

Annex to ‘A Meta-Analysis of the Equity Premium’

by Casper van Ewijk, Henri L.F. de Groot and Coos Santing

forthcoming in *Journal of Empirical Finance*

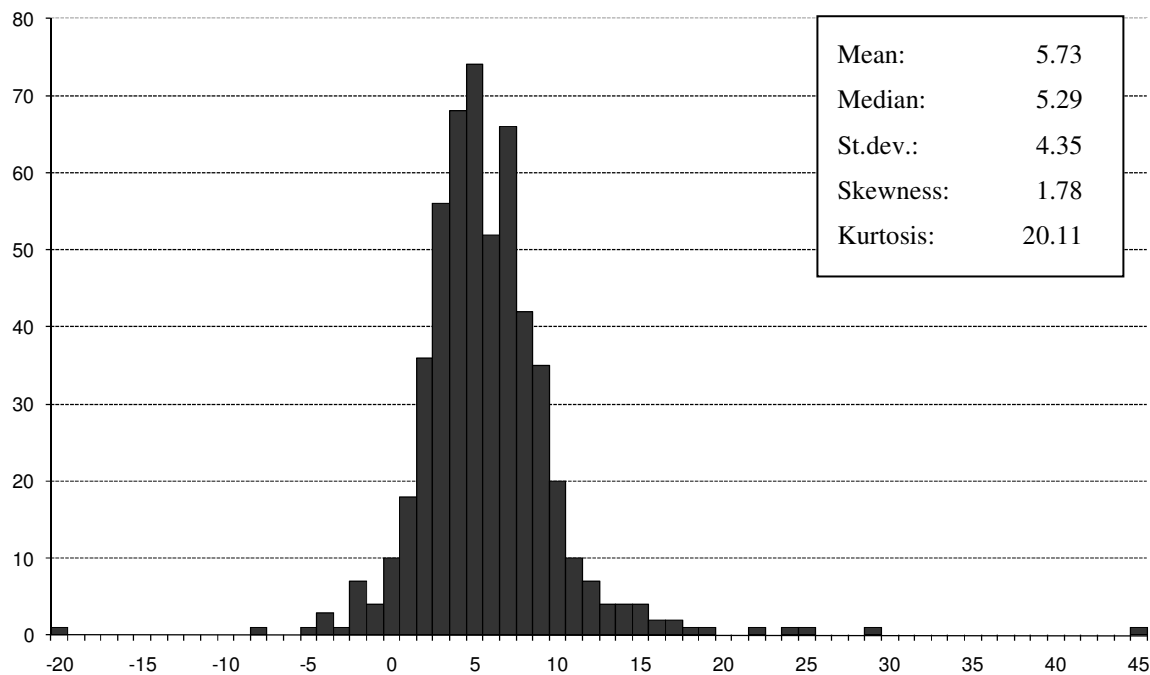
Contact: h.l.f.de.groot@vu.nl

This Annex contains supplementary information to the paper on the Meta-Analysis of the Equity Premium. Annex A contains some further descriptive material that complements Section 3 of the paper. Annex B contains some further estimation results that complement the empirical analysis in Section 4. Annex C provides some further details on the studies that have been included in the meta-database underlying the analysis in this paper.

Annex A. Descriptive statistics

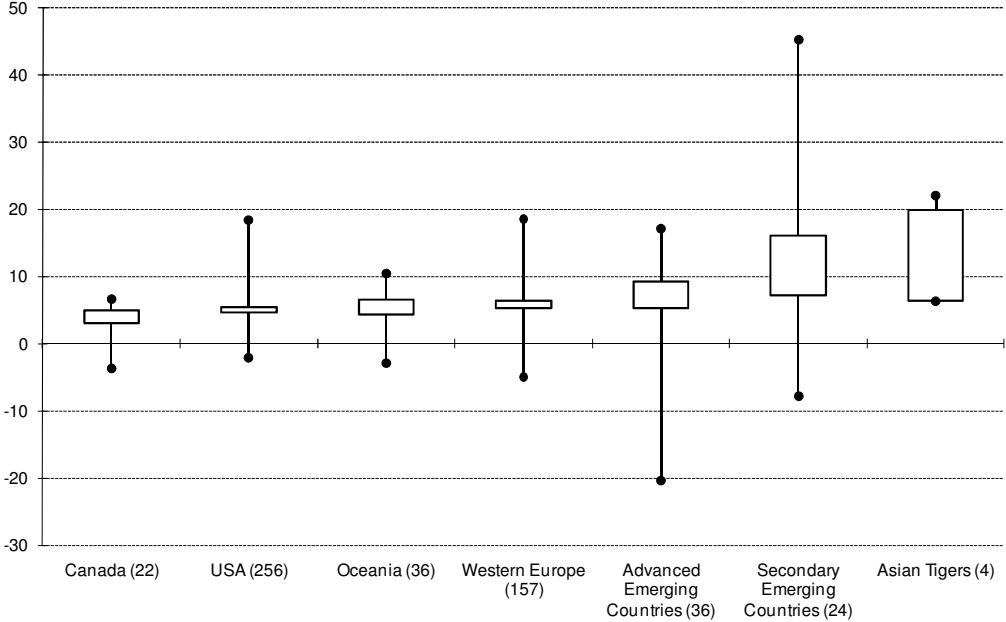
Figure A1 further describes the distribution of the equity premium for the entire sample of 535 observations. The mean is 5.73. The null-hypothesis of a normal distribution (using the Jarque Bera test statistic for normality) is clearly rejected (p -value < 0.001). There are 24 observations with a negative equity premium, whereas 48 observations have equity premiums exceeding 10%.

