

**MARKET RISK PREMIUM USED IN 82 COUNTRIES IN 2012:
A SURVEY WITH 7,192 ANSWERS**

Pablo Fernandez

Javier Aguirreamalloa

Luis Corres

MARKET RISK PREMIUM USED IN 82 COUNTRIES IN 2012: A SURVEY WITH 7,192 ANSWERS

Pablo Fernandez¹

Javier Aguirreamalloa²

Luis Corres³

Abstract

This paper contains the statistics on the equity premium, or market risk premium (MRP), used in 2012 for 82 countries. We got answers for 93 countries, but we only report the results for 82 countries with more than five answers.

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

JEL Classification: G12, G31, M21

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

¹ Professor, Financial Management, PricewaterhouseCoopers Chair of Finance, IESE

² Lecturer, Financial Management, IESE

³ Research Assistant, IESE

MARKET RISK PREMIUM USED IN 82 COUNTRIES IN 2012: A SURVEY WITH 7,192 ANSWERS

1. Market Risk Premium (MRP) Used in 2011 in 56 Countries

We sent a short e-mail (see Exhibit 1) in May and June 2012 to about 21,500 e-mail addresses of finance and economics professors, analysts and managers of companies obtained from previous correspondence, papers and company and university websites. We asked about the market risk premium (MRP) used “to calculate the required return on equity in different countries.” We also asked about “books or articles used to support this number.”

By June 12, 2012, we had received 6,308 specific MRPs used in 2012.¹ Another 884 persons answered that they did not use an MRP for different reasons (see Table 1). We would like to sincerely thank everyone who took the time to answer.

Table 1

MRP used in 2012: 6,014 answers

| | Professors | Analysts | Companies | Financial companies | Total |
|---------------------------------------|--------------|--------------|--------------|---------------------|--------------|
| Answers reported (MRP figures) | 1,611 | 1,609 | 1,901 | 1,107 | 6,228 |
| Outliers | 18 | 2 | 53 | 7 | 80 |
| Answers that did not provide a figure | 202 | 101 | 246 | 335 | 884 |
| Total | 1,831 | 1,712 | 2,200 | 1,449 | 7,192 |

Answers that did not provide a figure:

| | | | | | | |
|---|-----|-----|--|-----|-----|-----|
| Use a minimum IRR | 12 | | | 10 | 107 | 129 |
| Use multiples | 26 | 27 | | | 67 | 120 |
| “MRP is a concept that we do not use” | | | | 97 | 22 | 119 |
| Use a required return on equity | 7 | 16 | | 9 | 33 | 65 |
| “Confidential. We don’t disclose the assumptions” | | 16 | | 2 | 30 | 48 |
| “The CAPM is not very useful” | 7 | | | 22 | 18 | 47 |
| “I think about premia for particular stocks” | 16 | 5 | | 9 | 15 | 45 |
| “I teach derivatives: I did not have to use an MRP” | 43 | | | | | 43 |
| “I use whatever MRP is specified in the textbook” | 16 | | | | | 16 |
| “The MRP changes every day,” or “monthly” | 2 | 9 | | | | 11 |
| “In my teaching I only use hypothetical numbers” | 5 | | | | | 5 |
| “I am an academic, not a practitioner” | 5 | | | | | 5 |
| Other reasons | 63 | 28 | | 97 | 43 | 231 |
| SUM | 202 | 101 | | 246 | 335 | 884 |

Table 2 contains the statistics on the MRP used in 2012 for 82 countries. We got answers for 92 countries, but we only report the results for 56 countries with more than six answers.² Fernandez et al. (2011a)³ is an analysis of the answers for the United States; it also shows the evolution of the market risk premium used for the United States in 2011, 2010, 2009 and 2008

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

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

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

according to previous surveys (Fernandez et al., 2009, 2010a and 2010b). Fernandez et al. (2011b)⁴ is an analysis of the answers for Spain.

