

A Dynamic Baseline in the USITC USAGE Model – Insights and Issues

By

Robert B. Koopman and Ashley Winston*

April 15, 2009

Abstract

The USITC creates a dynamic baseline for the U.S. economy approximately every two years using its large scale USAGE model. In constructing the baseline we follow the Centre of Policy Studies approach of using historical data to inform model parameterization and then use forecast data collected from various U.S. government entities to establish macro and sectoral targets for a specific out year. Compared with many other CGE model baselines our baseline projection incorporates a large number of parameter “estimates”, ranging from input specific technical change to consumer preference shifts, based on historical data and the models structure. Thus the baseline projection in USAGE allows for the possibility of substantial sectoral shifts in the composition of GDP due to various productivity trends, not just changes in factor endowments. The more traditional approach to baseline development in CGE models (eg Mirage, GTAP, World Bank Linkage models), is to use projections for aggregate capital and labor endowment changes and average economy wide total factor productivity shocks to hit the target rate of GDP growth. Since the dimensionality of the various models differs, that is USAGE is a detailed model of the US with 539 sectors while GTAP v.7 is a global database and model with 57 sectors and 113 regions, clearly researchers need to make decisions on where best to allocate their scarce research time. In this paper we summarize our recent baseline developed for the US economy and illustrate the impact of using these additional sources of detailed economic information compared to a more traditional approach in developing a baseline in a CGE model. Recognizing that any method used involves substantial uncertainty and trade offs the goal of the paper is to illustrate how the two approaches differ in their implications for certain key model variables within USAGE rather than pass judgment on any particular approach.

* United States International Trade Commission and Visiting Scholar United States International Trade Commission and Center of Policy Studies, Monash University, respectively.