give more weight to GM history in required return assessments.
74. Based on feedback from market participants.
75. Various publications show a long term premium of 7%, although I think this should be increased with the higher likelihood of crashes.

76. We use the Duff & Phelps Risk Premium Report currently developed by Roger Grabowski to determine an appropriate MRP based on the appropriate size portfolio.
77. I don't invest this way (using rates derived from historical time series data and CAPM). I use a project specific discount rate depending on a number of factors especially including expected growth in cash flows due to local and national market fundamentals.
78. We usually put 30% on it. The high number is due to the fact we invest in the private company in growth stage.
79. For general academic exercises I use 8%.
80. These numbers are results of proprietary models of my company.
81. Difference between long-run expected equity risk premium, using S&P total returns less 30-day Treasury bill total returns.
82. From different publication source and historical one, could not remember which one
83. I prefer to spend time on the forecast than the discount rate! Value is more sensitive to the first than the second
84. The MRP should be above the risk free rate. That was the only criteria. I did not consult any books. Risk premia changes with business cycles also
85. I use more aggressive risk for vacant land than for improved properties due to greater uncertainty and lack of available financing. For improved properties from $100-300,000, retail, commercial zoning, I might use a 15% AS MOST-PROBABLE. For high value properties (over $300,000) or more complex units, greater risk is considered
86. I use a fixed WACC for valuation purposes (EVA/DCF) of 9% in order to hold on to a long term consistent valuation system. I am not using the company specific system and actual interest rate based system in order to avoid incidental low wacc rates that companies are sometimes using /misusing by creating too low and temporary rates. On average the 9% wacc rate is built up by the risk free rate of 4% and premium of 5%
87. Our 14% is established as a premium to the current risk-free rate of 3.25%. We feel equity investors desire 10 to 11 points of premium above long-term US Treasuries to compensate for the risk inherent in owning financial institutions. Yes, this risk acceptance varies from company-to-company- we follow a fair number of mid-sized and smaller financial institutions who have concentrated loans and relationships that we feel demand a healthy premium. Some large-capitalization stocks may be far more diversified and could require only 5 to 6 points (or 5% to 6%) premium, but this is the exception.
88. We used a 5.75 USA CRP based on an internal committee.
89. We don't vary it year by year (we don't normally change the estimates and we think along market cycles when estimate risk premia).
90. For non-US cost of capital I use a 4%,ERP based on Damodaran's survey article and the literature referenced there.
91. I do not use a MRP in my analysis. I largely *pick* a discount rate that I wish to earn and do not base it upon relative measures. That said, I have adjusted my desired rate of return downward to reflect my expectation of muted overall market returns in years to come due to expected rising interest rates and inflation. I am currently estimating 9% as my benchmark desire return for equities. Riskier equities may get higher required returns.
92. I use 5% historical ERP for US market as a base (arithmetic average premium of equities over bonds in last 50 years). I then add credit default spread price for particular country, or better difference between sovereign CDS price of particular country to CDS price of US. Because it reflects only sovereign bond risk I multiple this number by coeficient 1,5x (assuming 50% higher riskiness of equity market vs. bond market).
93. Volatility is a big deal right now. So my risk numbers are large.
94. I use the geometric (annually compounded) average over an investment horizon of twenty years, generally; but again, depending on the age of the company, whether it has reached a steady state of operations or not, and the general economic conditions at the appraisal date, that may chance from one assign-ment to the next. I do not have a predetermined figure to use in all cases.
95. None -- I just want something that is easy for my students to use in calculation.
96. I discount revenue streams - usually at 15%...occasionally 12 or 15%
97. If I may mention, a bigger challenge is the terminal growth rate "g". Most in the region use 3% which does not make sense to me. Was wondering if you have looked into this also?For countries with Real GDP growth of 6% and inflation of 6-7%, using 3% growth means negative real growth. Why run the business then? It has to be atleast 0% in real terms.
98. Reported size premia are based upon historic, so applying them to supply side is inconsistent. But I do believe that historic probably overstates reality. Let's face it. The academic disputes over the right ERP are interesting, but especially for small private companies, the potential error arising from misestimated ERP is a minor element in the overall cost of equity and is generally dwarfed by the potential errors in estimating future financial performance.
99. Additional risk premiums include: Small Stock Premium; Industry Specific (not always); and Company Specific Risk Premium.

100. Depends on the purpose. If the firm is highly leveraged, then assuming all equity firm may not be relevant and a WACC adjusted for pension risk might be more appropriate
101. Practical experience as an adviser to large financial institutions over 30 years
102. Much of it is just guesswork, nevertheless I find it more important that one either takes a consistent level for the premiums across the companies or focus on a WACC which is consistent with what the companies say
103. Currently we use the equity risk premium (ERP) of 5.2% based on the long-horizon expected equity risk premium from 2010 Ibbotson Associates Stock, Bonds, Bills and Inflation Valuation Edition. The ERP will be updated when the 2011 Ibbotson book coming out next month.
104. I believe that investors are more risk averse than five years ago.
105. I use Vector Vest to do the selections
106. Shareholders have been right all along – there is a lot of risk out there in the fat tails.
107. Risk Premiums have risen somewhat in the last 3 years.
108. On top of that we apply beta (relevered) parameter according to CAPM model and reflecting sector and company specific risk.
109. For the USA , -3.9% is the estimate for the last decade by CREDIT SUISSE GLOBAL INVESTMENT RETURNS YEARBOOK 2011
110. Supply side equity risk premium is the expected future returns in excess of the risk free rate that investors expect to receive by investing in a broad index of common stocks, such as the S&P 500 stock composite average. Long-horizon expected equity risk premium (supply side) is defined as the historical equity risk premium (large company stock total returns minus long-term government bond income returns) minus price-to-earnings ratio calculated using three-year average earnings.

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