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

Table 2

Market risk premium (%) used for 82 countries in 2012

| | Average | Median | St. Dev. | Min. | Q1 | Q3 | Max. | Number of answers | Max.-Min. |
|----------------|---------|--------|----------|------|-----|------|------|-------------------|-----------|
| United States | 5.5 | 5.4 | 1.6 | 1.5 | 4.5 | 6.0 | 15.0 | 2,223 | 13.5 |
| Spain | 6.0 | 5.5 | 1.6 | 3.0 | 5.0 | 6.3 | 15.0 | 958 | 12.0 |
| Germany | 5.5 | 5.0 | 1.9 | 1.0 | 4.5 | 6.0 | 17.0 | 281 | 16.0 |
| United Kingdom | 5.5 | 5.0 | 1.9 | 1.5 | 4.5 | 6.0 | 22.0 | 171 | 20.5 |
| Italy | 5.6 | 5.5 | 1.4 | 2.0 | 4.8 | 6.1 | 10.0 | 120 | 8.0 |
| Canada | 5.4 | 5.5 | 1.3 | 3.4 | 4.7 | 6.0 | 10.5 | 94 | 7.1 |
| Mexico | 7.5 | 6.8 | 2.6 | 3.0 | 6.0 | 9.0 | 20.0 | 87 | 17.0 |
| Brazil | 7.9 | 7.0 | 4.7 | 1.8 | 5.3 | 8.6 | 30.0 | 86 | 28.2 |
| France | 5.9 | 6.0 | 1.5 | 2.0 | 5.0 | 6.1 | 11.4 | 85 | 9.4 |
| China | 8.7 | 7.1 | 4.6 | 3.9 | 6.6 | 9.4 | 30.0 | 82 | 26.1 |
| Australia | 5.9 | 6.0 | 1.4 | 3.0 | 5.0 | 6.0 | 10.0 | 73 | 7.0 |
| South Africa | 6.5 | 6.0 | 1.5 | 3.0 | 5.5 | 7.2 | 11.8 | 73 | 8.8 |
| Netherlands | 5.4 | 5.5 | 1.3 | 2.5 | 5.0 | 6.0 | 11.6 | 72 | 9.1 |
| Russia | 7.6 | 7.0 | 2.9 | 2.7 | 6.0 | 8.5 | 25.0 | 70 | 22.3 |
| Switzerland | 5.4 | 5.3 | 1.2 | 3.0 | 4.5 | 6.0 | 9.6 | 68 | 6.6 |
| India | 8.0 | 8.0 | 2.4 | 2.3 | 6.0 | 9.0 | 16.0 | 66 | 13.7 |
| Chile | 6.1 | 5.6 | 1.7 | 4.0 | 5.3 | 7.0 | 15.0 | 63 | 11.0 |
| Norway | 5.8 | 5.5 | 1.6 | 3.5 | 5.0 | 6.0 | 11.7 | 58 | 8.2 |
| Sweden | 5.9 | 6.0 | 1.2 | 3.9 | 5.0 | 6.5 | 10.6 | 58 | 6.7 |
| Austria | 5.7 | 6.0 | 1.6 | 2.5 | 5.0 | 6.0 | 14.3 | 57 | 11.8 |
| Colombia | 7.9 | 7.5 | 3.7 | 2.0 | 6.5 | 9.0 | 20.5 | 57 | 18.5 |
| Belgium | 6.0 | 6.0 | 1.1 | 3.0 | 5.0 | 7.1 | 8.1 | 54 | 5.1 |
| Portugal | 7.2 | 6.5 | 2.0 | 4.0 | 6.0 | 9.0 | 14.0 | 53 | 10.0 |
| Argentina | 10.9 | 10.0 | 3.6 | 5.0 | 8.5 | 14.8 | 20.0 | 50 | 15.0 |
| Greece | 9.6 | 7.4 | 4.4 | 3.0 | 6.1 | 12.2 | 20.0 | 47 | 17.0 |
| Poland | 6.4 | 6.0 | 1.6 | 4.4 | 5.0 | 7.5 | 10.0 | 45 | 5.6 |
| Denmark | 5.5 | 5.0 | 1.9 | 2.0 | 4.5 | 6.0 | 14.0 | 43 | 12.0 |
| Japan | 5.5 | 5.0 | 2.7 | 2.0 | 4.0 | 7.1 | 16.7 | 41 | 14.7 |
| Peru | 8.1 | 8.0 | 2.5 | 3.5 | 6.9 | 9.0 | 15.0 | 41 | 11.5 |
| New Zealand | 6.2 | 6.0 | 1.1 | 2.0 | 5.5 | 7.0 | 9.0 | 40 | 7.0 |
| Czech Republic | 6.8 | 7.0 | 1.6 | 4.3 | 5.6 | 7.3 | 12.1 | 38 | 7.8 |
| Finland | 6.0 | 6.0 | 1.6 | 3.5 | 5.0 | 6.0 | 12.0 | 37 | 8.5 |
| Turkey | 8.4 | 9.0 | 3.4 | 2.5 | 5.5 | 10.5 | 18.0 | 37 | 15.5 |
| Luxembourg | 6.0 | 6.0 | 0.8 | 4.0 | 6.0 | 6.1 | 8.7 | 35 | 4.7 |
| Taiwan | 7.7 | 7.1 | 2.0 | 4.3 | 6.5 | 8.0 | 15.0 | 32 | 10.7 |
| Ireland | 6.6 | 6.0 | 2.3 | 2.7 | 5.3 | 8.8 | 12.3 | 31 | 9.6 |
| Israel | 6.0 | 5.8 | 2.3 | 3.0 | 4.5 | 7.3 | 15.0 | 30 | 12.0 |
| Korea (South) | 6.7 | 7.3 | 1.4 | 2.0 | 6.4 | 7.5 | 11.1 | 30 | 9.1 |
| Indonesia | 8.1 | 8.0 | 1.7 | 4.5 | 7.3 | 9.6 | 11.4 | 28 | 6.9 |
| Hungary | 7.4 | 7.0 | 2.3 | 3.4 | 6.0 | 9.6 | 13.8 | 26 | 10.4 |
| Hong Kong | 6.4 | 6.2 | 1.7 | 3.5 | 5.5 | 6.4 | 11.9 | 24 | 8.4 |
| Pakistan | 9.5 | 9.5 | 3.7 | 5.0 | 6.5 | 11.3 | 15.0 | 24 | 10.0 |
| Egypt | 9.2 | 8.0 | 3.2 | 3.5 | 7.6 | 13.3 | 13.5 | 23 | 10.0 |
| Singapore | 6.0 | 5.7 | 1.1 | 3.9 | 5.5 | 6.0 | 9.6 | 23 | 5.7 |
| Thailand | 8.1 | 8.1 | 1.8 | 6.5 | 7.0 | 8.3 | 15.1 | 22 | 8.6 |
| Malaysia | 5.9 | 6.4 | 1.9 | 3.4 | 4.0 | 7.7 | 8.8 | 21 | 5.4 |
| Saudi Arabia | 6.5 | 6.5 | 1.2 | 5.5 | 5.5 | 7.1 | 10.6 | 21 | 5.1 |
| Kazakhstan | 7.5 | 8.0 | 1.2 | 4.7 | 7.4 | 8.6 | 8.6 | 20 | 3.9 |

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

Table 2 (continued)

