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International fragmentation: Boon or bane for domestic employment?

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Abstract

In this paper, we introduce the fairness approach to efficiency wages into a standard model of international fragmentation. This gives us a theoretical framework in which wage inequality and unemployment rates are co-determined and therefore the public concern can be addressed that international fragmentation and outsourcing to low wage countries lead to domestic job-losses. We develop a novel diagrammatic tool to illustrate the main labour market effects of international fragmentation. We also explore how preferences for fair wages and the size of unemployment benefits govern the employment effects of outsourcing and critically assess the role of political intervention that aims to reduce unemployment benefits under internationally fragmented production.

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1. Introduction

The policy debate in industrialised economies on the international fragmentation of production is mainly driven by the concern over domestic job losses, reflecting the views of

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the general public on this issue.[1] In contrast, the academic literature looking at the economy-wide effects of international fragmentation has so far focused on its effect on relative factor rewards (Jones, 2000; Kohler, 2004). The effect on aggregate employment cannot be addressed in these models because of the assumption of perfectly competitive labour markets, leading to full employment in equilibrium. The aim of this paper is to develop a framework that bridges the gap between the policy debate and the theoretical analysis of international fragmentation. To this end, we build on a standard general equilibrium model of international fragmentation in a small open economy with perfect competition in goods markets (Jones, 2000; Jones and Kierzkowski, 2001) and modify it by allowing for labour market imperfections that lead to non-market-clearing wages and involuntary unemployment in equilibrium.

We consider a model with two primary inputs, skilled and unskilled labour, which are mobile between sectors in the economy, and potentially three sectors of production. Fragmentation of the production process can occur only in the sector with intermediate skill intensity, thereby capturing in a stylised way the idea that outsourcing is not equally prevalent in all sectors.[2] In equilibrium, the economy will produce in at most two of the sectors, where the labour market effects of international fragmentation turn out to depend crucially on whether the active *non-fragmented* sector is more or less skill intensive than the sector in which fragmentation occurs. Assuming that outsourcing is restricted to the sector with intermediate skill intensity allows us to capture both possibilities in the simplest possible way.

The labour market imperfection is introduced by a variant of the efficiency wage model where the efficiency wage is derived from a *fairness* constraint (Akerlof, 1982; Akerlof and Yellen, 1990), an approach for which there is empirical support from both experiments and surveys.[3] In this framework, worker effort depends on the wage paid by the firm relative to some standard of reference that the workers perceive to be fair. We follow Akerlof and Yellen (1990) and assume that the fair wage is a weighted average of the income attainable outside the job and the wage of the other skill group (within the same firm), thereby allowing intra-group considerations and inter-group considerations to be present in workers' fairness preferences. In equilibrium, the fairness constraint is binding for unskilled workers, giving rise to unemployment of this group, while skilled labour is fully employed in equilibrium. An important implication of the fair wage framework is that, ceteris paribus, higher unemployment makes unskilled workers more willing to accept a large skill premium because their outside option worsens.[4]

[1]The focus of the public debate on unemployment clearly follows from casual observation of the popular press on both sides of the Atlantic. For more evidence in the case of the US, see Scheve and Slaughter (2001).

[2]Throughout this paper, we use the two terms 'fragmentation' and 'outsourcing' synonymously.

[3]Fehr et al. (1993) remark that their two-stage market experiment 'may be viewed as (...) a test of Akerlof and Yellen's efficiency wage approach' (p. 438), and find evidence for the validity of the fair wage–effort hypothesis. Fehr and Falk (1999) show that the fair wage mechanism survives in a highly competitive environment: the laboratory double auction market. Howitt (2002) and Bewley (2005) document evidence for the role of fairness in the wage setting decision of firms from interviews with managers, labour leaders, and employment counsellors. Finally, Agell and Lundborg (1995, 2003) find the same result from questionnaire surveys of Swedish firms.

[4]The negative equilibrium relationship between the unemployment rate of unskilled workers and the unskilled wage rate, which is essential for the labour market effects of international fragmentation in our paper, is not specific to the fair wage approach. Matusz (1994), for example, combines an efficiency wage model à la Shapiro–Stiglitz (1984) with a standard two-factor two-sector trade model, where now capital and labour are the two primary inputs, and gets an analogous relationship. In his setting, workers provide full effort in equilibrium