



Working hours in a period of low economic growth

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*Socio-economic Sciences and Humanities Europe
moving towards a new path of economic growth
and social development - Collaborative project*

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Working hours in a period of low economic growth

Introduction

A period of low growth in the near future is quite likely. Therefore, all possibilities to lessen the negative consequences of such a scenario need to be explored.

De-growth theorists recommend shorter work weeks¹ to spread work more evenly to limit unemployment. Labour-sharing may lead to higher productivity per hour, greater job satisfaction, a better work-life balance and thus higher welfare. But is this a strategy to fight unemployment in a period of low economic growth?

Theoretical background

The difference between neoclassical and Keynesian reasoning is most evident with respect to working time.

From a neoclassical perspective, more flexible working hours and even an increase in working time are needed, among other factors, to improve price competitiveness, to raise the potential output and enhance economic growth (Franz-Peters-Steiner 2000). It is assumed that available capacities of labour and capital are fully used (except in the short-run).

From a Keynesian perspective, total working hours can be distributed among more employees in periods of slack demand. Short-time work (with government assistance) in ailing industries is an effective way to do so in recessions. Even from this perspective, it is disputed whether a general reduction of working hours per employee can be an instrument to tackle unemployment since shorter hours may reduce effective demand further (Lehndorff 1998, Flassbeck 2013).

Reflecting on grandchildren, Keynes had expected a 15-hours work week for 2030. He was wrong because productivity gains were used to a much greater extent for additional income and consumption than for a reduction of working hours.

The return of mainstream economics from the Keynesian to the neoclassical paradigm has certainly affected the political attitude towards working time: from a reduction of working hours to more flexible working hours.

Development of working hours

From a historical perspective, annual working hours per employee were halved in Europe between 1870 and 2000 (see table 1). But this long-run declining trend has slowed down substantially or even stopped in recent decades.

¹ Additionally this literature suggests more informal work (see Antal 2014, Koch 2015).

After a strong reduction in the Golden Age (1950-75), the number of weekly hours of full-time employees in Europe has been stable during the last decades (see table 3). Weekly hours of all employees fell slightly (-0.3% per year) due to the strong increase in part-time and mini-jobs (see table 2).

A substantial share of additional employees took on part-time jobs. In the EU-28, their share further increased in the last decade: from 16 percent in 2003 to 19.5 percent by 2013. One third of female employees and 9 percent of male employees work part-time. In the Netherlands, the proportion of part-time work is one half. In Germany, the UK, Austria and the Scandinavian countries about one quarter of all employees have part-time jobs.

Table 1 **Annual working hours since 1870**

	1870	1920	1950	2000
US	2600	2300	2000	1900
UK	2700	2400	2100	1700
France	3100	2500	2100	1500
Germany	3200	2600	2100	1500

Source: Koch 2015, based upon Huberman, figures rounded

There is a close negative relationship between the number of working hours and economic development (see table 2): In rich countries with high productivity levels, the number of working hours is far lower than in poor countries with low productivity. In emerging countries, the number of annual working hours is about 50 percent higher than in industrialised countries. This difference may be one reason why working hours did not further decline in highly-industrialised countries because the new wave of globalisation since the 1980s called for measures to maintain international competitiveness.

We find only one exception from this relationship between productivity and working hours: the United States. Employees in the US work 1788 hours per year, which is roughly on the OECD average. We do not detect the national stereotypes of lazy Greeks and hard-working Germans in the statistics. In 2013, German employees actually worked 1388 hours per year, Greek employees worked 2037 hours.

The collectively agreed working time is now about 38 hours in the EU, ranging from 35 in France and 37 in Scandinavia to 40 in Greece, Hungary and Romania. The low level of standard working hours in France reflects the Aubry law which established a 35 hour work week.

The average number of normal weekly hours in the main job (EIRO 2013) is 39.5 in the EU, 1½ hours above the collectively agreed working hours. This reflects the amount of overtime.