| | Average | Median | St. Dev. | Min. | Q1 | Q3 | Max. | Number of answers | Max.-Min. |
|-------------------|---------|--------|----------|------|------|------|------|-------------------|-----------|
| Philippines | 7.4 | 6.1 | 2.0 | 5.5 | 6.0 | 10.1 | 10.1 | 18 | 4.6 |
| Kuwait | 6.8 | 6.6 | 1.1 | 5.0 | 6.5 | 6.8 | 10.6 | 17 | 5.6 |
| Nigeria | 10.1 | 8.5 | 3.7 | 6.0 | 8.5 | 10.0 | 20.0 | 17 | 14.0 |
| Romania | 7.7 | 8.0 | 1.4 | 5.0 | 7.0 | 9.0 | 9.5 | 17 | 4.5 |
| UAE | 8.0 | 8.0 | 1.2 | 6.8 | 6.8 | 9.0 | 10.0 | 17 | 3.3 |
| Ecuador | 13.5 | 15.9 | 5.8 | 6.0 | 6.8 | 18.8 | 20.0 | 16 | 14.0 |
| Bahrain | 7.3 | 8.3 | 1.8 | 5.5 | 5.5 | 8.3 | 11.1 | 14 | 5.6 |
| Croatia | 7.8 | 9.0 | 1.4 | 5.5 | 6.6 | 9.0 | 9.0 | 14 | 3.5 |
| Oman | 6.6 | 7.3 | 1.7 | 5.0 | 5.0 | 7.3 | 11.1 | 14 | 6.1 |
| Bulgaria | 8.3 | 8.6 | 0.9 | 6.5 | 7.8 | 8.6 | 10.0 | 13 | 3.5 |
| Qatar | 7.1 | 7.0 | 0.9 | 6.8 | 6.8 | 7.0 | 10.1 | 13 | 3.3 |
| Bolivia | 10.2 | 10.5 | 1.8 | 7.5 | 8.4 | 12.0 | 13.1 | 12 | 5.6 |
| Lebanon | 9.0 | 9.0 | 3.1 | 6.0 | 6.0 | 12.0 | 12.0 | 12 | 6.0 |
| Morocco | 7.3 | 7.3 | 2.4 | 5.0 | 5.0 | 9.6 | 9.6 | 12 | 4.6 |
| Senegal | 11.0 | 11.0 | 2.0 | 8.0 | 10.0 | 12.0 | 16.0 | 12 | 8.0 |
| Vietnam | 10.8 | 12.0 | 2.4 | 3.9 | 10.0 | 12.0 | 12.0 | 12 | 8.1 |
| Panama | 9.2 | 9.0 | 1.4 | 6.0 | 9.0 | 9.6 | 11.3 | 11 | 5.3 |
| Venezuela | 12.2 | 12.0 | 3.6 | 6.0 | 12.0 | 13.5 | 17.8 | 11 | 11.8 |
| Malta | 6.6 | 7.5 | 1.6 | 3.1 | 6.6 | 7.5 | 7.5 | 10 | 4.4 |
| Slovenia | 6.5 | 7.3 | 1.2 | 3.6 | 6.0 | 7.3 | 7.3 | 10 | 3.7 |
| Zimbabwe | 10.5 | 12.5 | 3.0 | 5.5 | 8.0 | 12.5 | 12.5 | 10 | 7.0 |
| Costa Rica | 8.5 | 9.0 | 1.8 | 3.8 | 9.0 | 9.0 | 10.0 | 9 | 6.2 |
| Cyprus | 7.9 | 9.0 | 2.4 | 2.5 | 9.0 | 9.0 | 9.0 | 9 | 6.5 |
| Iran | 17.2 | 19.5 | 7.9 | 5.0 | 10.0 | 22.9 | 26.5 | 9 | 21.5 |
| Kenya | 6.2 | 7.0 | 1.4 | 3.0 | 6.2 | 7.0 | 7.0 | 9 | 4.0 |
| Slovakia | 6.9 | 7.3 | 0.8 | 5.0 | 7.3 | 7.3 | 7.5 | 9 | 2.5 |
| Uruguay | 9.3 | 9.6 | 1.3 | 6.0 | 9.6 | 9.6 | 10.4 | 9 | 4.4 |
| Zambia | 7.2 | 7.0 | 1.0 | 6.0 | 7.0 | 7.0 | 9.8 | 9 | 3.8 |
| Albania | 11.1 | 12.0 | 2.5 | 5.0 | 12.0 | 12.0 | 12.0 | 8 | 7.0 |
| Trinidad & Tobago | 9.8 | 8.3 | 4.1 | 8.3 | 8.3 | 8.4 | 20.0 | 8 | 11.8 |
| Guatemala | 10.1 | 9.6 | 1.3 | 9.6 | 9.6 | 9.6 | 13.0 | 7 | 3.4 |
| Honduras | 13.9 | 13.5 | 0.9 | 13.5 | 13.5 | 13.5 | 16.0 | 7 | 2.5 |
| Lithuania | 7.9 | 8.3 | 0.9 | 6.0 | 8.3 | 8.3 | 8.3 | 7 | 2.3 |
| Ghana | 9.6 | 10.0 | 1.7 | 8.0 | 8.0 | 10.0 | 12.0 | 5 | 4.0 |

Figure 1

Market risk premium used in 2011 for some countries (plot of answers)

