



16th Annual Conference on Finance and Accounting, ACFA Prague 2015, 29th May 2015

## Military Expenditure and Economic Growth: The Case of Turkey

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### Abstract

This study applies Johansen co-integration and Granger causality tests to examine the long-run equilibrium relationship and the causality between military expenditure (ME) and economic growth (GDP) for the case of Turkey which has been a rapidly developing economy for the last decade. Annual data covering 1988-2013 periods is used to conduct empirical investigation. The findings of the study indicate that in the long-run, military spending and economic growth are co-integrated. The results of Granger causality test suggests that there is a uni-directional relationship running from economic growth to military spending, however any causality from military spending to economic growth isn't observed in the present study.

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Peer-review under responsibility of University of Economics, Prague, Faculty of Finance and Accounting

*Keywords:* Economic growth; Military expenditure; Granger causality test

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### 1. Introduction

There are several channels through which military spending may affect economic growth. Each channel may result to different outcomes. Positive security-related effects on supply-side spillovers might be accompanied by the negative ones such as pulling resources away from more productive sectors of the economy. Therefore, predicting the net effect of defense spending on the economic growth is difficult and a matter of investigation. However, the empirical studies have given different results and the effect of military expenditure on the economic growth has remained as a controversial subject among economists. The answer of this question has vital implications for the defense policy of the countries.

Because of its geographical condition Turkey has never felt itself secure. Long lasting wars at the beginning of the 20th century made the young republic spend heavily on national defense. Then Second World War, being a

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neighbor of socialist Russia, having borders with Middle East, problems with some of its neighbors led the country to keep spending great amount of money on military expenditures. To have more powerful military forces has always been vital for Turkey and military expenditures have taken one of the largest shares of the budget.

To estimate the exact amount of Turkey's defense expenditure, all military related expenditures of the country should be taken into account. There are two comprehensive international sources to monitor military expenditure in Turkey: the North Atlantic Treaty Organization (NATO) and the SIPRI Military Expenditure databases. According to these sources; Turkey's military expenditure reached to its maximum level in the late 1990s and then began to decline. Although there has been intend to reduce the military expenditure for the last decade, military expenditure of Turkey is still considerably high. In 2012, the components of Turkish military expenditures sum up to almost 2.4 per cent of the gross domestic product which is the world's 15th highest defense spending, despite the spending cut. On the other hand for the last decade Turkey has had a high GDP growth rate, which means that high GDP growth rate is accompanied by defense spending cut. These properties make Turkey a good case to investigate relationship between military expenditure and GDP growth. Our study aims to investigate this relationship by using cointegration and causality analysis.

This study is structured as follows; Section 2 presents an overview of the related literature. Data and methodology will be presented in Section 3. Section 4 provides a discussion about empirical results of the study. At last, section 5 includes conclusion and recommendations for further studies.

## 2. Literature review

In many countries military expenditure is one of the most important components of the budget. So; the long term and causal relationship between military expenditure and GDP growth has been extensively studied in the literature. Benoit (1973) is the first researcher who put forth that there is a significant relationship between defense spending and economic growth and found a causal relationship from military expenditure to economic growth for the time period examined for 44 less developed countries. This issue attracted attention of the researchers and a large body of literature has emerged since late 1970s.

Many studies provide evidence for the long run relationship between military expenditure and military spending. However, the question of whether military expenditure contributes or hinders economic growth is still under discussion. Cohen (1996) indicated that military expenditure might have indirect positive effect of on economic growth through investment. On the other hand; Heo (1999) suggested that military spending causes a reduction in investments and exports and consequently hinders the economic growth which means that there is an indirect negative effect of military spending on real income for South Korea. Yakovlev (2007) claimed that an increase in military expenditure may lead to an expansion of new technology which creates spillover for the civilian segment of the economy. On the contrary, military spending may also create inflationary pressure and reduce the amount of the resources used by the other sectors of the economy. Mylonidis (2008) found that defense expenditure has negative impact on real income of the country. Wang et al. (2012) indicated that military spending leads to a greater Malmquist index (MPI) which means military spending can enhance economic fertility in OECD countries.

Also the existence and the way of the causality between these variables have been investigated intensely. Joerding (1986) applied the Granger causality approach and found the causal relationship between military spending and real income for 57 least developed countries. Kusi (1994) found bi-directional causal relationship in 1 country, uni-directional causal relationship in 12 countries, and no casual relationships in 62 countries. Applying the Granger causality approach, Chang et al. (2001) found evidence for bi-directional causality between military expenditure and real income in Taiwan and uni-directional causality running from real income to military expenditure in China. By using Granger causality approach Dakurah (2001) found that there is causal relationship between military expenditure and real income for 62 developing countries. Safdari et al. (2011) reported uni-directional causal relationship running from real GDP to defense spending in Malaysia and South Korea and were not able to find any causal relationship among them for Saudi Arabia and Iran. Dunne and Perlo-Freeman (2003) indicated the unidirectional relationship running from economic growth to military spending for Greece, Portugal, and Spain. Results show that the influence of greater economic growth on military spending may be either negative or positive.

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