Table 2 **Average annual hours actually worked in selected countries and GDP**

	Hours worked						GDP/capita	
	2000		2013		2013-2000		2013	2013/2000
	Hours	Rank ¹	Hours	Rank ¹	Abs.Diff.	Rank ¹	Euro at PPS	% p.a.
Netherlands	1435	17	1380	17	-55	6	34.868	1.9
Germany	1471	15	1388	16	-83	11	32.552	2.7
Denmark	1468	16	1411	15	-57	7	33.070	2.0
France	1535	14	1489	14	-46	4	28.359	1.8
Switzerland	1674	12	1585	13	-89	13	43.376	2.9
Sweden	1642	13	1607	12	-35	3	33.713	2.2
Austria	1842	7	1623	11	-219	17	34.051	2.2
Spain	1731	10	1665	10	-66	8	25.371	2.3
UK	1700	11	1669	9	-31	2	28.896	1.5
Japan	1821	9	1735	8	-86	12	27.362	1.5
Italy	1861	6	1752	7	-109	16	26.460	1.0
USA	1836	8	1788	6	-48	5	40.010	1.8
Turkey	1937	5	1832	5	-105	15	14.030	4.4
Poland	1988	3	1918	4	-70	9	17.894	5.2
Russia	1982	4	1980	3	-2	1		
Greece	2130	2	2037	2	-93	14	19.320	1.2
Mexico	2311	1	2237	1	-74	10	12.729	3.0
EU (11 countries)	1709	10	1631	11	-79	9	28.596	2.2

Source: OECD, Eurostat. - ¹ Highest hours worked ranked 1.

Table 3 **Hours worked per week of full-time employment**

	2003		2013		2013-2003	
	Hours	Rank ¹	Hours	Rank ¹	Abs.Diff.	Rank ²
Switzerland	42.7	3	43.1	1	0.4	9
Austria	41.5	5	43.1	1	1.6	11
UK	43.7	1	42.8	3	-0.9	3
Poland	43.4	2	42.3	4	-1.1	2
Spain	41.6	4	41.7	5	0.1	7
Germany	41.0	6	41.7	5	0.7	10
Sweden	40.8	7	40.8	7	0.0	5
Netherlands	40.6	9	40.8	7	0.2	8
France	40.7	8	40.7	9	0.0	5
Italy	40.5	10	40.4	10	-0.1	4
Denmark	40.3	11	38.8	11	-1.5	1
EU-28	41.7		41.5		-0.2	
Euro-19	41.1		41.3		0.2	

Source: Eurostat. - ¹ Highest hours worked ranked 1. - ² Strongest reduction ranked 1.

Working hours in the United States and in Europe

From the perspective of New Classical Macroeconomics, Prescott (2004) argued that virtually all of the large differences between U.S. labour supply and those of Germany and France are due to differences in tax systems. High marginal tax rates in Europe would lower participation rates and annual hours worked. But why are participation rates so high in Scandinavia despite high tax rates? And why did working hours in Europe not rise after the reduction of marginal income tax rates during the last two decades?

Blanchard (2004), on the other hand, emphasized that Europeans have a cultural predilection for leisure. The difference in vacations and holidays between US and EU is striking: 8 weeks in Europe, 4 weeks in the US.

There appears to be an impact of economic development on the annual number of hours worked (overtime, short-time work etc). The number of hours worked is not simply a deliberate choice of individuals. It is influenced by the demand for labour and by working time schedules of enterprises as well as by institutional arrangements, such as the normal working week, the number of holidays, vacations, overtime pay etc.

Determinants of working hours

During the sixties and seventies, the reduction in working hours was pushed by trade unions. In many industrialized countries, the normal workweek was cut to 40 hours.

High productivity gains facilitated successful claims of trade unions for a general reduction of the working week and for more holidays. A rise in productivity may be “consumed” either by an increase in real wages or by a reduction of working hours. At that time of high productivity increases both alternatives were achievable.

In recent decades, productivity increases diminished and net real income hardly increased. In many surveys, workers preferred higher income to a reduction of working time. Moreover, the power of trade unions vanished with high unemployment and the threat of outsourcing in a globalised world.

Collectively agreed general reductions of working time under the pressure of trade unions seem to have phased out (Bosch 1998). In Germany, working hours in some manufacturing industries were reduced to 35 hours in 1995. Since this time, there was no major change. The collectively agreed weekly working time (37.5 hours) has been completely unchanged for two decades.

The last great collective reduction in Europe was the 35-hours work week in France, where the working week was reduced from 39 to 35 hours with a system of financial incentives. This reduction was strongly opposed by employers’ organizations and partly reversed when political power changed. Following the Aubry Law (1998), hours actually worked were reduced in France at a faster pace than in other EU countries. In 2013, hours worked by full-time employees in France were about one hour per week lower than in Germany and the EU average (see table

3). Shorter working hours in France helped to reduce unemployment for a while. But in 2014, the unemployment rate in France was still exceeding 10 percent.

