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Testing the dependency theory on small island economies: The case of Cyprus☆

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ABSTRACT

This paper empirically tests the validity of dependency theory in the small island setting of Cyprus, to establish whether a periphery/patron relationship exists between each of the island's two economies and their respective mainland partners of Greece and Turkey. Using data for the 1978–2013 period, we first test for the necessary condition, i.e. whether there is a long-run cointegrating relationship in the economic development of the Republic of Cyprus (RC) and Greece, and the Turkish Republic of Northern Cyprus (TRNC) and Turkey. We then test for the sufficient condition, i.e. whether periphery-economy per capita income series to be weakly endogenous, while those of patron economies are weakly exogenous. Our results indicate strong dependency within the periphery/patron economy pairs of the RC/Greece and the TRNC/Turkey. Further, we show that economic growth in the periphery economies is largely driven by that of the patron economies. Using a Markov-switching vector autoregressive (MS-VAR) model of the short-run business cycle, we demonstrate that the RC/Greece and the TRNC/Turkey co-move in the short-run, and that business cycles with each pair are synchronized. The policy implications of these findings are then discussed.

1. Introduction

Santos (1970) defines dependency as "a situation in which the economy of a certain country or group of countries is conditioned by the development and expansion of another economy, to which their own is subjected.". The literature on dependency, summarized in the next section, includes examinations of colonial relationships, in which colonial powers are presented as patrons and their colonies as peripheries or satellites. Kaufman et al. (1975) concur with this perspective, on the grounds that the peripheries (colonies) do not have the necessary resources and know-how to compete in international markets. According to the authors, even industrialization does not reduce the level of dependency between patrons and peripheries. The industrialization of periphery economies makes them still more dependent on patron-economy imports, such as raw materials, capital, or semi-finished goods, rather than non-essential consumer products. More recently, Armstrong and Read (2000) suggest that peripheries tend to concentrate on a few niche-market exports, which exacerbates the dependency problem of periphery economies. Furthermore, periphery economies experience decline in the domestic entrepreneurial activity while multinational corporations replace domestic ones (Kaufman et al. 1975).

There is also large literature on the advantages and disadvantages of being a small island economy. For example, Briguglio (1995) suggests that small island economies face challenges due to remoteness, insularity, and vulnerability to natural disasters, in addition to economic vulnerabilities including size, limited natural resources, constraints to import substitution, dependence on export markets and a narrow product range, limited power to influence prices, and inability to achieve economies of scale. Furthermore, Read (2004) suggests the islandness and globalization through trade have significant impacts on the economic growth of island economies.

In addition to imperialist (colonist vs. colony) relationships, dependency theory is also used to describe the political power of a patron over a periphery that is the result of historical ties between the two. This paper contributes to the literature on dependency theory by

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examining such periphery/patron relationships between two eastern-Mediterranean pairs with historical ties—the Republic of Cyprus (RC) and Greece, and the Turkish Republic of Northern Cyprus (TRNC) and Turkey. We analyze the possible long-run (co-integration) and short-run (synchronization) relationships within these pairs, with particular focus on specific milestones.[1] Our study is both timely and relevant, with the recent global crisis and problems in the Eurozone providing an excellent setting in which to test dependency theory. Following the accession of the RC to the Eurozone in 2008, each of our economy pairs use a common currency (the Turkish lira in the TRNC/Turkey and the euro in the RC/Greece), making our work a unique case study in dependency theory.

At the macroeconomic level, a periphery/patron relationship implies that common indicators (such as the per capita GDP of each economy) will be driven by a common stochastic trend, and the specific indicators (e.g. per capita GDPs) thus cointegrated. The existence of a periphery/patron relationship is further confirmed if a given macroeconomic indicator of the periphery economy is weakly endogenous and that of the patron economy weakly exogenous. We empirically test these implications by analyzing the co-integration relationship of per capita GDP between the RC/Greece and between the TRNC/Turkey over the 1978–2013 period.

While the RC's accession to the EU and Eurozone might have had an impact on the co-movement of the RC/Greece economy pair, a 2008 European Commission report on the degree, evolution, and determinants of business cycle co-movement in the euro area as a whole found that existing studies were at best inconclusive (European Commission, 2008). This finding is supported by Kappler and Sachs (2012), in their extensive analysis of business-cycle synchronization in the EU.[2] Giannone et al. (2010) show that monetary union did not alter business-cycle characteristics or the co-movement of per capita real GDP. Montoya et al (2008) conclude that, on average, monetary union increased business-cycle synchronization, but that synchronization in some regions remained low or even decreased, indicating a 'national border' effect.

In sum, the vast literature on business-cycle co-movement in the EU does not facilitate easy conclusions on the likely effect of EU integration on the long- and short-run co-movement of the RC/Greece economy pair. Nor can we disentangle the separate EU and global effects with the addition of other variables to our model. However, we do recognize that EU integration should have an effect on the co-movement of the RC/Greece economy pair.

