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Signals from the government: Policy disagreement and the transmission of fiscal shocks

Giovanni Ricco [a], Giovanni Callegari [b,*], Jacopo Cimadomo [b]

[a] Department of Economics, The University of Warwick, The Social Sciences Building, Coventry, West Midlands CV4 7AL, United Kingdom
[b] European Central Bank, Fiscal Policies Division, Sonnemannstrasse 20, D-60314 Frankfurt am Main, Germany

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ABSTRACT

We investigate the effects of fiscal policy communication on the propagation of government spending shocks. To this aim, we propose a new index measuring the coordination effects of policy communication on private agents' expectations. This index is based on the disagreement amongst US professional forecasters about future government spending. The underlying intuition is that a clear fiscal policy communication can coalesce expectations, reducing disagreement. Results indicate that, in times of low disagreement, the output response to fiscal spending innovations is positive and large, mainly due to private investment response. Conversely, periods of elevated disagreement are characterised by muted output response.

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1. Introduction

The impact of economic policy decisions depends, to a great extent, on how they are communicated and affect agents' expectations, and hence their actions. Indeed, private agents can form expectations about the future course of fiscal policy by combining information conveyed by government announcements and privately collected information. In an economic system with dispersed information where the government has potentially superior information on its procedures, forecasts and policy plans, policymakers can coordinate private agents' beliefs and reduce disagreement by releasing additional information about current and future policies.

This paper focuses on the expectation coordination effects of fiscal policy communication and provides an empirical assessment of the implications of disagreement amongst agents for the transmission of fiscal impulses in the United States. We develop an indirect measure of precision of fiscal policy communication derived from forecasters' disagreement on the future path of federal fiscal spending, based on the Survey of Professional Forecasters (SPF). The underlying intuition is that a clear fiscal policy communication can coalesce private sector expectations on future policy measures, which in turn reduces agents' disagreement. Based on this, we formulate our empirical strategy consistently with the implications of imperfect information models (see Mankiw and Reis, 2002; Woodford, 2002; Sims, 2003; Reis, 2006a,b) by structuring it in the three following steps.

First, in order to pin down the fluctuations in disagreement that are due to policy communication and not to cyclical macroeconomic disturbances, we project the cross sectional dispersion of forecasts about future government spending onto the disagreement about current output. Second, following Ricco (2015), we identify fiscal spending shocks using individual

* Corresponding author. Tel.: +49 69 1344 6529.
E-mail addresses: G.Ricco@warwick.ac.uk (G. Ricco), giovanni.callegari@ecb.europa.eu (G. Callegari), jacopo.cimadomo@ecb.europa.eu (J. Cimadomo).

revision of expectations at different horizons in US Survey of Professional Forecasters (SPF) data which we name 'fiscal news'. In doing this, we recognise that the presence of information frictions crucially modifies the econometric identification problem of fiscal shocks.[1] Third, we estimate an Expectational Threshold VAR (ETVAR) model using Bayesian techniques, where the proxies for fiscal news shocks are included together with a number of macroeconomic variables. The threshold variable is our disagreement index, and the threshold level is endogenously estimated.

Our results provide evidence that, during periods of high disagreement on fiscal policy, spending shocks have weak effects on the economy. Conversely, in periods of low disagreement, the output response to the spending news shock is positive, strong and significantly different from zero, reaching a cumulative medium-term multiplier of about 2.7 after 16 quarters. Our analysis also shows that the stronger stimulative effects in times of low disagreement are mainly the result of an accelerator effect of planned fiscal spending on investment. During the low disagreement regime, the Federal Reserve tends to be more reactive to spending increases than in periods of high disagreement. Overall, our analysis highlights the case for policy signalling as a tool to reduce disagreement and enhance the impact of spending shocks.

