

NOTES FOR THE EXPERT SESSIONS 17 FEBRUARY 2022: MRP ESTIMATE

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1. Variation Over Time in the MRP

If the Officer version of the CAPM holds, the MRP is a reward for bearing Australian market risk (market volatility), and will therefore vary over time as market volatility does. Volatility clearly spikes during crises, but the effects are relatively short-lived. MRP values for five or ten years will therefore also spike but much less so than volatility because the MRP relates to the next five or ten years rather than the next few months or the next year.

If the ICAPM holds, the MRP is a reward for bearing world market risk, which is lower than Australian market risk, and therefore the MRP would be lower.

If the true situation is moving from the Officer CAPM to an ICAPM then the true MRP will be gradually declining over time (in addition to occasional spikes).

2. Is the Long-Run Average Excess Return the Best Estimator

The Long-Run average excess return is a useful estimator but

1. Even if unbiased, the 95% confidence interval on the estimate is very wide. Using the AER's preferred historical period of 1988-2020 (with a point estimate of 6.3%) involves only 32 years and the standard deviation of annual returns is approximately 17% per year (Dimson, Marsh and Staunton, 2021), which implies a standard error on the estimate of $17\% / (\text{square root } 32) = 3.0\%$, and therefore a 95% CI of 0% to 12%. This is far too wide to be useful, and the fact that longer periods generate similar estimates is only luck. This interval is consistent with the range of estimates by Dimson, Marsh and Staunton for the 15 West European countries (1900-2020, versus bonds), from 3.0% for Spain to 9.7% for Austria.¹ Plausibly the true values are quite similar and the range here therefore largely reflects estimation error.
2. The true value for Australia has likely changed over time and therefore the long-run average excess return will likely be a biased estimator of the current true value.

¹ Dimson, E., Marsh, P., and Staunton, M., 2021, *Credit Suisse Global Investment Returns Yearbook 2021*.

3. If events cause the true MRP to decline then share prices will rise and therefore the long-run average excess return will rise, i.e., the estimated MRP initially moves in the opposite direction to the true value. The same problem occurs if the true MRP rises.

These comments concern the arithmetic mean. I do not favour the geometric mean, as it is biased down for reasons given in my earlier note.

3. What Other Estimators Should be Used and Weights

The long-run average excess return should be supplemented with other estimators, involving

1. A Dividend Growth Model
2. The median outcome of a survey
3. The “Wright” estimator
4. Corresponding results from a range of relevant foreign countries (ones whose true MRPs are plausibly very similar to Australia).

Example of 4: Dimson Marsh and Staunton give long-run historical average excess returns for a range of markets. Amongst the 15 Western European markets, they range from 3.0% for Spain to 9.7% for Austria. It is not plausible that the true values differ this much. So, using only long-run average excess returns to estimate the MRP, and limiting oneself to only local data, the resulting estimate for Spain of 3.0% would likely be far too low and that for Austria of 9.7% would likely be far too high. Putting some weight on the average foreign data and some on local data provides a much better estimator.

The optimal weights are not capable of precise estimation. I therefore favour equally weighting them.