

Heterogeneous expectations in US stock markets: a comprehensive study of macroeconomic determinants ^{*}

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Abstract

Our study takes a heterogeneous asset pricing model with chartist and fundamentalist traders as point of departure. The related and well-established literature assumes that agents select their trading strategy according to past realized profits or the distance between the actual stock price and its fundamental value. Alternatively, we focus on the possibility that agents form their expectations by considering current and future macroeconomic conditions. First, based on the model we argue that the persistence in valuation ratios (like the price-dividend ratio) is directly related to market sentiment: Low persistence implies the dominance of fundamentalists in the market, while unit root or explosive behaviour implies the dominance of chartists.

We first estimate the unobserved persistence by indirect inference methods in a flexible rolling window setup. This approach ensures that time-variation of the persistence is well captured and that the bias of the OLS estimator is corrected. In a second step, we study the explanatory power of macroeconomic variables for the persistence in a regression framework. Our data set consists of more than hundred variables. In addition to current macroeconomic information, we also consider the Survey of Professional Forecasters (SPF) to account for economic outlook. In order to select the most relevant variables we apply frequentist model averaging techniques. Our results shed light on the question which macroeconomic variables influence the expectations of traders. In general, we find that favorable economic conditions lead to an increase of chartists which causes prices to decouple from its fundamental value. Related to the first step of our analysis, we provide a comprehensive Monte Carlo comparison of different finite-sample bias-correction methods for autoregressive processes in a companion paper. We consider classic situations where the process is either stationary or exhibits a unit root. Importantly, the case of mildly explosive behaviour is studied as well. We compare the empirical performance of an indirect inference estimator, a jackknife approach, an approximately median-unbiased estimator and a bootstrap-aided estimator. Our findings suggest that the indirect inference approach offers a valuable alternative to other existing techniques. Its performance (measured by its bias and root mean squared error) is balanced and highly competitive across many different settings.

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