

The empirical effects of government spending

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Valorisation addendum

Nowadays, it is obvious that the government plays an important role in the economy. Not only is the government heavily involved in the provision of public goods and income redistribution, it also provides society with an insurance against economic downturns through anti-cyclical fiscal policy. It remains however important to investigate whether the positive effects of short-term anti-cyclical policy outweigh the possible negative effects, and whether no unintended ‘side’ effects occur. It makes sense that macro-economists pay close attention to the functioning of the government, not only in the long run, but also in the short run. Since the main macroeconomic theories disagree about the income effects of government spending in the short-run, empirical research is necessary. The findings from empirical research can help policymakers to make the right decisions, when the aim is to stimulate the economy during an economic slowdown or a recession. The main findings in this thesis can be regarded as examples of practical advice from empirical research for policymakers.

The problem for empirical research is that government spending and other macroeconomic variables are simultaneously affected by the same external factors. Anti-cyclical spending packages are usually initiated in an economic downturn. This implies that policymakers endogenously react to external economic factors, which creates two-way causality. Government spending is an endogenous variable in the system of macroeconomic variables, and it is therefore difficult to estimate causal effects of changes in government spending. This thesis uses econometric techniques to identify the exogenous part of government spending. The exogenous part is the component of government spending that does not react endogenously to movements in the business cycle. The aim of this thesis is to provide an empirical investigation into the underlying factors that play a role in the short-term macroeconomic consequences of government spending. Three factors are analyzed: the anticipation horizon, categories of spending and the determinants of sectoral and regional spillover effects.

Jointly, the chapters from this thesis do not only provide methodological guidance how to assess several underlying factors for government spending, but the results also provide policymakers with practical guidance. Chapter 2 shows that the effect of government spending news depends on the length of the anticipation horizon. This finding is relevant for

both policymakers and academics. It appears that for news about policy changes where the anticipation horizon is longer, more positive effects are found than for news with a short anticipation horizon. This result implies that when policymakers want to provide an economic stimulus, the anticipation horizon should be sufficiently long for economic agents to anticipate on the policy change. Since the financial crisis in 2008, there is renewed interest from policymakers into the effectiveness of fiscal stimulus packages, because of the low interest rate. The empirical results indicate that a stimulus that involves a sudden change in policy does probably more harm than good. But this result also shows that academic research should take into account more explicitly the role of the anticipation horizon in models.

Chapter 3 proposes a novel methodology to study the effects of government spending at sub-national regions or states. The method relies on the notion that part of the spending allocated to regions is allocated independently of the regional economic conditions. With this method, it is possible to isolate the exogenous part of spending at the regional level. In chapter 3, it is shown that this method can even be applied to different categories of spending. The main advantage of this method is that it allows to compare different categories of spending in a unified framework, which does not depend on specific instruments or proxies that have to be identified for all categories. The method can be useful for future studies that want to predict or evaluate the effects of different government spending categories.

Comparing the effectiveness of different government spending categories is very important for policymakers. It is necessary to decide on the right policy mix in a fiscal stimulus package during economic downturns. According to the findings in chapter 3, defense spending results in smaller positive economic effects than the same increase in non-defense spending. In practice this means that increasing defense spending in economic downturns to stimulate the economy has less effect than increasing other categories of spending. Furthermore, empirical research into the effectiveness of government spending that only uses defense spending, typically underestimates the true effect of government spending. This is a valid concern, because defense spending is often used in empirical macroeconomic literature, since it is regarded as one of the most exogenous categories of spending. The results in chapter 3 however indicate

that only focusing on defense spending leads to a misleading calculation of the multiplier effect of government spending.

Many empirical studies that investigate the role of government spending use data from the US. One should however be careful when trying to extrapolate these results to other countries. There can be a serious external validity problem, because several underlying factors are different in the US than in other countries. For example, the role of defense spending in the US economy is much larger than in many other developed countries. Therefore, it is important to apply methods that have been used for US data also for other countries, and to provide cross-country studies whenever applicable. This is of course not always possible, because the methods are not always suitable for applications in other countries. Fortunately, the method developed in chapter 3 can be applied in other countries. In chapter 4 this method is applied to EU Structural and Investment Funds. The results show that the economic effects of these funds are quite limited, but there are several unintended policy consequences, such as negative effects in some sectors, and regional spillover effects. Policymakers should be aware of these unintended consequences that play a role in the short run. For example, the results indicate that in developed regions, an increase in EU funds stimulates the construction sector, while the service sector experiences a negative effect. Moreover, in academic research, more attention should be paid to sectoral effects, and regional spillovers, because it seems that interactions between economic agents on the ‘receiving side’ of spending are important.

The conclusions from this thesis are relevant for policymakers, and for academic and non-academic researchers. Especially if the research is used for policy recommendations or evaluations. It is important to understand the underlying factors that play a role in the short-term macroeconomic consequences of government spending. Ignoring these factors possibly causes misleading policy recommendations or evaluations, which can have severe economic effects on specific parts of the economy and the macro economy as a whole. It is therefore crucial that results of academic research about the effectiveness of government spending are clearly communicated, also on non-academic platforms, to reach a wide audience. With this thesis, I have contributed to this debate, but definitely more research should be done.