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The Impact of Climate Change on Optimal Asset Allocation for Long-Term Investors

"Rising temperatures as a predictor of long-term equity return dynamics"

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Historical data contain little information about the impact of future climate change on investment portfolios. We therefore combined historical data with a theoretical model that describes how rising temperatures influence asset prices. Three types of investor were considered: agnostic (historical data only) dogmatic (theoretical model only) and holistic (historical data combined with model). We examined these investors' forecasts of equity premium and risk over different horizons and their implications for optimal long-run asset allocation.

Principal Findings

- Compared to agnostic investors, dogmatic and holistic investors expect stock markets to be riskier over long horizons because disaster induced by climate change reduces mean reversion in returns.
- Such investors also expect the market risk premium to increase after a climate disaster.
- For an investment horizon longer than 25 quarters, the optimal allocation to equity decreases if climate change is accounted for because the higher perceived riskiness of stocks outweighs the increase in market risk premium.

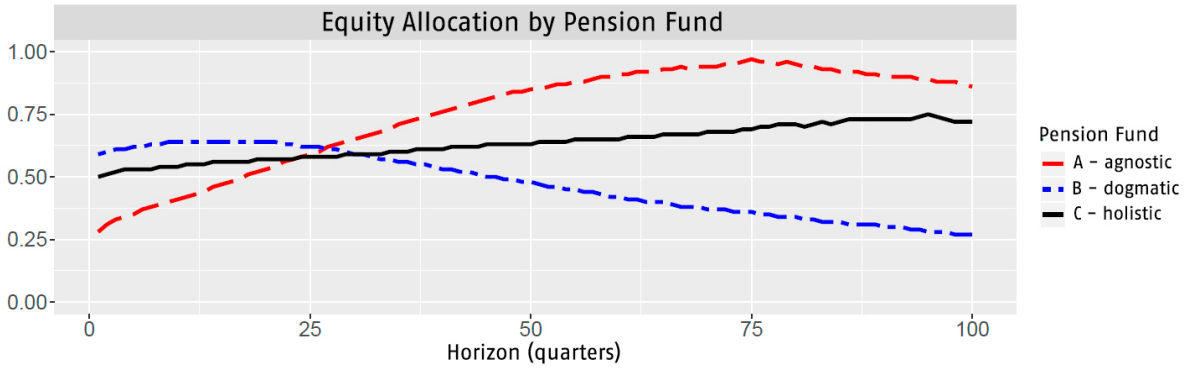

Figure: Optimal allocation to equities as a function of investment horizon.

Key Takeaways for the Industry

- Equity premium rises with increasing temperature.
- Rising temperatures result in increased equity market risk over the long run.
- Incorporating climate change reduces the optimal allocation to equity for long-horizon investors.

Want to know more? Read the paper
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