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Work hours, social value of leisure and globalisation

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ABSTRACT

We examine how openness interacts with the coordination of consumption–leisure decisions in determining the equilibrium working hours and wage rate when there are leisure externalities (e.g., due to social interactions). The latter are modelled by allowing a worker's marginal utility of leisure to be increasing in the leisure time taken by other workers. Coordination takes the form of internalising the leisure externality and other relevant constraints (e.g., labour demand). The extent of openness is measured by the degree of capital mobility. We find that: coordination lowers equilibrium work hours and raises the wage rate; there is a U-shaped (inverse-U-shaped) relationship between work hours (wages) and the degree of coordination; coordination is welfare improving; and, the gap between the coordinated and uncoordinated work hours (and the corresponding wage rates) is affected by the extent and nature of openness.

1. Introduction

One important stylised fact concerning the differences in the evolution of labour market outcomes (productivity, work hours, unemployment, wage rigidity) between the US and Europe is that while Americans work today about as much as they did in 1970, Europeans work much less. This discrepancy has generated both academic and policy debates. A key question that has arisen is whether this decline in working hours in Europe is responsible for the slowdown in its labour productivity growth. In fact, over the last 30 years productivity per man-hour in Europe grew faster than in the US, but this growth was almost completely offset by the decline in the number of hours worked per worker, suggesting that while Europeans have taken a good portion of their secular increase in income in more leisure, Americans have enjoyed a higher consumption – see Alesina et al. (2005), Blanchard (2004) and De Grauwe (2008).

A number of factors have been presented in the literature to explain the US–Europe differences in hours worked per worker, such as: different ways in which labour market institutions can play a role in internalising the positive externalities related to workers' value of social leisure (e.g. Alesina et al., 2005); cultural differences (e.g. Glaeser et al., 2003; Alesina et al., 2005); and differences in taxation (e.g. Prescott, 2004; Davis and Henrekson, 2004; Rogerson, 2007, 2008).

In this paper we explore the first of these three explanations theoretically by focussing on how the nature of openness of economies and the degree of coordination of wage/labour supply decisions (e.g., as typically reflected in the nature of labour market institutions) might interact in determining equilibrium market outcomes – wages, factor utilisation, and hours worked. Specifically, we examine how the coordination of consumption–leisure decisions affects the wage rate and working hours when a worker's marginal utility of leisure is increasing in the amount of leisure taken by other workers and how this relationship is affected by international openness which influences the availability of factors of production and, in general, the level of economic activity. Although, as we shall highlight below, the implications of our welfare analysis can be given a normative interpretation, the aim of the paper is essentially positive in nature.

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The main idea of our paper is inspired by Alesina et al. (2005) who focus on the role of cross-country heterogeneity in labour market institutions in determining the observed differences in labour market outcomes. They point out the existence of a strong correlation between hours worked and the percentage of population covered by collective bargaining (less than 20% in the US and more than 80% in Sweden, France and Germany) and argue that lower work hours in Europe could be due to unions' influence (facilitating hours-wage trade-off), as trade unions tend to respond to negative shocks by trying to protect employment levels to the detriment of hours worked – e.g., via work-sharing arrangements.[1]

Glaeser et al. (2003) and Alesina et al. (2005) suggest that cultural differences may also be at play, contrasting the 'leisure culture' of Europeans with the 'workaholic culture' of Americans – the latter resulting from puritan Calvinist heritage. Alesina et al. (2005), however, argue that the fact that until the late 1960s Europeans worked longer hours than Americans (and the lack of observed correlation between a Protestant heritage and hours of work across countries) suggests that this hypothesis would imply a reversal of cultures, and state that in Europe reductions in work hours might have triggered a social multiplier effect that has led to a stronger decline in hours and resulted in higher collective leisure.[2] Clearly, the existence of a social multiplier poses a collective action problem whereby the coordination of individual decisions increases social efficiency. In the presence of a social externality, trade unions may act as coordinating agents. This gives a more nuanced view of the role of trade unions for resource allocation and welfare. Traditionally, attention has been focussed on the distortionary role of trade unions in allocating resources as they exploit their market power. However, when unions internalise the value of social interactions in leisure time, their overall effect on efficiency is in general ambiguous. Put in this context, differences in hours worked between the US and Europe can then be at least partially explained by the degree to which this coordination problem has been overcome, rather than reflecting intrinsic discrepancies between European and American workers regarding their respective desire for leisure. In other words, the stronger role of unions in Europe could have contributed to turning the leisure externality into lower work hours per worker, in contrast to the US where trade unions are much weaker and do not act as their European counterparts in this respect – see Alesina et al. (2005) and De Grauwe (2008).