Each economy pair of the TRNC/Turkey and the RC/Greece are historically and closely linked. For more than three centuries, the island was under the control of the Ottoman Empire, during which time Turkish migration resulted in the cohabitation of Turks and Greek Cypriots. In the aftermath of World War I the Ottoman Empire lost control of the island, which became a British colony in 1925, declaring independence in 1960. Turkey and Greece, along with Britain, were established as guarantors of the independence, territorial integrity, and security of Cyprus, under the Treaty of Guarantee. However, Turkish intervention in Cyprus following a Greek-sponsored coup in 1974 led to the island's de facto division, and the closer integration of each side with its respective mainland partner.

The economic integration of each economy pair has since accelerated, with the accession of Greece then the RC to the EU, followed by each joining the Eurozone, and the parallel strengthening of ties between Turkey and the TRNC. (Greece joined the EU in 1981 and adopted the euro in 2001, while the RC joined the EU in 2004 and adopted the euro in 2008. Turkey has been an associate member of the EU since 1963. The TRNC has been under international embargo since the events of 1974, further spurring its economic integration with Turkey.).

We empirically test whether business cycles within each of our periphery/patron economy pairs are driven by a single regime and are synchronized, using Markov-switching vector autoregressive (MS-VAR) models fitted to per capita real GDP series. Our paper contributes to the sizeable literature on the transmission of shocks, contagion, business-cycle synchronization, and convergence between countries. Although there are numerous papers on these issues, no work has investigated the transmission of shocks and business-cycle synchronization between a EU member (Greece) or a candidate country (Turkey) on the periphery economy with which either is associated. To the best of our knowledge, this is the first study to investigate linkages between these patron and periphery economies in the framework of dependency theory.

Our results show that per capita real income of the periphery/patron economy pairs, i.e. the RC/Greece and the TRNC/Turkey are cointegrated, implying that per capita real GDP in the RC and Greece are driven by the same stochastic trend in the long run as in TRNC and Turkey. Furthermore, as dependency theory suggests, we find periphery-economy per capita income series to be weakly endogenous, while those of patron economies are weakly exogenous. Therefore, the RC and TRNC behave as periphery economies of their respective patrons, Greece and Turkey.

In order to examine short-run business-cycle dependency, we estimate bivariate MS-VAR models for the real GDP growth series of patron/periphery pair economies. Our empirical results imply that business cycles in patron and periphery economies follow perfectly synchronized regime-switching processes. Using the multi-chain version of MS-VAR models, our results further show that regime-switching processes in periphery economies depend on regime-switching processes in patron economies, indicating that short-run periphery-economy business cycles also depend on patron-economy business cycles.

The following section describes the economic links between the two island economies of Cyprus and their respective patrons, while Section 3 discusses recent literature on patron/periphery relationships, with particular emphasis on the two economies of Cyprus, Turkey, and Greece. Section 4 presents the data and empirical analysis, and Section 5 concludes with some policy implications of findings.

2. Cyprus: small island economies and links to patrons

For the past century the two main populations of Cyprus, Greek- and Turkish-Cypriots, have been locked in dispute (Okumus et al. 2005). Historically, each group has been closer to its patron of Greece or Turkey than to one another, bound by cultural, religious, and economic ties (Kliot and Mansfield, 1997). Since the de facto division of the island in 1974, the Republic of Cyprus (RC) has controlled the southern 63% of the island, while the Turkish Republic of Northern Cyprus (TRNC) controls the northern 37% (Sonmez and Apostolopoulos, 2000). The economic embargo on the north following Turkey's intervention has, unsurprisingly, resulted in distinctive paths of economic growth in the RC and the TRNC. For example, while the TRNC experienced average growth of 8.5% from 1978 to 2010—0.5% higher than the RC—the volatility of growth in the TRNC was much higher than that in the RC (see Fig. 1). The RC prospered as a result of additional stability, particularly since it joined the European Union (EU) in 2004. Although real GDP growth rates are more volatile in Turkey and the TRNC in the period up to the mid-1990s, growth in both has also been more robust since 2004.[3]

[1] The period of our study includes several important milestones: 1980 – military coup in Turkey; 1981 – Greece joins EU; 1996 – Imia/Kardak military crisis between Greece and Turkey; 2001 – Greece joins Eurozone; 2003 – opening of the Green Line between RC and TRNC; 2004 – RC joins EU; 2008 – RC joins Eurozone; 2004 – rejection of the Annan Plan for reunification of Cyprus; 2009 – Eurozone banking crisis.

[2] See also other references in Kappler and Sachs (2012).

[3] For a recent evaluation of the Turkish and Greek economies, see, among others,