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A multisectorial matching model of unions ☆

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Abstract

We develop an equilibrium matching model where unions have an important institutional presence. Monopolistic competition characterizes the goods market, where only some sectors are unionized. Thus, the model can vary the coverage of collective bargaining. It can vary the degree of coordination between unions, and alternatively consider "national" and "sectorial" unions. Calibration to the union premium implies a workers' rent extraction parameter much lower than assumed in the matching literature. We introduce unemployment insurance to study the interactions of policies with unions and find that unions only push for more generous benefits if this does not entail higher payroll taxes.

JEL classification: E24; J41; J51; J65

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1. Introduction

The contrast between American and European labor markets has been the object of an extensive literature. European markets are generally characterized by higher

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unemployment and more generous government mandated policies. The matching literature, initiated by Pissarides (2000) and Mortensen and Pissarides (1994), has focused primarily on incorporating labor market policies into a matching framework (Millard and Mortensen, 1997), but less attention has been devoted to *institutional* differences, such as the fact that union presence is much more prevalent in Europe than in the U.S. This is problematic, however, given that collective bargaining covers an average of 80% of workers among Western European countries. Thus, the wage determination mechanism assumed in the matching literature actually only applies to a small portion of the labor force. Therefore, a complete model of a European style labor market should include a large union presence, yet also account for the fact that collective bargaining does not govern all employer-employee relationships. In addition, the impact of unions does not only depend on the extent of unionization, but also on other institutional characteristics, such as union coordination and the level at which collective negotiations are conducted. We develop a model which incorporates all these characteristics to properly reflect the impact of unions on European labor markets.

We calibrate the model to replicate the union wage premium and unemployment as observed in Europe. In fact, the union premium is used to pin down the rent extraction parameter for workers engaged in individual negotiations in the non-unionized sectors. We find a workers' rent extraction parameter[2] to be much lower than assumed in the matching literature, although consistent with a number of estimated values of workers' ability to extract rents. Since quantitative work using the Mortensen and Pissarides matching framework is clearly sensitive to how surpluses are split between workers and firms, this is an important first step in better assessing workers' bargaining power.

The model is used to study the implications of union structure on unemployment. The model can vary the extent of collective bargaining, as well as the degree of union coordination. This is done by having both unionized and non-unionized sectors, and by varying the number of unions representing workers. Unions are also alternatively considered as "national" and "sectorial" unions to study the impact of centralization of collective bargaining. The model can replicate stylized "union facts"—unemployment increases with collective bargaining coverage and decreases with centralization/coordination. Finally, the model delivers a number of predictions not only on unemployment and wages, but also on price–wage markups within a sector, relative prices across sectors, firm sizes, and number of firms per sector.

Having thus set up a model of unions with the important institutional characteristics, we then introduce unemployment insurance (UI) to study the interactions of unions with policies. European economies are characterized by both a high degree of unionization and generous unemployment benefits. Political economy considerations are generally put forth when attempting to explain why more generous benefits are sustained in Europe than in the U.S. The model can be used to consider a different approach. With the level of bargaining coverage characterizing European economies, would powerful unions support generous unemployment benefits? This is answered by investigating whether unionized workers benefit or not from generous policies, given that unions have the ability to adjust their wage demands to the policies in place. Thus, the union members' welfare is compared under various levels of unemployment benefits and different UI financing schemes. Different union objective functions—maximizing ex ante welfare of union members or

[2]That is the bargaining power to the worker in terms of the Nash bargaining solution.