The role of military expenditures on economic growth in Italy

By Federico VITALI [†]

Abstract. The purpose of this paper is to evaluate the likelihood of a nexus between economic growth and defense spending in Italy. With the US urging its NATO allies to stop "free-riding" through diminishing budget allocations to military expenses, and European policymakers hard-pressed by populist tail-winds, the debate on the effects of military expenditure on the economy is more current than ever. I briefly review the literature supporting each of the three possible effects: positive, negative, and insignificant. Scholars use various economic models like the Feder-Ram model (Biswan & Ram, 1986), the augmented Solow model (Mankiw, Romer, & Weil, 1992), and endogenous growth models to investigate whether military spending affects economic growth and the degree and direction of causality. In this paper, Ido notutilize econometric models to establish a relationship between the two variables, but rather leverage on existing research and my analysis to formulate an educated guess. The relevant studies, on countries similarly industrialized, lean towards a negative or insignificant relationship between economic growth and defense expense. Based on the evidence presented in the paper, I postulate that the role of military expenditure on economic growth is insignificant in Italy. Nevertheless, investing in the national defense industry to consolidate and advance Italy's ninth position as a global exporter of arms, would bring benefits regarding both balance of trade and strategic long-term partnerships.

Keywords. Defense spending, Economic growth, Italy.

JEL. H50, H56, H60, H63, O40, O49.

1. Introduction

Markets and economic prosperity require peace to thrive. For this reason, nations abide to the principle of deterrence as supported by Brodie (1959) to dissuade other nations to engage in militaryoffense. In the quest for this military power equilibrium, each year states allocate a budget for defense expenditures. The effect of this allocation on a country economic growth is object of considerable debate with no consensus thus far. Findings vary according to the econometric model used (Dunne, Smith, & Willenbockel, 2005), the sample composition in terms of country type and presence or absence of conflict, and whether this conflict is internal and external (Aziz & Asadullah, 2017). The three hypothesis are that the effect is either: positive, negative, or insignificant. Scholars hold that developed industrial economies find in general little marginal benefit from military expenditure as a mean to develophuman capital or support technology transfer to the private sector, aka "spin-offs" but are rather more negatively influenced by the negative effect of soaring public debt (Nikolaidou, 2016). Studies on developing economies found instead more frequently a nexus between economic growth and military expense (Ajmair, et al., 2018; Chairil, Sinaga, & Febrianti, 2013), especially for the share allocated to military personnel (Ajmair et al., 2018), boosting aggregate demand. This last finding is consistent with the Keynesian approach that supports the nexus between increases in defense

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expenditures and increases in employment and output as an effect of increased aggregate demand (Dunne, 2011). The neoclassical approach holds the opposite belief: more money allocated in defense means less capital available in the economy for private investment, due to the fact that the government would finance the military expense through additional taxes, with a direct effect on aggregate demand, leading to negativeeffects on the economic growth. A review of the three main hypothesis relative to the effect of military expenses on economic growth follows.

2. Literature review
2.1. Positive effects
On employment: Some scholars argue that military spending has a positive effect on job creation. And since the jobs in the military sector are paid less on average than those in the private sector, defense spending is considered to be more efficient at creating jobs. Scholars that found empirical evidence of the positive effects of defense spending on the economy are Mueller & Atesoglu (1993), Atesoglu (2002), Atesoglu & Mueller (1990). Quaresma & Rentschler (2004) found a positive effect on externalities such as job creation. Nancie & Cusack (1979) and Blank & Rothschild (1985) hold that defense spending in the US generates employment due to the large size of the US Armed forces.

On technological innovation: Adams & Gold (1987), together with Gold (1990) and Sandler & Hartley (1995) defend that the investments in military technologies and R&D have positively impacted the private sector through technology transfer or "spin-offs."

On Foreign investment: Defense spending facilitates the attraction of foreign investment and international business (Sandler & Hartley, 1995) and provides insurance against war (Quaresma & Rentschler, 2004).

2.2. Negative effects
On the Production Possibility Frontier: Military spending appears to be responsible forindirect, delayed, negative effects on the US economy according to Goldstein (1988), Heo & Eger (2005), Mintz & Huang (1990, 1991), Ward & Davis (1992), Ward, Davis & Lofdahl (1995). Mintz & Huang (1990, 1991) defend that military spending and private investment compete over the same non-consumption portion of the capital circulating in the economy, from here the tradeoff "guns versus butter" representing the tradeoff between the military and non-military spending. Melman (1983) holds that the arms manufacturers need highly skilled workers and engineers reducing their availability for civil industries.

On Investments: Lindgren (1984) found that military expenditure decreases private investment in his study of twelve industrialized market economies. Also Faini *et al.,* (1984) hold that military expenses absorb the resources needed to grow the economic output through a negative influence on investments.