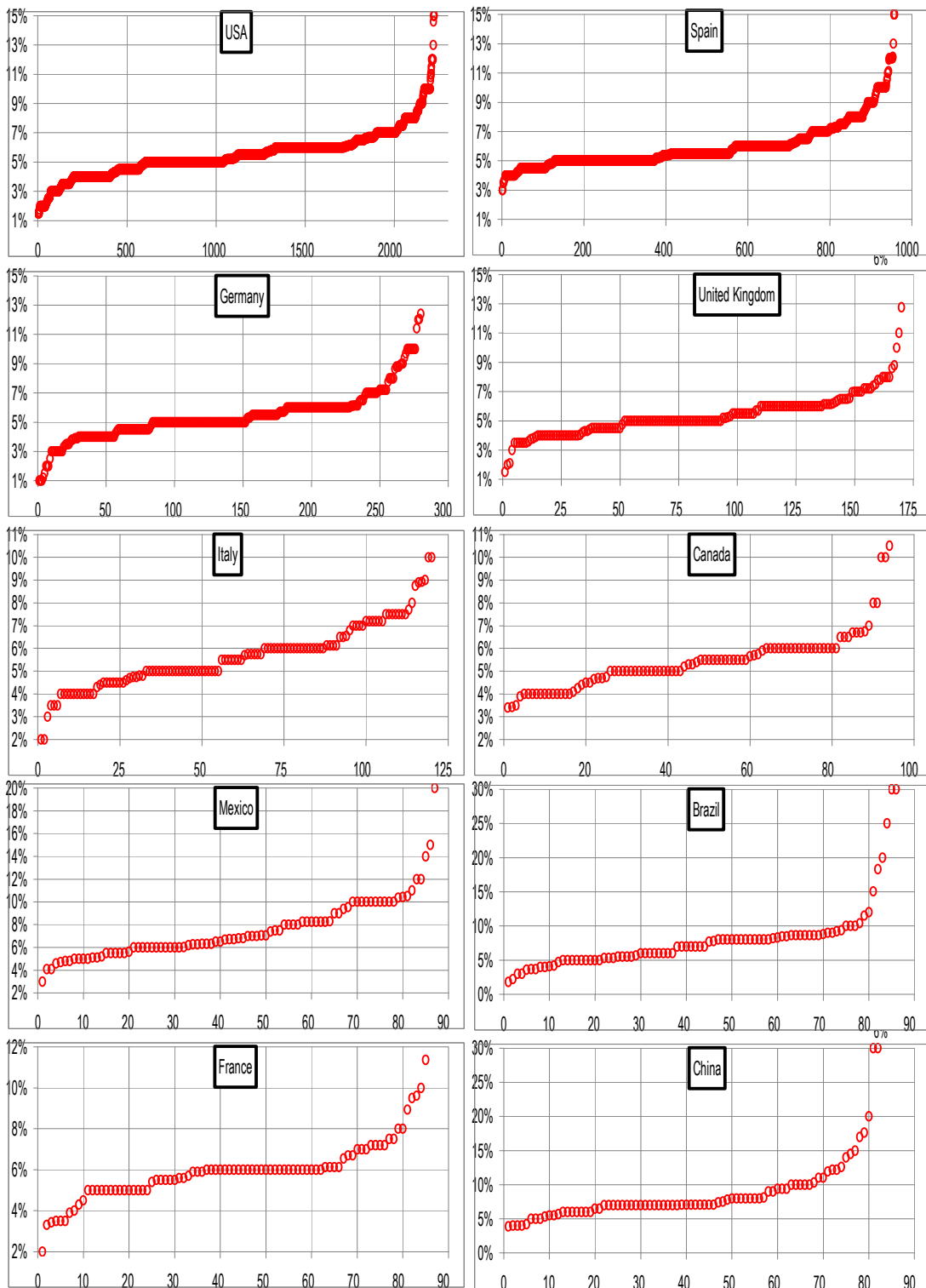


Figure 2

Market risk premium used in 2012. Median and dispersion of the answers by country

