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Commitment versus discretion in a political economy model of fiscal and monetary policy interaction

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ABSTRACT

Does price commitment result in lower welfare? I pair an independent monetary authority controlling nominal bonds with a fiscal authority microfounded by the political economy model of Battaglini and Coate (2008). Without price commitment, time inconsistency is alleviated by interaction between the benevolent monetary authority and the politically distorted fiscal authority. With price commitment, nominal bonds will be used for wasteful spending by the politically distorted fiscal authority. Price commitment results in lower welfare because it eliminates monetary control over fiscal decisions.

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1. Introduction

Kydland and Prescott (1977) and Barro and Gordon (1983) find that price commitment results in higher welfare in models with benevolent fiscal and monetary authorities and nominal bonds. The political economy literature offers microfoundations for fiscal spending decisions that provide a better basis for modeling the fiscal authority. I incorporate a fiscal authority based on the political economy model of Battaglini and Coate (2008) into a structure of fiscal and monetary interaction and nominal bonds and find that price commitment leads to lower welfare. The fiscal authority's objective is to maximize the utility of a subset of the citizens instead of maximizing the welfare of the society as a whole. Fiscal decisions are endogenous to the environment and the amount of nominal bonds. By making fiscal decisions endogenous I show that price commitment by the monetary authority will allow the politically distorted fiscal authority to spend with impunity leading to a welfare loss.

This paper presents a model of fiscal and monetary authority interaction where each authority responds to the endogenous decision making of the other through the government budget constraint. The model ties together several literatures, most notably political economy models of fiscal decision making such as Battaglini and Coate (2008) that analyze the consequences of political frictions, monetary theory models such as Rogoff (1985b) that analyze optimal central bank structure and debt models such as Chari et al. (1991) that analyze the use of nominal debt as a margin for budget balancing. The model shares some characteristics with the unpleasant monetary arithmetic of Sargent and Wallace (1981) with the important differences that fiscal choices are endogenous and the fiscal authority issues nominal instead of indexed bonds.

As Fischer (1995) describes, there are two main theoretical literatures describing central bank independence: the conservative central banker of Rogoff (1985b) and the principal-agent design of Persson and Tabellini (1993). This paper unites the two literatures by plausibly microfounding the fiscal authority inside a structure that resembles a principal–agent model

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with the monetary authority as principal and fiscal authority as agent. Cooperation between the two authorities does not lead to the first best welfare outcome due to the time inconsistency problem of nominal debt: a benevolent monetary authority with discretionary policy will inflate away the real value of nominal debt at the start of every period, allowing a benevolent fiscal authority to set taxes to the minimum. Consumers anticipate this inflation and will not hold nominal bonds whose real value will disappear. As in Rogoff (1985a) a second best outcome is achievable through competition between the two authorities. The political distortion modifies the aims of the fiscal authority. Then, the divergence in aims between the benevolent monetary authority and politically distorted fiscal authority anchors inflation expectations, as long as monetary policy is discretionary rather than committed.

In the course of proving that price commitment leads to lower welfare, I provide a new answer to a different question in monetary economics: why governments issue nominal bonds. The analysis shows that nominal bonds provide a method for an independent central bank to discipline a politically distorted fiscal authority. As a consequence of the politically distorted fiscal authority's desire to reward its coalition, the presence of the fiscal authority overcomes the time inconsistency problem of nominal debt by anchoring consumersapos inflation expectations.

In models with benevolent fiscal and monetary authorities where both are trying to maximize overall welfare, the benevolent fiscal authority is unable to raise revenue from nominal bonds due to the time inconsistency problem of nominal debt. Price commitment eliminates the benevolent monetary authority's ability to inflate; equivalently it turns nominal bonds into indexed bonds. The benevolent fiscal authority can then use these pseudo-indexed bonds to increase welfare by smoothing taxes as in Barro (1979). The benefit of price commitment is stark: discretionary monetary policy means there will be no bond revenue while price commitment allows the benevolent optimal amount of bond revenue.