On Saving: Deger (1983) found a negative effect of military spending on savings. This is due to the increase in taxes to fund the military budget.

2.3. Insignificant effects
A third group of scholars found no statistically significative evidence that a relationship between military spending and economic growth exist. Payne & Ross (1992) and Kinsella (1990) found no evidence of causal relationship between military spending and economic growth. Gerace (2002) also didn't find evidence supporting a causal relationship between the two variables and argued that it was due by the fact that military spending per capita in the US is not large enough tohave an impact on overall economic growth. Heo (2000) also found insignificant effects of military expenditure on economic growth in the United Stated during the period 1948 to 1996, even using different iterations of the Feder-Ram model of economic growth. Heo (2010) repeated this investigation by using the augmented

Solow model recommended by Dunne, Smith, & Willenbockel (2005), finding again a statistically insignificant relationship between defense spending and economic growth in the United States for the period 1954 to 2005.

3. Global trends

In 2017,the global military spending was $1.73 trillion or 2,2% of global gross domestic product (Tian, Fleurant, &Kuimova, 2018), representing a slight increase versus 2016 butstill in line with allocations following the end of the second gulf war in 2011.The decade 2001 to 2010,following the events of 9/11,saw an increment of the global military expenditure of 46% in real terms at constant 2010 prices (World Bank, 2018) due to the combined effect of the increase of global GDP,+29%, and of military expenditure increase as a share of global GDP, +13%. The global economy has not reached its pre-crisis level of 2008 yet, however, it shows a slow but stable positive trend since 2014. Figure 1 shows graphically the constant decrease in military spending as a percentage of GDP in the last twenty years (the "peace dividend" following the end of the cold war) and the barely noticeable increase since 2014.
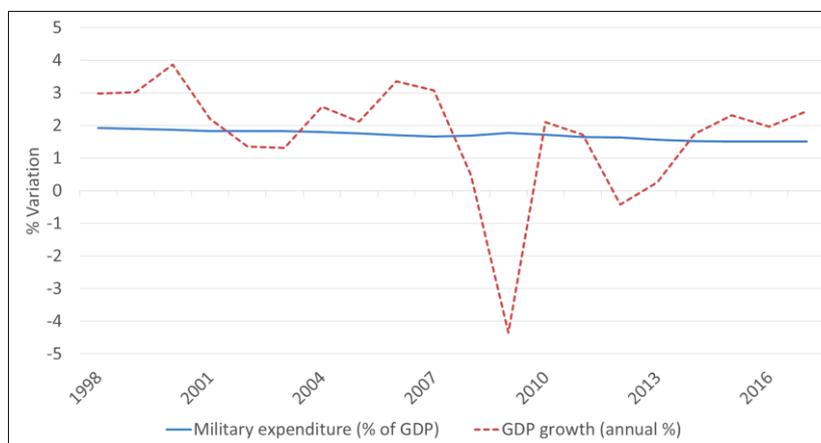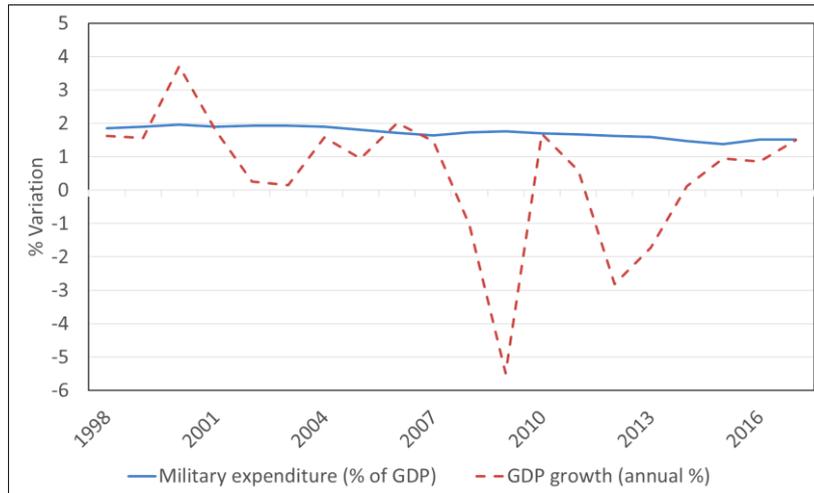

Figure 1. *EU military expenditure as % of GDP and EU GDP annual% growth, 1998-2017. Data from WorldBank (2018).*

4. The case of Italy

In the last twenty years Italy has been keeping its defense budget around 1,7% of GDP, with a maximum of 1,96% in 2000, and a minimum of 1,38% in 2015. In the last five years, with the economy recovering slowly but consistently, Italy's GDP grew 1,5% in 2017 but still lagging the European average GDP growth of a full percentage point.Figure 1 and Figure 2 show how Italy's economic trend and military expense follow the European trend. The arms industry has a strategic role for Italy, being the ninth country in the world for arms exports according to a SIPRI report by Wezeman, *et al.,* (2018). Italy is responsible for about 2,5% of the global arms exports, with an increase in market share of 13% in 2017 versus prior year (2018). Italy share of arms imported is a lower 1,5% (2018) which means Italy balance of trade in the defense compartment is positive. SIPRI (n.d.) estimates the overall value of the defense transfers to be $91,2 billions in 2015 (or €79 billion at the current exchange), leading to a net positive balance of €1 billion.