In Sweden, an experiment started in 2014: a 6 hour working day with full pay. Municipality employees in Gothenburg work only 30 hours per week (instead of 35 hours). The aim is to reduce sick leave, raise efficiency and make people happier. The results of this experiment will be compared with employees in other cities who work seven hours a day (Eurofound 2015).

Effects of working-time reductions

There are four possible reactions of entrepreneurs to collective working-time reductions (adding up to 100 percent):

- Overtime (paid or unpaid), i.e. the collectively agreed working-time reduction is not fully put into effect
- Higher productivity and efficiency (greater workload per hour)
- Additional employees (at least part-time)
- Lower production (quite unlikely unless labour costs rise strongly)

An econometric study analyzed the effects of collective working-time reductions in Austria (from 48 to 40 hours) during the “Golden 1960s and early 1970s”. It came to the following conclusions (Baumgartner et al. 2001):

- There was no negative effect on economic growth, with additional foreign workers available and unit wage costs unaffected in the medium term.
- In the short run, entrepreneurs reacted by higher overtime (one third of the reduction of normal working hours). In the long run, however, there was no increase in overtime.
- In the long run, working-time reductions had an employment effect of about 40 percent and a productivity effect of roughly 60 percent. (Without an impact on economic growth and overtime these two effects add up to 100 percent.) The productivity effect implies a much higher workload for employees.

The form of wage compensation is crucial. In Austria, formally there was full wage compensation, but trade unions reduced their wage claims over years so that unit wage costs did not rise as a consequence of working-time reductions. With an unchanged distribution between profits and wages, productivity increases may be used either for wage increases or for working time reductions.

The authors of the Austrian studies concluded:

- Working-time reductions should be designed in a way that they do not increase unit wage costs (“cost-neutral”)
- The employment effect of working-time reductions has to be borne by employees (i.e. no wage compensation at the end)

- The productivity effect has to be borne by employers (“distribution-neutral”, i.e. wage compensation).

Under these conditions there will be no negative effect on economic growth and no induced lack of effective demand. This requires continuous negotiations between social partners, liberal immigration policies and additional training measures to contain shortages of skilled workers.

In a period of low growth, we would expect relatively higher productivity effects due to lower utilisation rates of labour. Under competitive pressure, many employers will increase (unpaid) overtime, all-inclusive contracts and raise the efficiency of the existing work force. Hence, the employment effect will be smaller than in prosperous economic times.

The higher demand for employees will attract more foreign labour and domestic labour reserves (as it did in the 1970s). Thus, the impact on unemployment will be limited. To achieve a greater effect on unemployment, such reductions of working hours would have to be repeated with all the side-effects on real wages and labour immigration.

To sum it up, reductions of working hours are a good instrument to raise welfare, life satisfaction and gender equality, but they are not a powerful weapon against unemployment.

Individual working-time reductions and life satisfaction

New forms of flexible working hours were introduced after the traditional form of collective reductions of the working week petered out (Lehndorff 1998). The main innovations were part-time work, time accounts (Arbeitszeitkonten), all-inclusive work contracts, mini-jobs etc. All these forms of flexible working hours facilitated a better adjustment of employees to business requirements. This helped to improve price competitiveness and to raise the utilisation of the potential labour force. These measures tended to increase the share of profits in national income through higher utilization rates, but they also increased labour participation rates and checked unemployment rates (via price competitiveness and time accounts).

On the employees’ side, the improvement of the work-life balance became a new focus. Sweden, Denmark and the Netherlands, in particular, introduced parental leave schemes, sabbaticals, a right to part-time work for parents of small children, part-time work for older or handicapped persons and flexible working-time schemes in order to reduce the work-life conflict.

Leisure contributes to life satisfaction. US-American work longer hours than Europeans, but this is neither a reaction to lower taxes nor a deliberate choice. “In 1955, 49 percent indicated that they would prefer to have more leisure, and in 1991 this share had risen to 68 percent” (Tichy 2014). Alesina et al. (2005, p.6) pointed out that there is a link between self-reported happiness and weeks of vacation. They argued that it is beyond the power of the individual employee to reduce his working time. Only collective action by trade unions can achieve this (Tichy 2014).

Job satisfaction is positively correlated with working time flexibility. Workers who can decide when to start or leave their job are more satisfied with their job. They can better match their work with their private life (Koch 2015).