In contrast, with a politically distorted fiscal authority and a benevolent monetary authority, discretionary policy will allow the fiscal authority to raise some bond revenue for tax smoothing while price commitment allows bond revenue to be used for both tax smoothing and wasteful spending. Additionally, the cost of price commitment will be positive: price commitment removes the threat of inflation the monetary authority uses to constrain spending by the fiscal authority. With price commitment, a politically distorted fiscal authority is able to issue bonds to fund wasteful spending that will require higher taxes in the future to pay off.

A benevolent monetary authority knows that inflating away the entire real value of nominal bonds will give the politically distorted fiscal authority budgetary freedom to spend revenue on wasteful transfers rather than on public goods. Maintaining a positive level of nominal debt will constrain wasteful spending, but if debt is too high it will require high distortionary taxes to pay off. Thus the split between the aims of the authorities anchors inflation expectations: the independent monetary authority will inflate away some of the debt, so that taxes will be lower, but not all of the debt, so the fiscal authority is still constrained in its spending decisions. The remaining debt will be enough to prevent the distorted fiscal authority from spending revenue wastefully.

The threat of inflation allows the benevolent monetary authority some control over the spending decisions of the politically distorted fiscal authority. This control has two beneficial effects: it alleviates time inconsistency and it limits the degree of the political distortion. Pairing a politically distorted fiscal authority with a benevolent monetary authority allows the fiscal authority to raise revenue with nominal bonds. The bonds increase overall welfare because they enable tax smoothing. Price commitment increases the amount of nominal bonds that can be issued and thus increases possible bond revenue. However, the extra revenue raised from these new bonds will be spent at the discretion of the politically distorted fiscal authority. The benefits of the extra revenue will not outweigh the future increases in distortionary taxes that will be necessary to pay off the bonds thus welfare will be lower.

The key contribution of this paper is integrating an explicit microfoundation for the policies of the fiscal authority with a monetary authority and nominal bonds. Similar literature to this paper comes from modern macroeconomic models that examine fiscal and monetary policy interaction in non-cooperative game-theoretic settings. Dixit and Lambertini (2003) is a precursor to the more thorough macroeconomic models of Adam and Billi (2008), Adam (2011), and Martin (2011). These papers include separate and independent fiscal and monetary authorities to examine the benefits of monetary conservatism. While they feature richer macroeconomic modeling, they do not utilize political economy to model the fiscal decision maker, nor include the effect of distortionary taxes on fiscal debt decisions.

Adam and Billi (2014) adds distortionary taxes but removes debt from the consideration set of the government. It finds that having fiscal policy determined before monetary policy leads to higher welfare because then the monetary authority knows the fiscal choices. In this paper the fiscal authority is already constrained by the debt left by the previous fiscal authority. The reverse timing, with the monetary authority moving first, leads to higher welfare because the fiscal authority is already tightly bound. However, as in both Adam and Billi (2007, 2014), the order of moves is important for the outcome.

Niemann (2011) adds a government more impatient than the monetary authority, and the citizenry, to the type of model Díaz-Giménez et al. (2008) examines. He finds that monetary conservatism can lead to lower inflation, but higher debt as the government responds to the cost of financing debt. A crucial distinction between all of the macroeconomic papers above and this one is that this paper does not consider monetary conservatism in the same fashion. In the other papers, conservatism is defined as a monetary policymaker who is more inflation averse than the citizens. Here, the central bank is not exogenously conservative, it maximizes the welfare of citizens. The distortion between monetary and fiscal authorities comes from the fiscal side due to the endogenous self-interest of the fiscal authority. The monetary authority is not more conservative than the fiscal policymaker nor the populace, it is more benevolent. Having distinct utility functions for monetary and fiscal policies provides a similar benefit to conservatism in limiting consumers' inflation expectations.