

Dynamic Time-Varying Betas and Climate and Political Risk Factors for Four Largest Australian Banks

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In this paper, we consider two types of risk, the climate risk and the political one, for four major Australian banks, commonly called the Big Four. They account for about 20% of the value of the Australian stock market and are therefore important to the Australian economy. We first introduce a new time-varying beta called the dynamic time-varying beta. It is related to but different from (and less noisy than) the dynamic conditional beta that forms a part of a previous definition of the climate risk. Maximum likelihood estimators for this new beta are consistent and asymptotically normal. The dynamic time-varying beta is used for estimating the climate and the newly defined political risk for the Big Four using portfolios designed for Australian conditions. The results are compared with climate risk estimates based on the dynamic conditional beta and generated by V-Lab, a website of the New York University, Stern School of Business. While our climate risk estimates do not suggest a positive climate risk for the Big Four, the V-Lab estimates do. These differences are to a large extent due to different climate portfolios, probably less so to different betas.