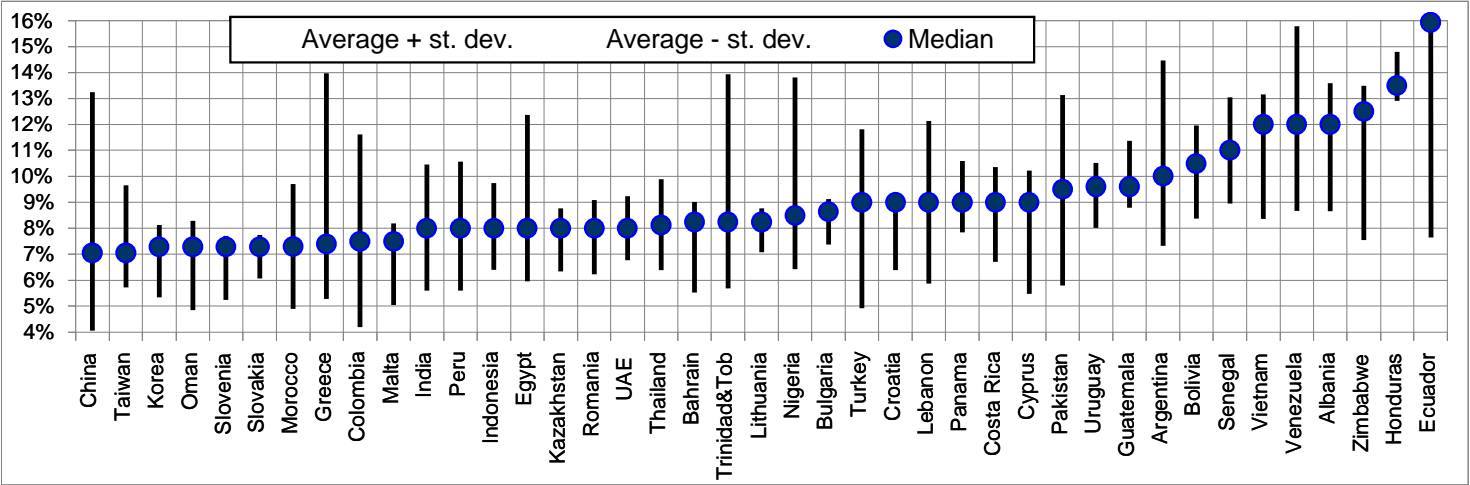
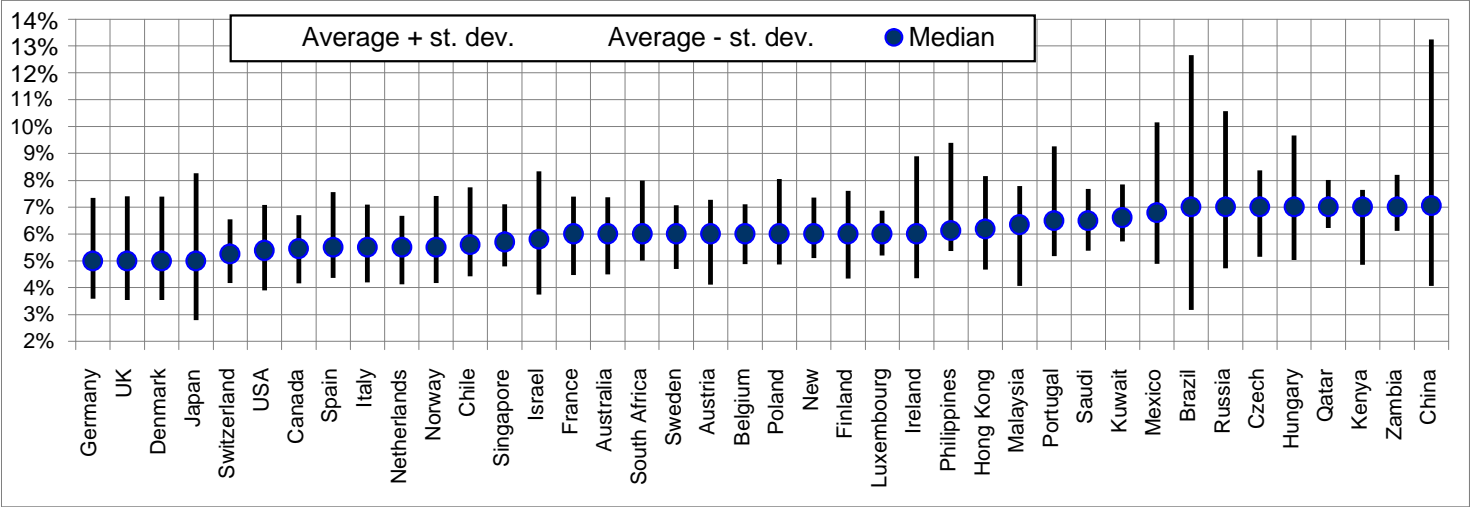
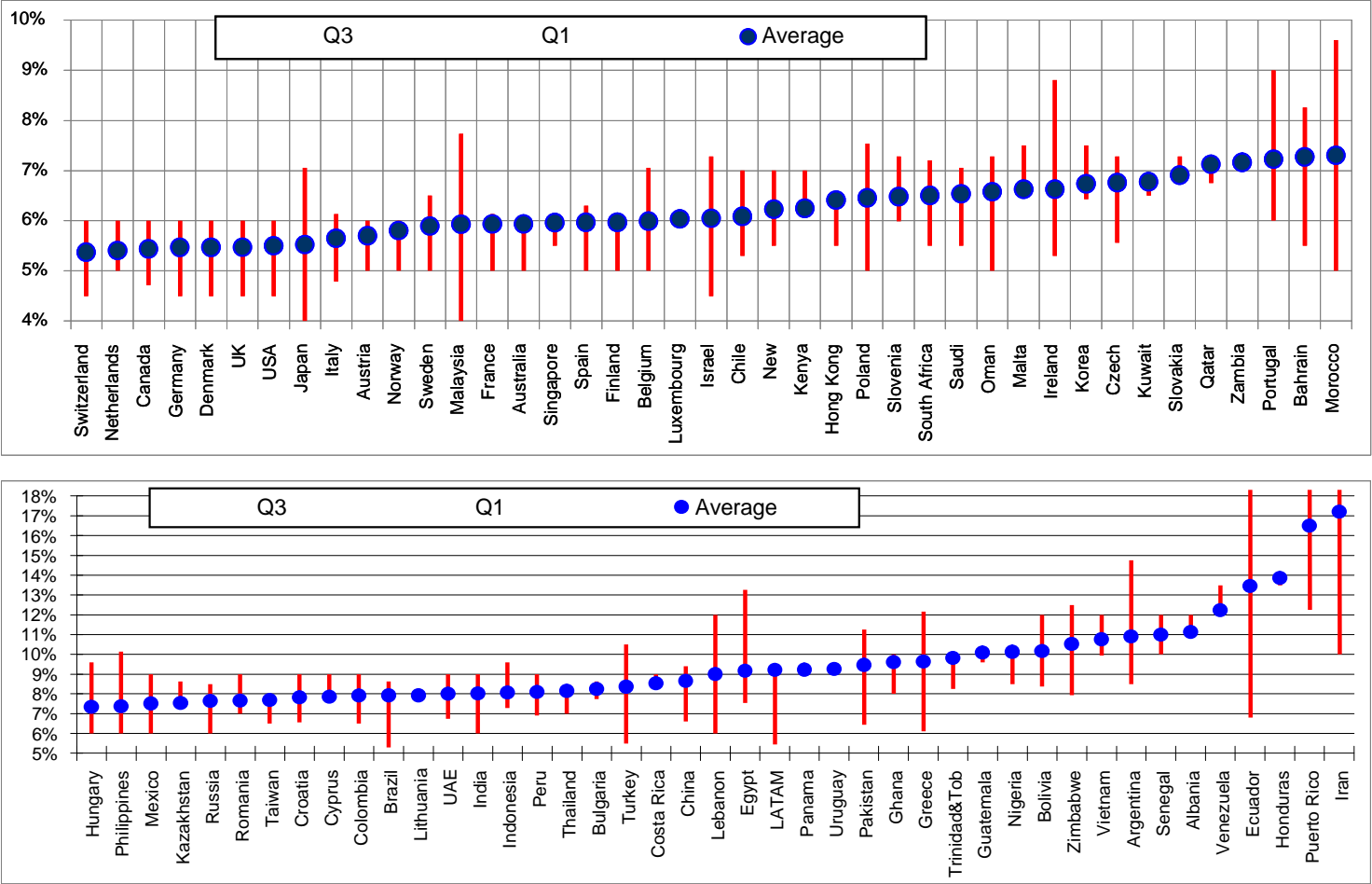


Figure 2 (continued)

Market risk premium used in 2012. Median and dispersion of the answers by country



2. Differences Among Professors, Analysts and Managers of Companies

Table 3 shows the differences for the 53 countries that had at least two answers for each category (professors, analysts, managers of companies and managers of financial companies).

Table 3

Market risk premium (%) used for 53 countries in 2012 by professors, analysts and managers of companies and financial companies

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

3. Differences Among Respondents

Table 4 shows the differences in market risk premiums used by the same person for the United States, Germany and the United Kingdom. A total of 215 respondents provided us with answers for the United States and Germany. A total of 111 provided us with answers for the United States and the United Kingdom.

