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A non-Walrasian labor market in a monetary model of the business cycle ☆

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Abstract

This paper investigates to what extent a new Keynesian, monetary model with the addition of a microfounded, non-Walrasian labor market solely based on union bargaining is able to replicate key aspects of the business cycle. The presence of a representative union offers an explanation for two features of the cycle. First, it generates an endogenous mechanism which produces persistent responses to both supply and demand shocks. Second, labor unionization reduces the elasticity of marginal costs to output. This leads to lower inflation volatility. Model simulations show that the unionized framework can better reproduce European business cycle data than can a model with a competitive labor market.
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1. Introduction

New Keynesian macroeconomics is based on two core beliefs. The first is that fluctuations in aggregate demand are a central source of short-run changes in

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aggregate economic activity such as output and employment. The second is that the economy is characterized by involuntary unemployment: some people are willing to work, but are unable to find a job at the offered wage. The first of these notions has been extensively investigated using nominal imperfections, in other words the idea that nominal frictions that appear small at the level of individual households and firms may have a large effect on the macroeconomy. The economic literature has also made progress in understanding the microeconomics of unemployment, but has only recently started to use labor market frictions to study the business cycle and its interaction with demand shocks and monetary policy.

If there are no departures from Walrasian assumptions in the labor market, we would expect a decline in labor input associated with a decline in production to lead to a large decline in real wages.[1] As a consequence, the firm's marginal cost falls, increasing the incentive to reduce prices. This is in stark contrast to the empirical evidence, which suggests that output volatility is high and price volatility low.[2] In theory, imperfections in the labor market could account for this. Such imperfections would cause workers to be off their labor supply curves, thereby breaking the tight link between the elasticity of labor supply and the response of real wages to demand disturbances, implying that real wages may not be highly procyclical even if labor supply is quite inelastic. This same mechanism should also amplify and propagate disturbances and, as a consequence, it would be able to generate persistence without implausible assumptions on price adjustment.[3]

These considerations suggest that non-Walrasian labor markets may play a key role in explaining relevant features of the business cycle. In this paper, I incorporate equilibrium unemployment through union bargaining in an otherwise standard new Keynesian monetary model. I then use the model to study the consequences of union bargaining on the business cycle.

The theoretical setup I introduce is characterized by an innovative new Keynesian monetary model which departs from perfect competition in both labor and product markets. The structure of the labor market is non-Walrasian: wages are set by the bargaining process between firms and unions somewhere above the market-clearing level. This generates unemployment as some individual workers are unable to sell as much labor services as they wish to supply, given the established wages. Goods markets are imperfectly competitive due to the presence of monopolistically competitive, intermediate goods-producing firms. The monetary authority conducts policy using a Taylor-type rule to set the interest rate.

This model differs from the typical dynamic stochastic general equilibrium (hereafter, DSGE) model mainly in the presence of equilibrium unemployment, caused by the bargaining power of the union over the wage. To explain the existence of the union, the difference in the supply of labor and capital for the household needs

[1]This is based on the assumption that labor supply is relatively inelastic, as it appears from empirical evidence. For a recent paper on the topic see French (2004).

[2]See, for example, Bernanke and Gertler (1995), Christiano et al. (1997), and Bernanke and Mihov (1998).

[3]Recent works in support of implausible price adjustments are Bils and Klenow (2004), Chari et al. (2000), Dotsey and King (2005), Galì and Gertler (1999), and Sbordone (2002).

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