Heterogeneous Expectations with Multiple Risky Assets: An Empirical Study

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Asset comovement is usually explained by common exposure to fundamental risk. Standard asset pricing models account for correlation through shared shocks, common discount rate movements, or exposure to a small number of systematic factors. In this paper, we study a complementary mechanism: comovement generated by expectations and trading behavior. We ask whether part of the observed correlation between asset prices may arise endogenously from the way agents form beliefs across assets, rather than only from common fundamentals.

We address this question in a multi-asset heterogeneous expectations framework, extending the seminal model of Brock and Hommes (1998) to a multivariate setting. The novelty of our contribution is that agents may condition their expectations not only on the mispricing of a given asset, but also on the mispricing of other assets. This cross-asset extrapolation is captured by an expectation matrix whose off diagonal elements represent cross-asset expectation spillovers. Our main research question is whether these cross terms are empirically relevant and whether they help explain excess comovement.

The empirical strategy starts from the construction of mispricing sereis defined as deviations of observed prices from fundamental values and on the estimation of their joint dynamics. A first application considers J.P. Morgan and Bank of America, two large U.S. banks subject to similar sectoral conditions. While this pair is useful to detect cross-asset feedbacks, the shared factor exposure creates an identification challenge: estimated spillovers could partially reflect common shocks rather than actual expectation interactions. We therefore extend the analysis to a more heterogeneous pair, namely J.P. Morgan and the S&P 500 index, using price-dividend based mispricing measures.

The results should be regarded as preliminary. The evidence suggests that self asset persistence is the dominant component of mispricing dynamics, while cross-asset effects are more limited and sensitive to specification choices. For the banking pair, the estimated spillovers become substantially weaker once common factor exposure is taken into account. The S&P 500 - J.P. Morgan extension points to a more promising cross-asset channel, in particular for the effect running from JPM to the market index, although its interpretation requires further analysis. Overall, the paper provides a tractable framework to study how behavioral interactions across assets may complement standard fundamental explanations of comovement, and proposes an operational empirical strategy to bring this calss of models to financial data.

Key references: Brock and Hommes (1998), Boswijk, Hommes and Manzan (2007), Bolt, Demertzis, Diks, Hommes and Van Der Leij (2019), Fama and French (1993).