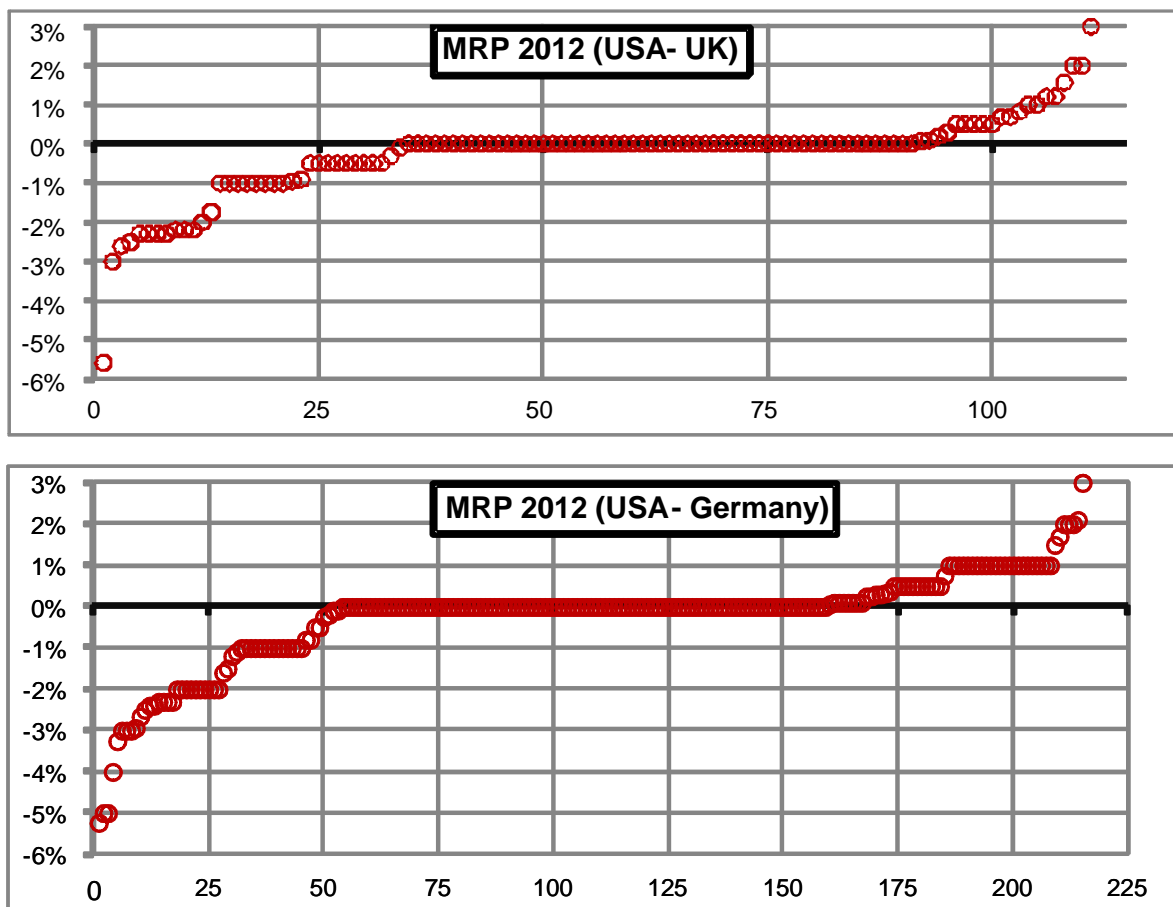
Table 4

Difference in the market risk premium used by the same person for the United States, Germany and the United Kingdom

| | Average | Number of answers | | | |
|---|---------|-------------------|-----|----|-------|
| | | <0 | 0 | >0 | Total |
| MRP 2012 (United States – Germany) | -0.23% | 53 | 106 | 56 | 215 |
| MRP 2012 (United States – United Kingdom) | -0.27% | 34 | 57 | 20 | 111 |

Figure 3

Difference in the market risk premium used by the same person in 2012 for the United States, Germany and the United Kingdom



4. References Used to Justify the MRP Figure

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

Table 5

References used to justify the market risk premium

| | Professors | Analysts | Companies | Financial Companies | Total |
|--------------------------------------|------------|----------|-----------|---------------------|-------|
| Damodaran | 67 | 28 | 108 | 50 | 253 |
| Ibbotson/Morningstar | 49 | 18 | 130 | 52 | 249 |
| Internal (own) estimate | 25 | 50 | 52 | 30 | 157 |
| Historical data | 41 | 9 | 30 | 22 | 102 |
| Bloomberg | 8 | 20 | 41 | 21 | 90 |
| Analysts / Inv. banks | 9 | 12 | 48 | 14 | 83 |
| Experience, subjective, own judgment | 38 | 15 | 19 | 5 | 77 |
| Fernandez | 35 | 4 | 24 | 13 | 76 |
| DMS | 20 | 1 | 18 | 12 | 51 |
| Duff & Phelps | 2 | 1 | 21 | 20 | 44 |
| Surveys, conversations | 12 | 2 | 8 | 6 | 28 |
| Grabowski / Pratt's and Grabowski | 1 | 3 | 14 | 6 | 24 |
| Brealy & Myers | 15 | 2 | 2 | 2 | 21 |
| Mckinsey, Copeland | 2 | 2 | 9 | 6 | 19 |
| CFA books | 2 | 4 | 6 | 5 | 17 |
| Economic Press | 7 | 0 | 8 | 2 | 17 |
| Reuters | 1 | 4 | 8 | 3 | 16 |
| Internet | 1 | 1 | 12 | 0 | 14 |
| Fama and French (2002) | 9 | 0 | 0 | 4 | 13 |
| Implied MRP | 4 | 2 | 2 | 2 | 10 |
| Ross/Westerfield | 10 | 0 | 0 | 0 | 10 |
| Siegel | 4 | 0 | 3 | 2 | 9 |
| Others* | 107 | 26 | 103 | 37 | 273 |
| SUM | 469 | 204 | 666 | 314 | 1,653 |

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

5. Comparison With Previous Surveys

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

Table 6

Comparison of the results of the surveys from 2011 and 2012

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

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 three years earlier. In an update published in 2008, Welch reports that the MRP “used in class” in December 2007 by about 400 finance professors was, on average, 5.89%, and 90% of the professors used equity premiums between 4% and 8.5%.

Johnson et al. (2007) report the results of a survey of 116 finance professors in North America done in March 2007: 90% of the professors believed that the expected MRP during the next 30 years would 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 (std. 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% in the tenth percentile at each end of the spectrum. They show that average EEP changes over 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 United States in 2011, 2010, 2009 and 2008 according to previous surveys (Fernandez et al., 2009, 2010a and 2010b).

Table 7

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 ⁺⁺ | U.S. 2008 | Europe 2008 | U.S. 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>.

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

Table 8

Estimates of the EEP (expected equity premium) according to other surveys

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

The magazine *Pensions and Investments* (12/1/1998) carried out a survey among professionals working for institutional investors: the average EEP was 3%. Shiller publishes and updates an index of investor sentiment since the crash of 1987.⁶ While neither survey provides a direct measure of the equity risk premium, they do 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 1,500 U.S. investors was about 8.3%. Merrill Lynch surveyed more than 300 institutional investors globally in July 2008: the average EEP was 3.5%.