Following the argument by Blanchard (2004) that high labour taxes only explain a fraction of the decline in hours worked in Europe, here we do not consider the role of taxation. At the very least, the tax channel does not appear to be robust: e.g., Scandinavians have higher tax rates and work more hours than people in other European countries.[3]

We develop a simple static general equilibrium model of a small economy in which international openness is captured by different degrees of capital mobility. We allow for the externality from social interaction by letting the marginal utility of leisure depend positively on the average leisure time and examine how coordination of individual decisions interacts with openness to yield different labour market outcomes in general equilibrium. Different countries are characterised by different degrees of coordination of labour supply/wage decisions that are related to the organisational forms of industrial relations – of which the degree of centralisation of wage bargaining is just one dimension. Indeed, as it clearly emerges from the extensive literature in the area, the extent of coordination in labour markets relates to the degree of corporatism, a key aspect of which is that the unions (or, more broadly, interest-group organisations) pursue outcomes that are consistent with that of government (Pekkarinen et al., 1992).[4] In this spirit, we consider different degrees of coordination where a coordinating agent (e.g., a union or a social planner) internalises: (i) the externality of leisure only; (ii) the externality of leisure as well as the knowledge of the partial equilibrium labour demand by firms; and (iii) the externality of leisure, firms' labour demand, as well as broader macroeconomic constraints. We refer to these, respectively, as *basic*, *intermediate*, and *full* coordination and provide a comparison between the corresponding general equilibrium solutions and the solution obtained under no coordination.

Our results suggest that, in general, (with and without coordination) a stronger leisure externality results in a lower labour supply and in a higher wage, and this effect is stronger when the leisure externality is internalised via coordinating individuals' labour supply decisions. We show that coordination reduces equilibrium working hours and raises the corresponding wage rate. However, we find a U-shaped relationship between hours worked and the degree of coordination of labour supply decisions (and an inverse-U-shaped relationship between wages and the degree of coordination of labour supply decisions). We also find that the gap between the coordinated and uncoordinated equilibrium labour supply (and the corresponding wage rates) is affected by the extent of globalisation. In particular, for countries that are net importers of capital (and have a positive trade balance) raising the degree of openness increases both the labour supply and the wage rate – although with intermediate levels of coordination labour supply may also reduce. Finally, we find that coordination is welfare improving and that stronger leisure externalities enhance this improvement.

The rest of the paper is organised as follows. Section 2 sets out the model. Section 3 derives and compares the general equilibrium solutions under different degrees of coordination of the wage–employment decisions. Section 4 concludes the paper.

2. The model

We model a small open economy producing a freely traded homogeneous final good under a constant returns to scale technology with capital and labour (man-hours). The labour force and capital endowment are given exogenously. Labour is assumed to be internationally immobile and the extent of globalisation is solely determined by the degree of capital mobility.[5] Workers are identical and each is endowed with a fixed amount of capital and man-hours. The former is supplied to the capital market and the latter is optimally divided between work and leisure hours; the

[1] Nicoletti and Scarpetta (2002) and Nickell (2004) offer evidence that the impact of taxation, unionisation and employment protection is mitigated by the degree of coordination of union activity.

[2] The existence of a *social value of leisure* is supported by empirical studies. For example, Hamermesh (2002) finds that there is clear evidence in the US that couples coordinate their work schedules so as to be able to enjoy joint leisure time. Jenkins and Osberg (2004), using the British Household Panel Survey (BHPS), find support for the hypothesis that when other people (both inside and outside the household) increase their hours of paid work, the probability of an individual to engage in leisure activities reduces.

[3] The explanatory role of taxation is also criticised by Nickell (2004) because of omitted variable bias, and by Alesina et al. (2005) as being at odds with the evidence on labour supply elasticity. Andersen (2009) argues that in Scandinavia the co-existence of high tax burdens and high employment levels can be explained by the employment conditionality that characterises the social safety net systems.

[4] In this context, the degree of coordination of decisions is quite distinct from that of wage bargaining centralisation and can be addressed even within a model in which unions, as wage setting agents, are not explicitly modelled.

[5] The international mobility of labour is insignificant relative to that of capital, and is ruled out here by assumption to simplify the analysis; allowing for labour mobility requires an infinitely elastic labour supply at the world wage rate which introduces some 'indeterminacy' problems that complicates the analysis. It is also plausible to conjecture that the social interaction effect may be weakened by labour mobility, to the extent that it might increase the cultural heterogeneity of workers.