Our results speak to the literature on fiscal foresight (see Ramey, 2011; Leeper et al., 2012, 2013), and on state-dependent effects of fiscal policy (see, for example, Auerbach and Gorodnichenko, 2012; Owyang et al., 2013; Caggiano et al., 2014).

However, differently from these works, our paper connects to the recent literature on imperfect information and on the formation of economic expectations (see, amongst others, Mankiw et al., 2004; Dovern et al., 2012; Coibion and Gorodnichenko, 2010, 2012; Andrade and Le Bihan, 2013; Andrade et al., 2014). In fact, we employ an identification scheme of fiscal shocks that is coherent with the implications of imperfect information models and use expectational data in order to study the effects of disagreement amongst agents. Importantly, we focus on the role of public signals in reducing disagreement and in coordinating expectations. To the best of our knowledge, this is the first empirical attempt to study how different levels of precisions in fiscal policy communication affect the transmission mechanism of fiscal shocks, through disagreement.

In doing that we also relate to the literature on policy communication. The analysis of the trade-offs underlying the provision of public signals by policy-makers to an economy in which agents have dispersed information was pioneered by Morris and Shin (2003a,b) in the context of monetary policy.[2] Differently from this literature, our paper focuses on fiscal policy and provides stylised empirical facts on the implication of increased transparency, without studying the relation between public and private signal from a welfare perspective. In this respect, it is more closely related to Melosi (2012) that proposes an econometric study of a signalling channel of monetary policy.

This paper is structured as follows: Section 2 discusses the properties of expectational data on US fiscal spending. Section 3 is devoted to the construction of the fiscal policy disagreement index used in this paper. Section 4 comments on the identification of fiscal shocks. Section 5 illustrates our Bayesian Threshold VAR model. Section 6 presents our main results and provides insights on the transmission channels. Finally, Section 7 concludes.

2. Forecasting fiscal spending

In the Philadelphia Fed's quarterly SPF, professional forecasters are asked to provide expected values of a set of 32 macroeconomic variables for both the present quarter (nowcast) and up to four quarters ahead (forecast). SPF forecasters do not know the current value of these macroeconomic variables, which are only released with a lag. The panelists' information set includes the BEA's advance report data, which contains the first estimate of GDP (and its components) for the previous quarter. The deadline for responses is the second to third week of the middle month of each quarter.[3]

For 'real federal government consumption expenditures and gross investment', the main series of interest in this work, professional forecasters' individual responses have been collected from 1981Q3 to 2012Q4. Fig. 1 reports the median expected growth rate of federal spending for the current quarter and for the four quarters ahead, together with forecasters' disagreement (the cross-sectional standard deviation of individual forecasts) and the historically realised growth rates.

Some features of the SPF's survey data on fiscal spending are noteworthy and common to the forecasts of other macroeconomic variables. As is evident in Fig. 1, expectations about fiscal spending are more stable than the actual series. Expectations are sluggish in that they typically underestimate the movements of the forecast variable, despite being able to capture low frequency movements. Moreover, experts' forecasts exhibit predictable errors and can be Granger-predicted (see Ricco, 2015). Experts disagree as they report different predictions at different forecast horizons and when updating their forecasts. The extent of their disagreement evolves over time (see Fig. 1 and discussion in Section 4). Finally, forecast revisions at different horizons for a given event in time are positively correlated.

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[1] In the presence of imperfect information, new information is only partially absorbed over time. Therefore, average forecast errors are likely to be a combination of both current and past structural shocks and cannot be thought of as being, *per se*, a good proxy for structural innovations (as, for example, proposed in Ramey, 2011).

[2] More recent theoretical contributions have been proposed, amongst others, by Angeletos et al. (2006), Baeriswyl and Cornand (2010), Hachem and Wu (2014), and Frenkel and Kartik (2015).

[3] The survey does not report the number of experts involved in each forecast or the forecasting method used. Professional forecasters are mostly private firms in the financial sector. On average, in the sample, there are 29 respondents per period of which 22 appear in consecutive periods.