



Working time and productivity

It is generally believed that reductions in working hours increase labour productivity. In fact, many enterprises have recognized this relationship, either explicitly or implicitly, in their organization of working time. However, there is considerable debate regarding the exact nature of this relationship, and the specific factors which affect it.

Changes in working time that could potentially contribute to productivity improvements

As poor working time arrangements can cause productivity losses, firms can benefit from the improvement of working time arrangements. The changes in working time that have the potential for generating productivity improvements are not only those regarding the length of working hours, but also those which affect the organization of working time. In addition, the way in which working time changes are implemented has further implications for productivity. The following types of working time changes have the potential to contribute to improvements in labour productivity:

- the length of working time: the reduction of working hours, or at least reducing excessively long working hours (which the ILO generally defines

as more than 48 hours per week);

- the organization of working time: the reduction of “unsocial” working hours (evening/night work and weekend work), the provision of appropriate rest breaks and daily/weekly rest periods, the minimization of “wasted” time, as well as the introduction of “worker-friendly” working time arrangements (e.g. flexitime);
- methods of introducing these changes: proper consideration of workers’ needs and preferences in working time policies through consultations with the workers concerned. For example, workers’ needs and preferences need to be taken into account in determining shift patterns.

Potential productivity effects of working time changes

The available evidence indicates that improving working time arrangements by introducing the types of changes described above can have productivity-enhancing effects, which are similar to the effects of higher wages. With such improvements, workers can improve their mental and physical health and thus be more rested and alert during working hours, thereby improving labour productivity (such as reducing errors). Further productivity gains can be expected by improving staff recruitment, retention, motivation and commitment. Three mechanisms (among others), through which better working time arrangements can translate into higher productivity, are particularly important:¹

Physiological effects. The fundamental connection between working time and productivity exists at the physiological level. For example, it is known that long hours are accommodated by an adjustment of pace or work intensity, such as a slowing of movements and inserting more pauses between movements. Thus, the extension of working hours may not yield the expected increases in total output, and may possibly lead to a reduction of total output in the long run. Conversely, the reduction of working hours can be at least partly offset by increases in the pace of work without causing physically harmful consequences.

Motivational effects. Better working time arrangements can have motivational effects by obtaining the psychological willingness of workers to use their energy in more efficient ways. Such motivational gains, however, might be lost if management does not recognize them and takes no steps to change working time practices and methods to make use of and secure these gains. It is also known that these effects can only be expected if there is a positive cooperation between managers and workers in an enterprise, which provides

a facilitating environment for a positive reciprocal relationship between better working time arrangements and higher labour productivity.

Improved organization of work. Changes in working time can induce a series of productivity-enhancing changes in work organization. They may invite management to identify and reduce “non-productive” time that arises due to inefficiencies in scheduling and methods of supervision.

What does the evidence say?

An extensive review of the evidence concerning working time and productivity was done by White,¹ which reported overwhelming evidence that shorter working hours were linked to increased flexibility and productivity. A similar finding, based on case studies, was also reported in Rubin and Richardson.² Because the productivity gains connected with reductions in working time tend to decrease as the length of working time decreases, the largest potential gains can be expected from reductions in very long hours of work (more than 48 hours per week).

There is a substantial body of empirical evidence demonstrating that reductions in excessively long hours of work — typically linked with changes in work organization, methods of production and similar factors — have resulted in substantial productivity gains over the years. The historical data presented in the table below, which shows developments in working time, productivity per hour and GNP per capita for five industrialized countries (France, Germany, Japan, the United Kingdom and the United States), illustrates this phenomenon.

Development of working time, productivity and gross national product per capita in five industrialized countries (1870 to 1992)

	USA	Germany	Japan	France	UK
Working time	-46.3%	-46.9%	-36.3%	-47.6%	-50%
Productivity per hour worked	+1287.6%	+1734.7%	+4352.2%	+2127.9%	+918.8%
GNP per capita	+918.6%	+998.3%	+2632%	+967.1%	+501.7%

Source: G. Bosch and S. Lehndorff, in *Cambridge Journal of Economics*, No. 25, 2001, pp. 209-243.

In all of these countries, a rise of GNP per capita and labour productivity per hour was accompanied by a reduction of working time. Bosch and Lehndorff argue that the reduction of working time partly contributed to the productivity growth that occurred in these countries.

Finally, there are also numerous enterprise-level studies that show the business benefits of adopting flexible working time arrangements that allow workers to organize their working hours in ways that promote work-life balance. For example, one study of six large American companies found that 70 per cent of managers and 87 per cent of workers reported that working time arrangements which allowed workers to adjust their work schedules in response to their individual needs, such as flexitime and telecommuting, had positive effects on productivity.³

¹ M. White: *Working hours: Assessing the potential for reduction*, (Geneva, ILO, 1987).

² M. Rubin and R. Richardson: *Microeconomics of the shorter working week*, (Aldershot: Avebury, 1997).

³ Boston College Center for Work and Family: *Measuring the impact of workplace flexibility: Findings from the National Work/Life Measurement Project*, Executive Summary (Boston, 2000). Available at <http://www.bc.edu/centers/cwf/research/highlights/meta-elements/pdf/flexexecsumm.pdf>.

