

Symmetric and Asymmetric Relationship Between Military Expenditures and Economic Growth in NATO-27: A Panel Bootstrap Granger Causality Approach

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Abstract

At the present time, defence economics suggests that military expenditures are likely to affect economic growth. Therefore, numerous studies have been conducted to explain the relationship between military expenditures and economic growth. Although there is a large literature on the military-growth nexus, overall findings depict that there is no consensus about this relationship. While some papers found quite highly significant and negatively or positively linkage between military expenditures and economic growth, there are variously some papers with insignificant findings. The purpose of this paper is to examine the causal linkage between military expenditure and economic growth in 27 North Atlantic Treaty Organization (NATO) members for the different periods because of the data problems associated with the availability. In this regard, we investigated both symmetric and asymmetric relationship between military expenditures and economic growth by using panel causality testing approach developed by Konya (2006) under the cross-sectional dependence and panel heterogeneity. In this context, the results depict that there are symmetric and asymmetric Granger-causality relationships between military expenditures and economic growth, varying from country to country. Here, we will generally express our results in terms of four outcomes. Firstly, there is no any relationship between military expenditures and economic growth in Albania, Lithuania, Spain, Turkey and United States. Secondly, there is a unidirectional causality in Belgium, Czech Republic, Denmark, France, Germany, Greece, Hungary, Italy, Luxembourg, Netherlands, Norway and United Kingdom from military expenditures to economic growth. Moreover, in addition to these findings, we found that there exists a strong symmetric and asymmetric Granger causality between military expenditures and economic growth in Belgium, Denmark, France, Greece, Italy and Norway. Thirdly, a strong symmetric and asymmetric Granger causality between military expenditures and economic growth is found in Estonia and Latvia while there is a unidirectional causality from economic growth to military expenditures in Croatia, Estonia, Latvia, Slovakia and Slovenia. Finally, for Bulgaria, Canada, Poland, Portugal and Romania, the results of causality tests indicate that there is a bidirectional causality between the military expenditures and economic growth. Also, the results indicate that there are symmetric and asymmetric relationship with a strong bidirectional Granger causality between variables for both Portugal and Poland. For Bulgaria, Canada and Poland, we also found only limited evidence of asymmetric relationship between variables. Consequently, our results show that we can empirically reach stronger evidences for military expenditures-growth nexus when we consider asymmetric relationship between military expenditures and economic growth.

Keywords: Defence Economics, Military Expenditures, Economic Growth, Bootstrap Panel Granger Causality, Asymmetry.

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