Exchange rate regimes and the linkage between money and output in Greece

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Abstract

This paper examines the long-run relationships that might exist between output, money, price, trade balance, and the exchange rate under flexible and fixed exchange rate regimes. Johansen's maximum likelihood method is used to estimate the existence and the significance of long-run equilibrium relationships among nominal and real variables and among external and domestic variables during periods of fixed and flexible exchange rates. The empirical findings suggest that all variables are co-integrated, indicating a long-run equilibrium relationship. These results are reinforced by additional tests regarding the absence of variables from co-integrating vectors, weak exogeneity tests and variance decompositions. The empirical evidence shows that "money matters" whatever the exchange rate regime, creating however, significantly higher disturbances under the flexible exchange rate case. © 2002 Society for Policy Modeling. Published by Elsevier Science Inc. All rights reserved.

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1. Introduction

The economics of exchange rates has received a lot of attention in the literature for at least three reasons. First, the apparent misalignment of major exchange rates in the last two decades and its relation to the structural characteristics

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of a particular economy (i.e., trade imbalances, wage price flexibility) forced a reconsideration of what the appropriate exchange rate regime. Second, economic (monetary) policy credibility has been directly linked to the exchange rate regime. Pegging the exchange rate to a "hard currency" or to a basket of "hard currencies" to be considered as a commitment by policy makers' to stabilising the economy. Third, exchange rate regimes are directly linked to recent attempts at regional integration (i.e., European Union and North American Free Trade Area). Common to most studies of this literature is the important distinction between short-run dynamic adjustment and long-run equilibrium relationships between nominal and real variables on one hand and between domestic and external variables on the other. Isard (1995) surveys the economics of the exchange rate.

A number of recent empirical studies have used the co-integration approach to investigate the existence of a long-run equilibrium relationship between the exchange rate and a number of fundamental variables such as output, money, inflation, interest rate and trade balance. Cifarelli (1995) used co-integration tests to identify long-run relationships between the dollar/sterling exchange rate and the fundamental variables over the period 1979–1989. He found that from February 1985 to June 1989, the exchange rate was co-integrated with money supply, the nominal interest rate, the expected inflation rate and the trade balance between the two countries. Only the first two variables were co-integrated with the exchange rate over the April 1979 to March 1985 period. Faruqee (1995) has applied co-integration analysis to explain long-run movements of the USA and the Japanese exchange rates during the 1951–1990 period. He found that productivity differentials in both countries share a long-run relationship with the real exchange rate. Also, for the USA, co-integration tests indicated a long-run relationship with net foreign assets. Joyce and Kamas (1994) have used co-integration tests to identify long-run relationships between the exchange rate and fundamental variables under alternative exchange rate regimes in the USA. Their results support the existence of co-integrated relationships between the relevant variables. Alexakis and Apergis (1994) examined the relationship between savings and investment under fixed and flexible exchange rate regimes in the USA using co-integration analysis. They found that a long-run relationship exists under a fixed exchange rate regime with capital controls. The relationship breaks down under flexible exchange rates and the relaxation of capital controls. Finally, Bahmani-Oskooee and Alse (1995), using quarterly data from a number of countries and co-integration analysis, found mixed results for the long-run relationship between the trade balance and the terms of trade.

However, in the aforementioned survey, Taylor (1995, p. 29) pointed out that "the usefulness of the co-integration approach suggested by these studies should, moreover, be taken as at most tentative: their robustness across different data periods and exchange rates has yet to be demonstrated". The present study attempts such a "demonstration" using monthly Greek data from fixed and flexible exchange rate periods. Several studies for the Greek economy deal with the problem of the