Figure 2. *Italy military expenditure as % of GDP and Italy GDP annual % growth, 1998-2017. Data from WorldBank (2018).*

Figure 2 also shows how the increase in military expense, incidentally, followed the GDP growth during the period 2012-2016 as Italy gradually recovered from the negative growth periods of 2008-2009 and 2012-2013.

The data in Figure 2considers both the expense incurred by the Ministry of Defense (MoD) and the expense incurred by the Ministry of the Economic Development (MISE) for commissions to Italian defense suppliers.

Italy official MoD expenses in 2017 amounted to 1,18% of GDP or €20,2 billion, however, also the Ministry of Economic Development (MISE) allocates every year a budget for the purchase of military equipment that involves Italian weapons manufacturers. This budget isn't accounted for in the official defense expenses measurement. In 2017, MISE allocated €3,325 billion, or about 3/4 of the its overall budget (Vignarca & Piovesana, 2018), for military project expenditures. MISE funded this allocation also by taking on mortgages with financial institutions, and the interest portion has soared to €427 million/year. This translates in an unbalanced help for the military sector which accounts only for 0,8% of GDP, with 121 companies, 50,000 workers and €15,2 billion of turnover (Vignarca & Piovesana, 2018). The remaining 137,000 small and medium-sized companies, with 3,9 million workers and €838 billion of turnover, worth about 50% of the Italian GDP are left with one-quarter of the MISE budget (2018, p.29).
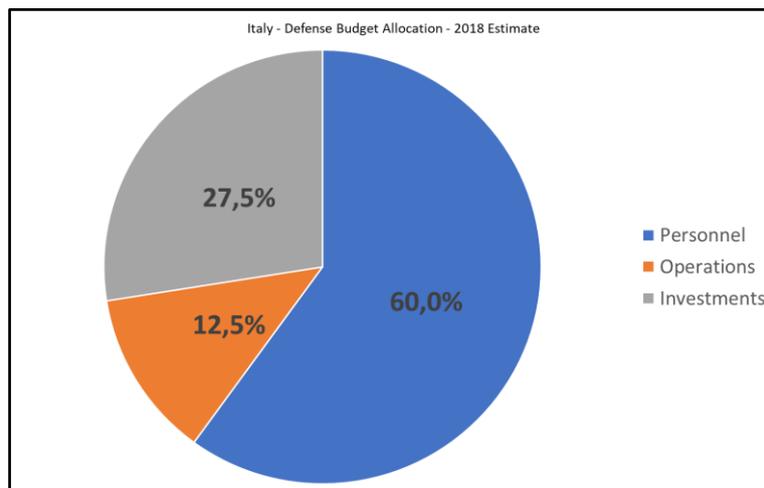
Figure 3. Italy-Defense budget allocation- 2018 estimate. Data retrieved from MILEX (2018).

5. Conclusion

The latest analysis on the impact of military spending on growth for Italy support a negative effect during a 7-year period, 2005-2012, through the panel data analysis by Korkmaz (2015), and an insignificant/neutral effect during a 12-year period, 1988-2010, through the panel data analysis by Chang (2014). Scholars also support the insignificant effect hypothesis when there is:little or no extra-employmentgenerated, with negligible effects on aggregate demand (Chan, 1995), and this would be the case for Italy since the number of military personnel is decreasing and expected to decrease further from the current 170,000 units to 150,000 units in 2024 (Giglioli & Carnimeo, 2018; Rullo, 2016); none or lowperceived threat for which improved military spending would provide reassuranceand confidence forto the markets (Aizenman & Glick, 2006), another condition met with the defeat of ISIL, and the lack of imminent threats.

According to the scholars' analysis, the case of Italy leans towards a modest negative effect for military spending due to Italian high total public debt and the detrimental effect that Government expenses would have on private investment. Italy has voiced the intention to comply with the 2% level of military expense over GDP recommended by NATO (Youssef & Gordon, 2018), but at the moment, attention is on continuing personnel units reductions to simply re-equilibrate the current level of expenditure among personnel, investments, and operations (Figure 3). With high levels of youth unemployment and lethargic economic growth in the south, public pressure and the populist political agenda in Italy push towards non-military uses for the missing 0,5% of GDP that the US are requesting to their European NATO partners, making such allocation unlikely in the short term.

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