A main difference between this survey and previous ones is that this survey asks about the **required** MRP, while most surveys are interested in the **expected** MRP.

6. MRP or EP (Equity Premium): Four Different Concepts

As Fernandez (2007, 2009b) claims, the term “equity premium” is used to designate four different concepts:

1. **Historical** equity premium (HEP): historical differential return of the stock market over treasuries.
2. **Expected** equity premium (EEP): expected differential return of the stock market over treasuries.
3. **Required** equity premium (REP): incremental return of a diversified portfolio (the market) over the risk-free rate required by an investor. It is used for calculating the required return to equity.
4. **Implied** equity premium (IEP): the required equity premium that arises from assuming that the market price is correct.

The four concepts (HEP, REP, EEP and IEP) designate different realities. The HEP is easy to calculate and is equal for all investors, provided they use the same time frame, the same market index, the same risk-free instrument and the same average (arithmetic or geometric). But the EEP, the REP and the IEP may be different for different investors and are not observable.

⁶ See <http://icf.som.yale.edu/Confidence.Index>.

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 on equity and the **WACC**. Different companies may use, and in fact do use, different **REPs**.

The **IEP** is the implicit **REP** used in the valuation of a stock (or market index) that matches the current market price. The most widely used model to calculate the **IEP** is the dividend discount model: the current price per share (P_0) is the present value of expected dividends discounted at the required rate of return (K_e). If d_1 is the dividend per share expected to be received in year one, and g the expected long-term growth rate in dividends per share,

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

The estimates of the **IEP** depend on the particular assumption made for the expected growth (g). Even if market prices are correct for all investors, there is no common **IEP** 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 financial literature report different estimates of the **IEP** with great dispersion: 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 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 than (or equal to) 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, rather it is implicit in the price they are prepared to pay for 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 about an **REP** for the market as a whole. There is a distribution of **REPs** and we can only say that some percentage of investors have **REPs** within a certain range. The average of that distribution cannot be interpreted as the **REP** of the market or as the **REP** of a representative investor.

Much confusion arises from failing to distinguish among the four concepts that the phrase *equity premium* designates: historical equity premium, expected equity premium, required equity premium and implied equity premium. Of the books reviewed by Fernandez (2009b), 129 identify expected and required equity premium and 82 identify expected and historical equity premium.

Finance textbooks should clarify the **MRP** by incorporating distinguishing definitions of the four different concepts and conveying a clearer message about their sensible magnitudes.

7. Conclusion

Most surveys have been interested in the expected MRP, but this survey asks about the required MRP.

We provide the statistics on the equity premium or market risk premium (MRP) used in 2012 for 82 countries.

Most previous surveys have been interested in the expected MRP, but this survey asks about the required MRP. The paper also contains the references used to justify the MRP, comments from nine persons that do not use MRP, and comments from 12 that do use MRP. Fernandez et al. (2011a)⁷ 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 have 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 P. Fernandez, J. Aguirreamalloa and L. Corres (2011a), "US Market Risk Premium Used in 2011 by Professors, Analysts and Companies: A Survey...", downloadable at <http://ssrn.com/abstract=1805852>.

Exhibit 1

E-mail Sent in May and June 2012

We are doing a survey about the **market risk premium (MRP)**, or equity premium, that companies, analysts and professors use to calculate the required return on equity in different countries.

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

1. The market risk premium that I am using in 2012:

| | | | | |
|-----|-------|-----|-------|---|
| for | USA | is: | _____ | % |
| for | _____ | is: | _____ | % |
| for | _____ | is: | _____ | % |
| for | _____ | is: | _____ | % |

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

Comments:

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

Exhibit 2

Comments From Respondents Who Did Not Provide the MRP Used in 2012

1. The conventional risk-free asset (U.S. Treasury 10-year yield) is distorted by safe-haven investing amid European melt-down.
2. Any variation on 2011 would be unusual because the return on equity in Italy for the last year was negative.
3. Given the premise that the CAPM provides the theoretical framework for estimating the market risk premium, I don't see the reason for having different risk premiums for different markets. Of course, whether the CAPM is the model one should use is a different question.
4. I believe it was Phil Fisher in *Common Stocks and Uncommon Profits* that pointed to "the magic formula," where he uses a kind of "fixed" risk premium of about 8.5%.
5. I don't estimate risk premiums. My clients do, each differently.
6. Based on actual historical returns over the last 10 years or so, it would be negative in the United States and in the United Kingdom.
7. We don't disclose the assumptions we use for our market risk premiums.
8. We don't really use a market risk premium when assessing deals. We focus on public and transaction multiples.
9. In my teaching I only use hypothetical numbers.

Exhibit 3

Comments From Respondents Who Did Provide the MRP Used in 2012

1. Based on the inverted constant growth formula and proprietary estimates of future dividend growth rates and using the long T-bond as the “risk-free” rate.
2. I don’t believe in adjusting the MRP from year to year based on short-term fluctuations or forecasts. Equity is a long-term investment. I base my MRP on long-term, historical averages. Perhaps in the future, the MRP will need to be decreased from the averages of the last century, as it does not appear that the U.S. economy will dominate the world, and competition and other factors are reducing our competitive advantage.
3. Currently I am using a Default Spread approach to calculate the ERP for Russia.
4. Gut feeling becomes more and more important as history loses ground and the future becomes footloose.
5. Historical range and the current spread between the 20-year Treasury and Aaa, as well as the spread between the Aaa and Baa. Given the continued above-median spread between these benchmarks, an ERP at the top end of “normal” range is justified.
6. I advise my students to shock their Ks by applying a lower bound EP of 4% and an upper bound EP of 7%.
7. I don’t buy Damodaran’s implied equity risk premium (too many assumptions). I feel more comfortable with historical estimates. ERP should be estimated vs. a long-term risk-free rate, assuming that the cash flows in your valuation are also long-term.
8. I have adjusted the MRP slightly upwards from last year. The reason is somewhat pragmatic: long-term interest rates seem to be stuck at an artificially low rate in times when macroeconomic and financial uncertainties appear to be greater than ever. My view of the long-term cost of equity is fairly unchanged.
9. Jeremy Siegel, *Stocks for the Long Run*, argues for an expected return of 7%. The risk-free rate is nearly zero, but can be placed at about 0.5%. For a Beta of 1, that is about 6%, which is close to Mr. Siegel’s figure.
10. Our target return is fixed at 25% per annum - so maybe the implied risk premium is 22%. Since this is a fixed target return for both the United States and countries in the European Union, in practice we won’t invest in a project unless we expect to achieve this target return. Of course, the geographic end-user market for the business will affect our view of the achievability of the return. Our asset class is “private, high growth, technology businesses,” which is why this risk premium is required. Our view on why we use this number is our own historical returns and what we told investors in the prospectus we used to market our fund.
11. The Great Recession reduced the average MRP to 4.8% by April 2012. This is too low a value for long-run future cash flow WACC estimation. For that, we should use the EXPECTED LONG-RUN FUTURE returns on T-bills, bonds and equities, which I think is closer to 4% for Rf and 6% for MRP.
12. I pull it from Bloomberg to eliminate any subjection.