Figure A1. Histogram the Equity Premium



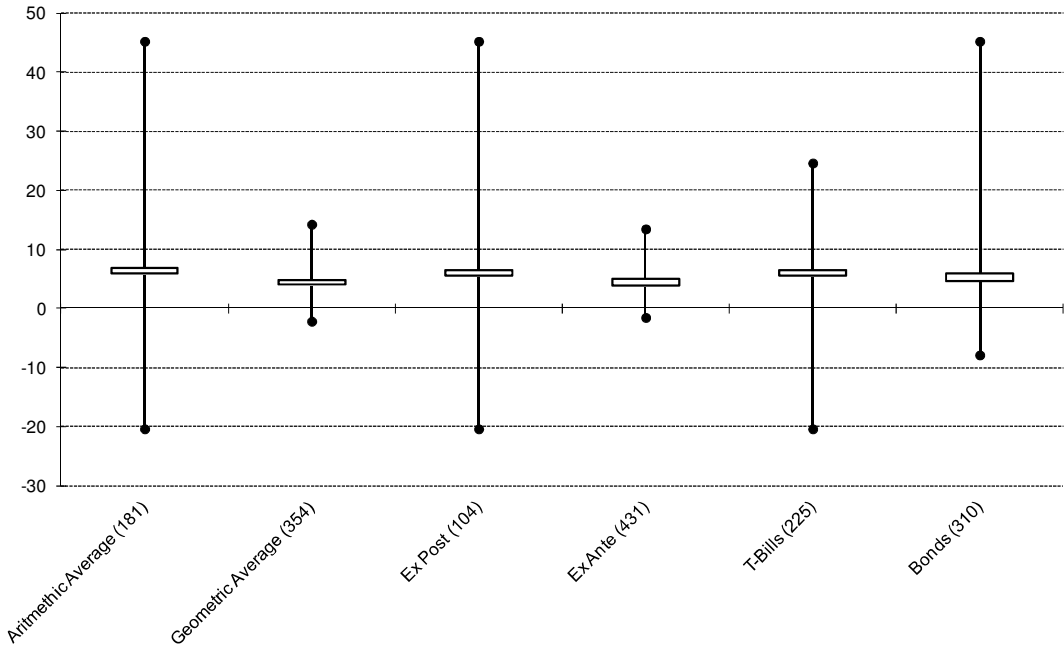
Figures A2 and A3 describe the variation of the equity premium according the country group and method used to determine the equity premium.

Figure A2. Conditional means and variation of the Equity Premium by Country or Region (in %)



Note: lines indicate minimum and maximum EP's found in the respective regions. The boxes indicate a 95% confidence interval around the mean of the respective regions. The number of observations for each region is indicated in brackets

Figure A3. Conditional means and variation of the Equity Premiums by method of measurement



Note: lines indicate minimum and maximum EP's found using the respective methods. The boxes indicate a 95% confidence interval around the mean for the respective methods.

Annex B. Accounting for dependence

Dependence among observations in meta-analysis studies may occur between estimates from the same study, country, region or time period and results in standard errors that are wrong. In the main text, we have accounted for within-study dependence by reporting Huber-White cluster robust standard errors. This Appendix shows results with standard errors that have been corrected for dependence across regions (Western Europe, Developing countries, Canada, Australia, South Africa, Japan and the United States) and time periods (pre-1910, 1910–1950 and post 1950). We take the specification (2) in Table 2 of the paper as the base specification. Comparable results for other specifications are available upon request.

