

WORKING-TIME DURING THE ECONOMIC CRISIS

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Abstract: This paper explains why working-time temporarily increased during the recent economic crisis in the Czech Republic when at the same time the majority of OECD countries encountered the opposite development (i.e. a reduction in working-time during the crisis). The empirical analysis supports the hypothesis that companies responded to the economic crisis in 2009 by reducing their numbers of employees (which led to an increase in unemployment) and later, when the economy recovered, these employers did not hire workers again (the unemployment rate remained high) but instead stretched the working schedules of their employees. This paper further documents significant improvements in working-time arrangements in the Czech Republic. In comparison to 10 years ago, fewer people work in the evenings, nights or over weekends. The incidence of overtime has decreased, and more people work close to their desired working hours. Results suggest that the promotion of flexible work practices may improve job stability and further reduce the incidence of long working hours.

Keywords: Working-time, economic crisis, short-time work

JEL classification: E32, J22, J81

1. Introduction

Working-time flexibility improves an economy's capability to adapt and develop to changes in the structure of demand for goods as well as to changes in supply conditions. Reductions in working-time played a major role in reducing the impact of the recent economic crisis on employment levels in most OECD countries (Hijzen and Martin, 2013). In contrast, in the Czech Republic working-time exhibited an increasing pattern during the same period. The aggregate statistics in Figure 1 show that the annual working hours per worker in the Czech economy temporarily increased by 27 hours after 2009 before dropping back to their pre-crisis level in 2012. Annual working hours also increased during the crisis in 1997-1999, which underlines that this is a specificity of working-time development in the Czech Republic. An analysis of working-time arrangements during periods of economic uncertainty will therefore help us to understand the behaviour of Czech firms and its consequences on workers' well-being.

This paper pursues the idea that employers in the Czech Republic responded to the economic downturn by swiftly reducing their employee numbers, rather than temporarily reducing their employees' working hours. This is because the incentives for companies to preserve jobs through working-time reduction measures were low. Later, when the economy recovered, the employers stretched their employees' working-time instead of hiring additional staff. Our empirical analysis identifies asymmetry in working-time arrangements to support this hypothesis. While the incidence of reduced working-time during the crisis only increased by 1.5 percentage points, when the economy recovered the share of persons working above their standard hours essentially doubled from 7% to 13%. These results suggest that the promotion of flexible working-time contracts may be efficient to preserve job stability and reduce the incidence of long working hours.

The paper continues by discussing long-term developments in working-time and explaining the major factors behind the decreasing trend in working hours in the Czech Republic. The third section explores working-time arrangements during the recent economic crisis, and the fourth section concludes.

2. The evolution of working-time

The reduction of working-time is a long-standing phenomenon; this is best illustrated by the fact that economist John Maynard Keynes forecasted in 1930 that productivity rates would rise so rapidly that by 2030 working hours would be dramatically cut to just fifteen hours a week. While Keynes was right about the productivity rates, he overestimated the change to working hours, which have only very gradually declined over recent decades. Interestingly, prior to the Industrial Revolution the working week was roughly the same as today. During the Industrial Revolution (1760 - 1850), average hours of work dramatically increased; this was mostly as a result of artificial lighting, which enabled work to continue longer each day. However later, when the negative consequences of such long working hours on health and productivity were recognized, the working week began to be progressively reduced, particularly through legal interventions (Lee, McCann and Messenger, 2007). On average, annual working hours declined by 11 hours per year between 1870 and 1950 and by 5 hours per year between 1950 and 2012 (Maddison 2006). Nowadays the standard working week in most developed countries is 40 hours (ILO, 2011). The European Union Working Time Directive (2003/88/EC) sets the maximum weekly working-time at 48 hours in order to protect workers' health and safety. The literature documents that reductions in average working hours lead to higher labour productivity and has positive impacts on employees' health, work-life balance and overall well-being. Employers may also benefit from reduced energy or labour costs, and shorter working hours can help to reduce greenhouse gas emissions.

2.1 The regulation of working-time in the Czech Republic

On the 19th December 1918, the government of Czechoslovakia set working-time at eight hours per day, with Act No. 91/1918 Coll. This regulation, which also limited working-time to a maximum of 48 hours a week, remained in force until 1965, when the working week was shortened to 46 hours by Act No. 65/1965 Coll. of the Labour Code. Not long afterwards, in 1968, it was reduced again to a maximum 42.5 hours (Barancová and Schronk, 2013). So until 2001 the standard working week was set at 42.5 hours and included a mandatory 30-minute break to allow workers to eat and to rest. With the introduction of Act No. 155/2000 Coll. in 2001, the standard working week was reduced to 40 hours, but excluding these breaks.¹ It is therefore likely that working-time routines did not significantly change between these two years, although statistics for annual working hours exhibit a sharp decline in 2000 because working hours started to be reported exclusive of the mandatory breaks (see Figure 1). The reduction of annual working hours in 2001 was also affected by the addition of two new holiday days by Act No. 245/2000 Coll. (the Czech Republic currently has 13 days of state and other holidays that constitute days off).

