

4. Estimates of the Model

In this section, we empirically examine the predictions of the model developed in the previous section, focusing on the contribution of the identified determinants. This section is divided into two parts. The first part constructs estimates of \bar{p} and p/e and the accompanying measures of uncertainty. The second part estimates a linear version of the model.

4.1 Estimates of Uncertainty and Expected Foreign Prices

The forecast of the foreign price level based on past values is generated by a univariate autoregressive model (AR). Foreign price is represented by the U.S. CPI which is sampled monthly.⁹ According to the Bayesian Information Criteria, four lagged terms are included. The monthly predicted values generated by the AR(4) model are (arithmetically) averaged to arrive at annual estimates of \bar{p} . Temporal aggregation is used because the travel spending data are recorded annually and this data is the sum of spending that occurs during the calendar year. The variance of the monthly disturbance terms provides an annual estimate of the forecast variance γ^2 .¹⁰

The second forecast of U.S. prices is based on purchasing power parity. In this case, the forecast is computed using observed data. The temporal aggregate of the monthly values

⁹ All data, with the exception of travel spending data, are from CANSIM (Statistics Canada).

¹⁰ We also estimated ARCH models and temporally aggregated estimates of the conditional variance to compute values for γ^2 . In the empirical work to follow, the results are qualitatively unchanged.