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*, Vol. 55, No. 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*, ed. Rajnish 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 at <http://ssrn.com/abstract=1609563U>.
- Fernandez, P. and J. del Campo (2010b), "Market Risk Premium Used in 2010 by Professors: A Survey with 1,500 Answers," downloadable at <http://ssrn.com/abstract=1606563>.
- Fernandez, P., J. Aguirremalloa and L. Corres (2011a), "US Market Risk Premium Used in 2011 by Professors, Analysts and Companies: A Survey with 5.731 Answers," downloadable at <http://ssrn.com/abstract=1805852>.
- Fernandez, P., J. Aguirremalloa and L. Corres (2011b), "The Equity Premium in Spain: Survey 2011 (in Spanish)," downloadable at <http://ssrn.com/abstract=1822422>.
- Fernandez, P., J. Aguirremalloa and L. Corres (2011c), "Market Risk Premium Used in 56 Countries in 2011: A Survey with 6,014 Answers," downloadable at <http://ssrn.com/abstract=1822182>.
- 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*, Vol. 29, No. 2, pp. 7-27.

Johnson, D. T., T. Kochanek, 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.

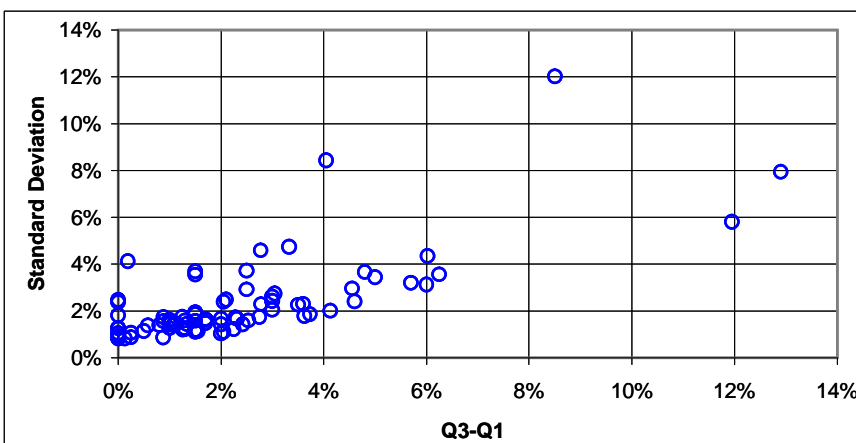
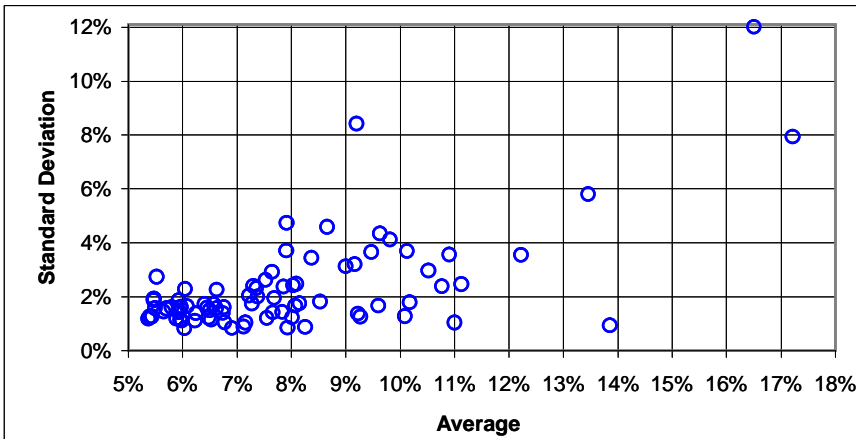
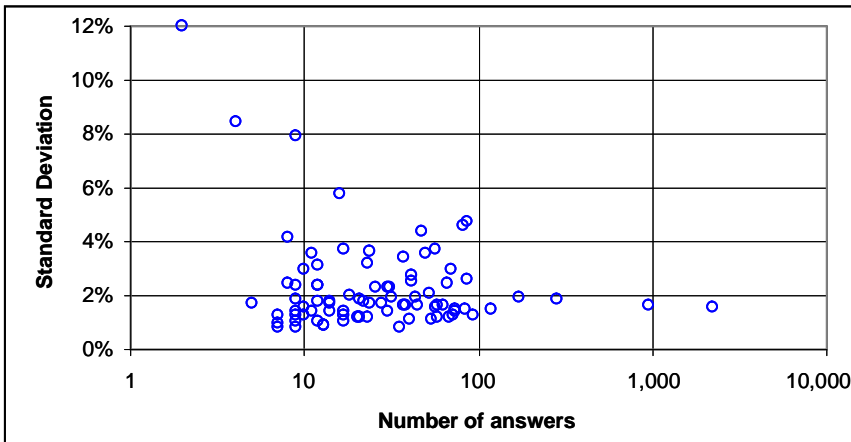
Welch, I. (2000), "Views of Financial Economists on the Equity Premium and on Professional Controversies," *Journal of Business*, Vol. 73, No. 4, pp. 501-537.

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 No. 1077876.

Appendix 1

Graphs With Aggregate Data for the Countries (each point represents a country)



Appendix 1 (continued)

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