Impacts of Monetary Policy on Prices in a Country without Own Currency

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Abstract. This paper estimates a model for Consumer Price Index (CPI) of East Timor using monthly data from 2003 to 2010. The approach followed in the formulation of the econometric model is based on the Quantity Theory of Money and uses stationarity and cointegration tests. The policy implications of the paper are the following: the control of inflation requires the Public Expenditure to be bounded; some Public Expenditure should be used for formation of Human Capital and Fixed Capital; there is evidence supporting the Quantity Theory of Money in East Timor.

Keywords: Consumer Price Index, Budgetary Policy, Quantity Theory of Money, Inflation, Stationarity, Cointegration.

1 Introduction

The recent increase of inflation in East Timor has motivated the design of a model to estimate the consumer price index (CPI) of this country. The CPI is a weighted average of the prices of a specified set of goods and services purchased by consumers. This index allows the measurement of the inflation rate, which has been rising without restraint since 2008 [21].

This conjuncture is particularly dramatic, since the increase of inflation implies a drop in the purchasing power of East Timor households. In turn, governmental injections of money worsen an already overheated economy. The process becomes self-perpetuating, i.e., a snowball effect, which can only be stopped by controlling inflation [26].

Due to the fact that East Timor does not have its own currency, controlling inflation calls for public expenditure to be bounded. However, public expenditure has experienced an exponential rate of growth: for example, the increase was 130% from 2007 to 2008. At the same time, the money supply (M2) has also been increasing: for example, the increase from 2009 to 2010 was 38% [10]. As it is well known, the supply of money is one of the most common explanations of price increases, i.e., the "Quantity Theory of Money" [7].

Based on this theory, and using stationarity and cointegration tests, we developed the first macroeconomic study for East Timor resulting in a model that

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may help the Central Bank of East Timor advise the government on its most appropriate policy options.

The remainder of the paper is organized as follows: Section 2 presents a survey of the literature; Section 3 describes the contextual setting; Section 4 develops the theoretical framework; Section 5 presents the data and results; Section 6 discusses the results; and Section 7 concludes the paper.

2 Literature Survey

In this section, we conduct a brief survey of some relevant literature on East Timor and inflation and the application of the Quantity Theory of Money.

Brouwer (2001) [4] considers the decision to dollarise (by which a country decides to introduce another country's currency as its own) and concludes that East Timor should adopt a firmly fixed exchange rate (US dollar or the Australian dollar). Jacome and Lonnberg (2010) [16] identify key aspects related to dollarisation which must be addressed by countries intending to dollarise officially. They analyze, in particular, the experiences in adopting dollarisation of countries such as Ecuador, El Salvador, Kosovo, Montenegro and East Timor.

Concerning papers studying the targeting of inflation in emerging countries, Amato and Gerlach (2002) [1] conclude that inflation targeting (IT) is a useful policy strategy for emerging market economies. Mishkin (2000) [23] stresses the implications of inflation targeting for emerging market economies and concludes that it may not be appropriate for many emerging market countries. Fraga et al. (2003) [11] discuss the policies appropriated to make inflation targeting successful; Otero and Ramirez (2006) [24] analyze the inflation in Colombia, before and after central bank independence with a vector error correction model (VEC).

Finally, we consider some empirical papers on the Quantity Theory of Money. Bullard (1999) [5] conducts a large review of papers on long-run monetary neutrality and (super) neutrality propositions and emphasizes that while there is, in general, evidence in favor of the neutrality proposition, no clear-cut inferences can be drawn from the international evidence of (super) neutrality. Geweke (1986) [13] uses a century of annual US data as well as postwar monthly data supports the neutrality of money for the US economy; King and Watson (1997) [18] investigate various long-run neutrality propositions using postwar US data and conclude that the data contain little evidence against the long-run neutrality of money and suggest a very steep long-run Phillips curve.

3 Contextual Setting

The Democratic Republic of East Timor is a small country in South-east Asia, as shown in Figure 1. Before its independence, East Timor had suffered harshly for more than two decades following the Indonesian invasion and occupation, which began in December 1975. Liberated in late-1999, the country achieved independence in May 2002 [6]. Thus, an independent East Timor is quite recent, which explains the relative paucity of data and some lack of organization in this