Table B.1. Accounting for different types of dependence

	Base	Spatial	Temporal
Constant	4.10 ^{***} (0.59)	4.10 ^{***} (0.45)	4.10 ^{**} (0.55)
Arithmetic mean	1.42 ^{***} (0.33)	1.42 ^{***} (0.22)	1.42 ^{***} (0.13)
Ex Post	1.05 ^{**} (0.30)	1.05 ^{***} (0.25)	1.05 (0.75)
T-bill used	0.92 ^{***} (0.26)	0.92 ^{***} (0.21)	0.92 [*] (0.24)
Region effects (relative to USA)			
Canada	-1.65 ^{***} (0.48)	-1.65 ^{***} (0.11)	-1.65 ^{***} (0.08)
Oceania	-0.64 (0.63)	-0.64 ^{***} (0.08)	-0.64 (0.38)
Western Europe	-0.22 (0.64)	-0.22 [*] (0.10)	-0.22 (0.11)
Advanced emerging	1.31 (0.86)	1.31 ^{***} (0.27)	1.31 ^{***} (0.10)
Secondary emerging	5.95 ^{***} (0.74)	5.95 ^{***} (0.77)	5.95 ^{***} (0.23)
Asian Tigers	7.11 ^{***} (2.01)	7.11 ^{***} (0.66)	7.11 ^{***} (0.28)
Period effects			
Before 1910	-3.46 ^{***} (0.57)	-3.46 ^{***} (0.36)	-3.46 ^{***} (0.19)
After 1950	0.16 (0.62)	0.16 (0.70)	0.16 (0.16)
Trend after 1950	-0.04 ^{**} (0.02)	-0.04 (0.04)	-0.04 ^{**} (0.004)
# observations	535	535	535
R^2	0.22	0.22	0.22

Note: Statistical significance of the estimated coefficients is indicated by ^{***}, ^{**} and ^{*} referring, respectively, to the 1%, 5% and 10% significance level.

Annex C. Summary statistics per study

Study	# obs	Minimum ep	Average ep	Maximum ep	Mid year	Initial year	Final year
Barro (2005)	13	4.70	7.16	10.40	1968.00	1880	2004
Blanchard et al. (1993)	32	-0.20	4.37	8.50	1941.63	1802	1992
Campbell (2002)	15	0.80	5.93	12.35	1978.53	1891	1999
Campbell (2008)	8	1.80	2.95	5.10	1994.25	1982	2006
Canova and De Nocolo (2003)	21	-4.91	3.70	13.84	1985.67	1971	1999
Claus and Thomas (2001)	12	0.21	4.56	7.91	1993.17	1985	1999
De Santis (2007)	14	1.70	4.04	6.40	1966.39	1928	2004
Digby et al. (2006)	23	-0.02	8.14	12.30	1971.20	1910	2004
Dimson et al. (2006)	68	1.80	5.50	10.46	1952.50	1900	2005
Fama and French (2002)	33	-2.15	4.44	14.27	1942.06	1872	2000
Ibbotson and Chen (2002)	4	0.24	3.42	5.24	1963.00	1926	2000
Jagannathan et al. (2000)	38	-0.65	4.84	10.35	1967.13	1930	1999
Kyriacou et al. (2006)	50	2.18	5.95	11.02	1942.00	1871	2002
Mehra (2003)	8	3.30	5.95	8.00	1963.94	1802	2000
Mehra (2007)	12	3.30	6.73	11.30	1968.71	1802	2004
Mehra and Prescott (1985)	9	0.18	6.18	18.30	1933.50	1889	1978
Salomons and Grootveld (2003)	25	-7.86	7.99	45.26	1992.20	1976	2002
Shackman (2006)	39	-20.37	9.50	24.64	1986.00	1970	2002
Siegel (1992)	24	0.79	4.15	7.04	1920.67	1800	1990
Siegel (1999)	16	1.90	5.12	8.60	1917.00	1802	1998
Siegel (2005)	36	-0.21	5.68	12.34	1947.11	1802	2004
Ville (2006)	9	-2.91	4.73	9.53	1933.50	1889	1978
Vivian (2007)	14	-0.09	4.43	7.94	1974.36	1901	2004
Welch (2000)	12	4.30	6.90	9.40	1961.00	1870	1998
Grand Total	535	-20.37	5.73	45.26	1958.56	1800	2006