ORGANISATION DE COOPÉRATION ET DE DÉVELOPPEMENT ÉCONOMIQUES

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ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

ECONOMIC SURVEY OF BELGIUM 2005:

TRENDS IN WORKING TIME

This is an excerpt of the OECD Economic Survey of Belgium, 2005, from the section on the economic and budget consequences of population ageing in chapter 1, "The Policy Challenge: Preparing for Population Ageing".

Box 1.2. **Trends in working time**

Annual hours worked per person employed are estimated to have fallen at an average annual rate of 0.6% over 1970-2003, in line with the average for 19 OECD countries with available data.[1] Working hours in Belgium remain about 4% below the average for these countries. Nevertheless, the decline in working time in Belgium has progressively slowed (Figure 1.4), falling to an annual average rate of only 0.1% over 1995-2003, less than the average (0.4%) for these countries. Hours worked per person employed have declined in Belgium over the long term, as in most other OECD countries, mainly owing to three factors: the rise in labour productivity and hence in real wage rates, which enables workers to consume more of all goods, including leisure; the rise in the female participation rate, which has been associated with an increase in the share of part-time employment; and the rise in the tax burden on labour income. Based on a pooled sample regression for 16 OECD countries (for which full datasets are available)[2] over 1975-2002 with fixed effects and country-specific trends, the long-run elasticities of working time with respect to labour productivity, the share of female employment and the implicit tax rate on labour income[3] are -0.33, -0.17 and -0.12, respectively.[4] This relationship suggests that the slowdown in labour productivity growth in Belgium since the mid-1990s may have accounted for much of the slowing in the trend decline in working time,[5] with the stabilisation in the implicit tax rate on labour income also contributing, albeit to a much lesser extent. If labour productivity growth settles at around the trend rate in recent years (1.5% over 1995-2003) and allowing for slower growth in female participation and some reduction in the tax burden on labour income, it could be reasonable to assume a decline in working time of around 0.2% per year over 2000-50, greater than in the past 8 years but much smaller than in the past quarter century. This rate also happens to be the trend rate of decline in working time over 1995-2003.

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Box 1.2 **Trends in working time** (continued)

Figure 1.4. **Trend growth in hours worked per person employed**

1. Trend calculated by using Hodrick-Prescott filter (lambda = 100). To calculate the trend, the original series was extended beyond 2003 using *OECD Economic Outlook 76* projections for labour productivity per person employed over 2004-10 and assuming that the annual average rate of decline in hours worked over this period is the same (0.1%) as in 1995-2003.

Source: OECD Productivity Database and *OECD Economic Outlook*, No. 76.

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1. These countries are Australia, Belgium, Canada, Denmark, Finland, France, Germany, Iceland, Ireland, Italy, Japan, the Netherlands, New Zealand, Norway, Spain, Sweden, Switzerland, the United Kingdom and the United States.
2. The countries in footnote 1 except for Iceland, Ireland and New Zealand.
3. Ideally, the averages of all individuals' average and marginal tax rates on labour income (including personal income taxes, social security contributions, payroll taxes, benefit withdrawal and taxes on consumer expenditure – all of which distort the choice between labour and leisure) should be used, with the average rate capturing the income effect and the marginal rate the substitution effect. As such time series are not available, implicit tax rates are used as a proxy. As these are macroeconomic average tax rates, they are effectively income-weighted average tax rates and hence are higher than the average of individuals' average tax rates. At the same time, implicit tax rates are lower than the average of individuals' marginal tax rates. If the redistributive effect of taxation and the tax base remain constant, an increase in the implicit tax rate on labour income will be associated with corresponding rises in the averages of both the average and marginal tax rates on labour income.
4. The results of the panel regression are as follows:

The co-integrating relationship is

log HE = - 0.328 log LP – 0.001 TI – 0.002 FM + Cx + TRx +RESID
(-14.59) (-3.24) (-5.94)

Rbar2 = 0.999; S.E. of regression = 0.014; DW = 0.585

And the error correction equation is

dlog HE = -0.004 + 0.343 dlog (HE(-1)) + 0.044 dlog(LP(-1) – 0.279 RESID(-1)
(-6.72) (7.502) (1.969) (-9.067)

Rbar2 = 0.207; S.E. of regression = 0.009; DW = 2.110

where:

HE = hours worked per person employed;
LP = GDP per hour worked;
TI = implicit tax rate on labour income;
FM = share of female employment in total employment;
Cx = constant for country x;
Cx = trend for country x;
RESID = residual from the co-integrating relationship.

5. On the basis of the estimated relationship, the slowdown in labour productivity growth from an annual average rate of 2.8% over 1975-95 to 1.2% since then would eventually result in a reduction in the annual average rate of decline in working time of 0.5%.

Source: Carey, D. and J. Rabesona (2002) (updated) for implicit tax rate data; *OECD Labour Force Survey* for employment data; OECD Productivity Database for other data.

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