

## INFLATION EFFECTS OF SHORTENING WORKING HOURS

The issue of shortening working time has been politically topical for a long time. It is frequently argued that such a reform would pave the way to a reduction of unemployment by sharing work. Another argument that has come to the fore more recently is that shorter working hours can be a way of enhancing social welfare at the expense of material welfare; this amounts to an alternative way of benefiting from productivity gains in the Swedish economy.

The focus here, however, is on how a change in working hours affects inflation. The starting point is that any impact on inflation arises over just a limited period. The notion is that in the long run a shortening of working time only leads to a change in the price *level*. The discussion of effects presupposes an unchanged monetary policy.

A discussion of how a reform of working hours affects employment can start by considering two extreme cases. One assumes a constant hourly wage, that is, wage income falls in proportion to the reduction of working time. If the supply of labour is plentiful, it is possible in principle for employers to hire additional personnel without increasing their total wage costs. The wage costs for the reform of working hours are then carried by those who were employed prior to the reform; they share both working time and wage income with those who were unemployed earlier. This extreme case generates the largest effect on employment.

At the other extreme, employees work shorter hours for the same wage income as before, that is, the firm's costs rise in proportion to the reduction of working time. The wage costs for the reform of working hours are then carried by employers. This case generates the least effect on employment. If firms are obliged to cut production when wage costs rise, the effect on employment may even be negative.

The outcome in practice probably lies somewhere in between these two extremes, that is, employment rises but so do labour costs.<sup>21,22</sup> Whether or not inflation is

21. Empirical evidence that employment does rise when working time is shortened has been presented by, for example, Holmlund, B. (1989). Wages and employment in unionized economies: theories and evidence, in Holmlund; B., Löfgren, K-G. & Engström, L., *Trade Unions, Employment and Unemployment Duration*, Oxford University Press.

22. A tendency for shorter working time also to push hourly wages up has been found in macro-economic studies, e.g. Forslund, A. (1994). Wage setting at the firm level—insider versus outsider forces, *Oxford Economic Papers* 46, pp. 245–261.

affected will depend on a number of factors.

One factor to consider is the *competitive situation* in product markets. For firms that are in a position to adjust their prices, increased wage costs can be passed through to consumers, leading to higher inflation.

Another factor is *labour productivity* in connection with a reduction of working hours. If such a reduction results in, for example, more concentrated labour, less absenteeism for sickness and a lower incidence of accidents, it may lead to higher labour productivity. This implies a smaller direct increase in employment from the reform as well as lower unit labour costs; compared with no change in productivity, the effect on inflation would then be more moderate. The opposite, however, is also conceivable, so that shorter working hours lead to a higher proportion on 'unproductive' working time in the form of preparing for and finishing the working day, for example. Increased recruitment may lower labour productivity for a time because most jobs require an initial period of learning.<sup>23</sup>

A third factor to consider is the prevalence of *fixed labour costs*, for example for training, administration, recruitment, departures and fringe benefits. When working hours are shortened, such expenditures can make it more costly for the firm to hire additional labour than to pay existing employees for overtime.

A fourth factor is how *utilisation of the capital stock* changes when working hours are shortened. In this context it is important to distinguish between working hours and operating hours; the former denotes the time spent by an individual employee at work, the latter the time during which a facility is in operation. If operating time increases when working time is shortened, the capital stock may be used more efficiently, thereby reducing unit capital costs. This in turn may cushion any upward effect on inflation. Shorter working hours may just as well lead to decreased operating time, thereby cutting output and raising unit capital costs.

23. Results from empirical studies differ. A positive productivity effect of shorter working time has been found by, for example, Åberg, Y. (1986), *Produktionens och sysselsättningens bestämningsfaktorer i svensk ekonomi. Med särskild betoning på arbetstidens betydelse* (Determinants of production and employment in the Swedish economy, with particular reference to the significance of working time), DELFA, Ministry of Labour, Stockholm, and Skedinger, O. (1994), *En ekonometrisk studie av arbetstidsproduktiviteten* (An econometric study of working time productivity), in *6 juni Nationaldagen. Betänkande av Nationaldagsutredningen*, SOU 58. No such effect is reported, on the other hand, by Anxo, B. & Bigsten, A. (1989), Working hours and productivity in Swedish manufacturing, *Scandinavian Journal of Economics* 91, or Holmlund, B. (1989) *idem*.

To the extent that higher production costs are passed on in higher prices, this will tend to raise inflation.

Attempts to calculate the consequences of shorter working hours by simulating with macro-economic models have been made in a number of studies.<sup>24</sup> The main finding in a majority of them is that cutting working hours leads to a short-run increase in inflation. In the long run, however, the effect is just a shift in the price *level*.

The effects on inflation of shortening working hours are clearly complex. Assessments inevitably involve assumptions about productivity effects and the degree of wage compensation, for example. For both these factors, however, assessments need to be optimistic to avoid the conclusion that a reduction of working hours is associated, at least in the short run, with higher inflation.

24. See e.g. van Ginnekin, W. (1984), Employment and the reduction of the work week: a comparison of seven European macro-economic models, *International Labour Review* 123.1, pp. 35–52, Donders, J. & Manders, T. (1997), Does work-sharing work?, *CPB Report* 2, pp. 25–28, National Swedish Institute of Economic Research (1998), *Modellsimuleringar av macroekonomiska effekter vid en arbetstidsförkortning* (Model simulations of macro-economic effects of shortening working hours), November, Stockholm, and *idem* (2000) *Macroekonomiska effekter vid en arbetstidsförkortning* (Macro-economic effects of shortening working hours), February.