Learning About Purchasing Power Parity Across Countries (with Gerald P. Dwyer, Clemson University and Mark Fisher, Federal Reserve Bank of Atlanta)

Abstract Evidence from classical statistical tests using long-term historical data is quite consistent with Purchasing Power Parity (PPP). Evidence from shorter but still rather lengthy data sets, in contrast, is mixed. In such data sets, it often is impossible to reject the hypothesis that PPP does not hold. Most of this evidence, however, comes from tests that are now well-known to have low power in anything other than long spans of data. In this paper, we re-examine this issue using data for OECD countries over the post-WW II period. We run Augmented Dickey-Fuller tests, which produce the typical mixed results. We then conduct a Bayesian analysis of these data which is more consistent with convergence to a mean real exchange rate. We extend the Bayesian analysis to include hyperparameters that make it possible to learn across datasets and countries. Hyperparameters provide distributions from which the parameters for individual countries are drawn. Data from other individual countries provides information to learn about the hyperparameters that characterize the distributions for each country that are prior to the data for that country. This makes a very big difference in the analysis. We find decisive support for Purchasing Power Parity.