

# Business cycle accounting for Argentina utilizing capital utilization\*

**Tiago V. de V. Cavalcanti**

University of Cambridge

**Pedro Elosegui**

**George McCandless**

**Emilio Blanco**

Central Bank of Argentina

## Summary

We use a variation on the business cycle accounting method of Chari, Kehoe and McGrattan (CKM) to study the business cycle in Argentina from 1972 to 2006. The method uses real data together with the equilibrium conditions of a prototype growth model to measure four wedges that are explained by the variables of the model. These wedges can be viewed as distortions from a perfectly competitive economy and represent the result of a set of policies and institutions which affect productivity and factors input.

The accounting procedure allows us to analyze the Argentine economy over a time period that has been subjected to several structural breaks that can be associated with different economic regimes. CKM show that a large class of economic models, including those with various additional features (e.g., financial frictions, nominal rigidities, entrepreneur decisions, and monetary shocks) are equivalent to a prototype growth model with time-varying wedges. Institutions, public policies, fiscal, monetary, income and labor policies affect the four wedges and therefore affect the allocations of capital and labor, net exports and productivity in the economy. In their standard model for business cycle accounting, CKM use four wedges that are explained by

---

\* We are grateful to Sabastián Katz, Carlos Zarazaga and the referees who provided helpful comments. Also to Abel Viglioni who provided the data base of capital utilization. The opinions expressed here are those of the authors and should not be taken to represent those of the Banco Central de la República Argentina.

four variables of the model. In our paper we emphasize the evolution of labor and capital wedge as well as that of factor productivity.

The growth accounting technology provides an alternative window through which we can decompose the economic history of a country. The narrative of economic history frequently points out that particular policies were favorable to one or another factor or that much of the evolution of the period was based on Solow residuals or total factor productivity. The growth accounting technique allows us to decompose the business cycle and growth of Argentina into a net export component, a total factor productivity component, and components that functions as taxes on labor and on capital.

Determining which wedges are most important for explaining the Argentine business cycle is a first step towards determining which frictions are most important in generating a productive RBC model of Argentina, especially if these models are to be used for forecasting or for analyzing monetary policy and monetary transmission channels.

This paper makes two contributions to the literature. First, we provide a method for extracting the wedge that functions as a capital tax by adding to the model capital utilization as a household decision variable and then applying the data on capital utilization to the wedge extraction process.

Applying the model to Argentina, we find that all four wedges are important in explaining the evolution of output over this period (although net exports is the least important). With this method, the wedge for the tax on capital makes a substantial contribution in the explaining the business cycle of Argentina (while the earlier method resulted in very little explanatory power for the capital wedge for the United States). This result may come from the method or may come from the greater importance that the capital wedge has in Argentina. Notable is the large negative correlation between total factor productivity wedge and the capital tax wedge. The second contribution is applying this method to Argentina and comparing the results of the growth accounting technique to the narrative history. The major political subperiods can be characterized by the relative importance of each wedge.

*JEL:* E22, E32, N16.

*Key words:* bussiness cycle, capital utilization, distortion measures