The export-oriented sector of the economy is largely driven by business requirements to maintain international competitiveness, but in the domestic sector (health, education, child and old-age care etc.) there is much room for designing working hours to match work and family life in a better way and thereby increase job satisfaction and welfare. Recently, a reduction of overtime was forced by EU regulations, e.g. for doctors.

Part-time employment was the most important innovation. It helped to raise participation rates (of marginal groups). The bulk of part-time work has been chosen deliberately by employees, not forced by employers. Women tend to work part-time throughout their working life, men just at the beginning and end of their careers (Eurofound 2013). Part-time work is concentrated in the retail sector, in educational, health and social services. In the Netherlands, part-time employment has become the norm: 51 percent worked part-time (between 20 and 35 hours) in 2013. In Germany and Austria the share of part-time is above EU average. Tax policy often provides an incentive for part-time work since incomes up to a certain amount (e.g. 10.000,- per year) are exempted from income taxes.

In general, more flexible working hours resulted in higher business efficiency. At the same time, part-time work could improve the work-family balance for employees.

Leisure Option

Austria experimented with an interesting individual option between wage increase and reduction of working hours in collective agreements.

A reduction of working hours is a possible alternative to a pay increase. In collective agreements, individual options for one or the other can be arranged (Gerold/Nocker 2015). A better combination of work, family life, and leisure is thus enabled.

In the Austrian electrics and electronics industry, such a leisure option was agreed upon (in 2013 and 2014). The vast majority of employees (about 90 percent) preferred higher pay, only about 10 percent opted for shorter working hours. Higher educational attainment, longer weekly hours and living in dual-earner households were the most important factors to opt above-average for shorter working hours.² Arguments in favour of a reduction of hours were typically: family life, leisure and quality of life. Employees use the additional leisure time mostly for longer holidays and time credits up to retirement. The major obstacle for taking the leisure option is the difficulty to consume the additional leisure time (due to a high workload). Financial security in the long-run is another argument to reject the leisure option.

There is a large mismatch between working hours demanded by firms and preferred working hours. According to a survey carried out by Eurofound around 30 percent of Austrian employees want to work less, 7 percent want to work more. Older people tend to prefer shorter hours.

² Interestingly, the income level had no effect on the choice of the option.

In a period of low growth all possibilities of reducing working hours on a voluntary basis should be utilized. Individual options between pay increases and shorter working hours are a good instrument to reduce an over-supply of labour according to employees' individual preferences (personal needs).

Summary

Collectively agreed reductions of working hours phased out in Europe in the 1990s. During the last two decades, working time became more flexible and heterogenous. Working hours of full-time employees in the EU hardly changed. The strong increase in part-time work was the outstanding phenomenon. Today, one third of female employees and almost ten percent of male employees work part-time.

In a period of slow growth, productivity gains will be squeezed by subdued investment and low capacity utilisation. Thus, a smaller pie will be available either for real wage increases or for working time reductions. In this situation, it will be politically even more difficult to find an agreement on shorter working hours than in past decades. Workers will oppose to a stagnation or even reduction of real wages. They will be interested in higher wages rather than lower working hours. Employers will probably attribute the economic stagnation to a lack of price competitiveness and call for more flexible and longer working hours.

Marterbauer (2007) suggests a working time reduction to 35 hours with "cost-neutral wage adjustment". This means that induced productivity effects are compensated by higher wages, induced employment effects are not. In other words, the employment effects have to be borne by the workers. In this case, unit labour costs would remain constant since hourly wages are raised only according to productivity increases.

What does this mean for a reduction of working hours by 10 percent (from 38.5 to 35 hours)? If we assume an employment effect of 40% and a productivity effect of 60%, this implies that real monthly wages are cut by 4% and hourly wages are raised by 6%. This will be quite difficult to become accepted in a period of very low growth. We just see how tough the negotiations on the EU regulation of maximum working time (e.g. 48 hours for doctors) are.

It is quite likely that the productivity effect of working time reductions will be higher in a stagnation period due to labour hoarding in firms. The employment effect to be borne by workers might therefore be below 40%. But if there is a low employment effect, this strategy is not a good instrument against unemployment.

Since the productivity and employment effects of a working time reduction in a low growth period are quite uncertain, social partners must be willing to negotiate again when the effects become apparent.

