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Equilibrium unemployment with outsourcing and wage solidarity under labour market imperfections

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ABSTRACT

We evaluate the effects of outsourcing and wage solidarity on wage formation and equilibrium unemployment in a heterogeneous labour market, where wages are determined by a monopoly labour union. We find that outsourcing promotes the wage dispersion between the high- and low-skilled workers. When the labour union adopts a solidaristic wage policy, it will dampen this tendency. Further, higher outsourcing will increase equilibrium unemployment among the high-skilled workers, whereas it will reduce it among the low-skilled workers. Overall, outsourcing will reduce economy-wide equilibrium unemployment under the reasonable condition that the proportion of high-skilled workers is sufficiently low.

1. Introduction

On a global scale differences in labour costs are enormous across countries ranging from, for example, 1.10€ per hour in China to above 27€ per hour in Denmark, West Germany or Norway in year 2004 (see, e.g. Sinn, 2007). These wage differences constitute a central explanation for the increasingly significant business practice of international outsourcing.[1] In countries with strong labour market imperfections large-scale outsourcing is often considered to pose a significant threat for employment, in particular for the low-skilled labour force segment. These concerns are often expressed by labour unions, and unions often accommodate the particular concern for the low-skilled labour force segment by advocating solidaristic wage policies.[2]

In this study, we analyze the effects of international outsourcing to low-wage countries on equilibrium unemployment in high-wage countries characterized by strong labour market imperfections. More precisely, we focus on a heterogeneous labour market where wages are determined by a monopoly labour union endowed with solidaristic objectives with a

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[1] Of course, the wage differences alone exaggerate the incentives for outsourcing, because these might also reflect productivity differentials. For example, Acemoglu and Zilibotti (2001) present empirical evidence of a mismatch between the new technologies developed in the rich economies and the skills of workers in less developed countries and they argue that this burdens productivity in the less developed countries.

[2] See also Stefanova (2006) concerning the East–West dichotomy of outsourcing in the European union in the context of its 2004 eastward enlargement.

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particular relative emphasis on the wages for low-skilled workers at the expense of high-skilled workers. We address the following questions: How does outsourcing affect wage formation, and in particular wage dispersion, in a heterogeneous labour market, where the labour union operates with some degree of wage solidarity? What are the effects of outsourcing on equilibrium unemployment among high- and low-skilled workers? How are these effects related to the degree of wage solidarity? How can we characterize the aggregate effects of outsourcing on equilibrium unemployment in the presence of solidaristic wage policies? And finally, what is the optimal production mode when firms commit to the outsourcing activity under imperfectly competitive and segmented labour markets?

We find that the own wage and cross wage elasticities of the low-skilled labour demand depend positively on the amount of outsourcing, whereas these elasticities are independent of the amount of outsourcing for the high-skilled labour demand. A higher share of outsourced production will decrease the wage set by a monopoly union for the low-skilled labour, and increase wage for the high-skilled labour. Consequently, outsourcing promotes the wage dispersion between the two labour force segments. However, the labour union can dampen this tendency by adopting a solidaristic wage policy.

Higher outsourcing increases equilibrium unemployment among the high-skilled workers, whereas it reduces equilibrium unemployment among the low-skilled workers. By combining these effects we draw the general conclusion that outsourcing will reduce economy-wide equilibrium unemployment under the reasonable condition that the proportion of the high-skilled workers is sufficiently low. Furthermore, increased wage solidarity dampens the dispersion-enhancing effects of outsourcing. Finally, we characterize the optimal committed production mode from the firm's point of view by showing that it is not a priori clear whether these wage-modifying effects, which operate in different directions for the low- and high-skilled segments, increase or decrease the optimal proportion of outsourcing. Overall our paper adds to the existing literature by analyzing the effects of outsourcing and wage solidarity between the high-skilled and the low-skilled workers on wage formation and equilibrium unemployment within the framework of imperfectly competitive labour markets.

We are not aware of any existing study which would have evaluated the employment consequences of outsourcing in an imperfectly competitive labour market with a heterogeneous labour force represented by a labour union with solidaristic preferences. A number of studies have, however, explored some related effects of outsourcing on the wage elasticity of labour demand, wage formation or employment. We briefly comment on this literature next based on such a classification.

Senses (2006) has argued that an increased probability of outsourcing associated with a decline in foreign intermediate input prices and an increase in the elasticity of substitution between foreign and domestic inputs might increase the wage elasticity of labour demand. She has provided relevant empirical evidence, according to which a production mode with more outsourcing increases the wage elasticity of labour demand.[3] In our model we show that both the own wage elasticity and cross wage elasticity of low-skilled labour depends positively on outsourcing.

Danthine and Hunt (1994) have both theoretically and empirically studied the effects of international outsourcing and foreign direct investment on wage formation in the home country. They have shown that higher product market integration implies intensified product market competition, which moderates wage increases in unionized and homogeneous labour markets. Bughin and Vannini (1995) have modelled the effect of economic integration on labour markets.[4] Glass and Saggi (1999, 2001) have theoretically studied the consequences of foreign direct investment (FDI) policies in a general equilibrium setting with several oligopolistic industries. In particular, they have studied the causes of outsourcing and its effects, finding that higher international outsourcing lowers the relative wage of domestic workers and increases the profits, creating greater incentives for innovation.

Lommerud et al. (2006) have shown how international mergers might restrain the market power of unions in oligopoly markets giving socially excessive incentives for international mergers, unless products are close substitutes. In this paper we do not, unlike Lommerud et al. (2006), focus on the presence of simultaneous imperfections in labour and product markets.

Lommerud et al. (2009) have analyzed the incentives of firms operating in unionized industries to outsource the production of intermediate goods to foreign low-cost subcontractors. They argue that stronger unions will lead to higher returns from outsourcing from the firms' point of view. Furthermore, they show that intensified product market competition will increase the incentives for international outsourcing. However, since their analysis is restricted to a partial equilibrium framework they do not analyze the relationship between equilibrium unemployment and international outsourcing.

Egger and Egger (2003) have empirically studied the impact of a decline in trade barriers on outsourcing of low-skilled labour and argued that outsourcing raises the relative wages of high-skilled labour in the home country, if the low-skilled labour is unionized in the home country. In terms of empirics Feenstra and Hanson (1999, 2003) have studied the impact of foreign outsourcing and technology on wages using US data over the period 1979–1990. According to their findings, wages of low-skilled workers have fallen relative to those of high-skilled workers. Also by using UK data both Haskel and Slaughter (2001) and Hijzen (2007) have studied the relative importance of both international outsourcing and technological change as explanations for increased wage inequality.

[3] Also, e.g. Slaughter (2001) and Hasan et al. (2007) have empirically shown that international trade has contributed to higher wage elasticities of domestic labour demand.

[4] See also Zhao (1995).