Distributional Implications of a Shorter Working Week: An Unpleasant Note

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Received January 21, 1995; revised version received May 17, 1995

Do “proletarians” gain from work sharing? In a labor-market model with wage rigidity and endogenous labor supply, it is shown that a reduction of the workweek may decrease the expected utility of the poor and increase the expected utility of the rich.

1 Introduction

Reducing the workweek has repeatedly been advocated in European policy debates in order to cut unemployment and improve the living conditions of workers. Taking a closer look, however, the impact of a shorter workweek on worker welfare seems to vary considerably among individuals, as evidence on workers’ attitudes towards shorter hours of work strongly suggests (Hart, 1987, chap. 11). A reduction of the working week does not only alter the probability of finding a job, it also affects the utility attained by someone with a job, and both these effects are differently weighted by different individuals. In this paper, I claim that reducing the workweek has, under certain circumstances, “anti-egalitarian” consequences, seemingly at odds with the intentions of its political supporters: shorter hours of work may decrease the expected utility of the poor and increase the expected utility of the rich.

While a vast literature on the employment effect of a shorter workweek already exists,1 a theoretical assessment of its distributional implications is still lacking. As a first step, I investigate this issue in a simple labor-market model with wage rigidity, in which individuals differ with respect to their initial endowment in the numéraire good, and the labor

1 Corneo (1994) and Houpis (1993) present up-to-date surveys of this literature.
supply is endogenous. I present a proof of the "anti-egalitarian" effect for the case of a workweek reduction that is neutral with respect to the unemployment rate and I comment upon the general case. An equivalence result is established for a labor-market model with a perfectly flexible wage. The formal argument rests upon the existence of hours rationing for a portion of the labor force. The empirical validity of this fact is established, e.g., in the works of Dickens and Lundberg (1993) and Kahn and Lang (1992).

2 The Model

The economy has two goods, leisure and a consumption good, and a continuum of individuals, whose mass is normalized to unity. Individuals are initially endowed with $\tilde{h}$ hours and $r$ units of the consumption good, referred to as an individual's wealth. Individuals have the same capacity to work but differ with respect to their wealth. Wealth is distributed in the population according to the density function $f(r)$, defined on the interval $[0, \tilde{r}]$. Individuals have identical preferences, represented by a strictly quasi-concave, strictly increasing, twice differentiable utility function $V(c, \tilde{h} - l)$, where $c$ is consumption and $l$ is labor time. To save notation, I write $V(c, \tilde{h} - l) = U(c, l)$. It is furthermore assumed that leisure $(\tilde{h} - l)$ is a normal good, and that $\lim_{c \to \infty} U(c, \tilde{h}) > U(\tilde{r}, 0)$. The latter is a technical assumption that guarantees that all individuals in this economy could be willing to supply labor.

Each individual decides whether to participate in the labor force or not. I make the extreme assumption that there is a standard length of the working week, $h \in H \equiv [0, \tilde{h}]$, institutionally fixed, which applies to all jobs in the economy. Thus, if an individual participates in the labor force, his labor supply is the standard workweek, and if he finds a job his hourly real wage is $w$. If the individual does not enter the labor force, he only consumes his initial endowment.²

Firms operate in a perfectly competitive sector, make zero profits, and hire $N$ workers according to the aggregate labor-demand function $N(w, h)$. I merely assume that this function is differentiable in both its arguments and strictly decreasing in the wage. Two regimes of wage setting are considered. In one regime, the hourly wage is fixed (e.g., by minimum wage regulation or by economy-wide wage negotiations).

² See Killingsworth (1983) for a treatment of labor-supply models with discontinuous budget lines like the one used here.