Trade unions usually demand a reduction of working time with full wage compensation (not just cost neutrality). But they cannot prevent enterprises from raising prices as a reaction to cost increases. Flassbeck (2013) argues that full wage adjustment has always been an illusion. As mentioned before, productivity gains can only be distributed once: either to raise real wages or

to reduce working hours. All this happens, of course, under the assumption of a constant distribution of income. But according to Flassbeck it is unrealistic to expect a reversal of the falling trend of the wage share.

In a period of low economic growth, the overhang of labour may be reduced by voluntary individual reductions of working hours: part-time work for parents and older persons, sabbaticals for family, education and leisure etc. Moreover, incentives for overtime could be dropped and all-inclusive contracts reduced. Higher time accounts may be used before retirement or maternity leave. Company or workplace pensions may also be consumed just before retirement (Sweden). The concept of lifetime working hours will gain importance.

Some of these instruments to reduce working hours individually, e.g. sabbaticals for family reasons, will require financial incentives by government. But as far as these measures reduce payments for unemployment, they are cost-neutral.

In Austria, an interesting innovation was introduced in the electrics and electronics industry: a leisure option. Workers could choose between a wage increase of say 3% and a reduction of working hours by 3%. 90% opted for a wage increase, 10% for shorter working hours. Employees with higher education tended to opt for lower working hours to a greater extent than employees without higher education.

References

- Absinger N. et al. (2014), Arbeitszeiten in Deutschland, Entwicklungstendenzen, Herausforderungen für eine moderne Arbeitszeitpolitik, WSI-Report 19, November
- Alesina A., Glaeser E, Sacerdote B. (2005). Work and leisure in the US and Europe: Why so different? NBER Working Paper No.11278, Harvard Institute of Economic Research
- Antal, M. (2014), Green goals and full employment: Are they compatible? Ecological Economics, 107: 276-286
- Baumgartner J. et al. (2001), Beschäftigungswirkungen und ökonomische Effekte von Arbeitszeitverkürzungen, WIFO, Wien
- Blanchard O. (2004), The Economic Future of Europe, Journal of Economic Perspectives, 18, 3-26
- Bosch G. (1998), Das Ende von Arbeitszeitverkürzungen? Zum Zusammenhang von Arbeitszeit, Einkommen und Beschäftigung, WSI-Mitteilungen (6)
- Eurofound (2013), Comparative analysis of working time in the European Union
- Eurofound (2015), Sweden: Gothenburg municipality implements 30-hour working week, EurWork, European Observatory of Working Life, February 2
- Flassbeck H. (2013), Arbeitszeitverkürzung mit vollem Lohnausgleich? Warum werden immer wieder die gleichen Fehler gemacht? Flassbeck-Economics Website
- Franz W., Peters R.-H., Steiner V. (2000), Arbeitszeitverkürzung – ein unheilvoller Evergreen, Frankfurter Allgemeine, 11. März
- Gerold S., Nocker M. (2015), Reduction of Working time in Austria, Master Thesis, WU-Wien
- Koch V. (2015), Potentials, Limits and Ramifications of Working Hour Reductions in Low-Growth-Economies, Master Thesis, WU-Wien
- Lehndorff S. (1998), Von der kollektiven zur individuellen Arbeitszeitverkürzung? WSI-Mitteilungen (9)
- Marterbauer M. (2007), Wem gehört der Wohlstand? Zsolnay, Wien
- Tichy G. (2014), Happiness surveys: Exclusive guides for policy? European Journal of Economics and Economic Policies 11(3), 333-348
- Walterskirchen E. (1991), Die Beschäftigungseffekte einer Arbeitszeitverkürzung, WIFO

Project Information

Welfare, Wealth and Work for Europe

A European research consortium is working on the analytical foundations for a socio-ecological transition

Abstract

Europe needs change. The financial crisis has exposed long-neglected deficiencies in the present growth path, most visibly in the areas of unemployment and public debt. At the same time, Europe has to cope with new challenges, ranging from globalisation and demographic shifts to new technologies and ecological challenges. Under the title of Welfare, Wealth and Work for Europe – WWWforEurope – a European research consortium is laying the analytical foundation for a new development strategy that will enable a socio-ecological transition to high levels of employment, social inclusion, gender equity and environmental sustainability. The four-year research project within the 7th Framework Programme funded by the European Commission was launched in April 2012. The consortium brings together researchers from 34 scientific institutions in 12 European countries and is coordinated by the Austrian Institute of Economic Research (WIFO). The project coordinator is Karl Aiginger, director of WIFO.

For details on WWWforEurope see: www.foreurope.eu

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