Act No. 262/2006 Coll., implemented in 2007, brought in variable maximum weekly hours according to economic sector. For example, it limited workers employed in underground mining (coal, ores and industrial minerals) or mine construction and at geological survey excavation sites to a maximum of 37.5 hours a week.

Aside from these various regulations enacted in the labour law, many other efforts to reduce working-time have been pursued by trade unions in collective bargaining. Fassmann and Čornejová (2005) explain that collective bargaining in the Czech Republic is one of the instruments that have contributed to the shortening of working hours during the last two decades. They report that in 2004 about 94% of collective agreements allowed statutory weekly working hours to be reduced without wage reduction. Furthermore most collective agreements (76.5% in 2004) granted employees an extra week of paid vacation in addition to the 20 day annual minimum guaranteed by law. Finally, the collective agreements have shortened working-time in selected industries, and reduced overtime to below the limits set by the Labour Code.

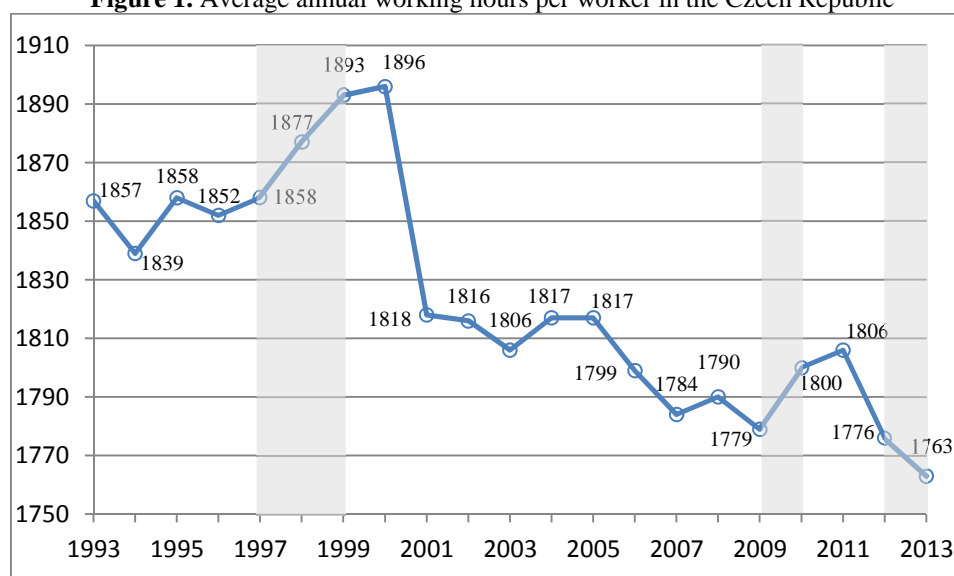
¹ This act was adopted in order to implement Directive 93/104/EC, which defined the organization of working-time within the EU.

2.2 Working-time arrangements

The evolution of working-time in the Czech Republic since 1993 is summarized in Figure 1. The data confirms that working schedules were very stable in the initial years, partly as a result of favourable macroeconomic performance. In 1997–1999 the economy experienced a recession and the number of working hours temporarily increased. Interestingly, the average annual working hours increased again during the later period of economic downturn in 2009. The sharp decline in working hours between 2000 and 2001 is attributed to changes in reporting as a result of legislation amendments, as described above. Importantly however the long-term development confirms the decreasing trend in annual working hours, with a decline of 4.4 hours per year over the period 2002 – 2013.

In comparison with other European countries, workers work longer hours in the Czech Republic: the average working-time in the Czech Republic in 2013 was 42.1 hours per week for male workers and 38.7 hours per week for female workers, while the EU averages were 40.3 and 33.5 hours respectively.² One obvious reason for these long working hours in the Czech Republic is that the majority of workers work full time, while part time work and other flexible working arrangements are less common. The incidence of part time work in the Czech Republic has increased only slightly during the last decade from 5% in 2003 to 6.6% in 2013, which is substantially below the EU average of 20% in 2013.³ In the Czech Republic, health and family reasons are the most commonly cited among both men and women who work part time. Kyzlinková and Dokulilová (2007) show that Czech workers would rather prefer to use flexible forms of work than reduced working hours. Part time work therefore represents a means of acquiring additional earnings, rather than a way of supporting oneself.

Figure 1. Average annual working hours per worker in the Czech Republic



Source: OECD

Note: Shaded areas indicate periods of negative economic growth.

² Eurostat database (Table code lfsa_ewhuis)

³ Eurostat database (Table code tps00159)

2.3 Overtime work and atypical working hours

Overtime work used to be quite common in the Czech Republic, with one in five workers reported to work overtime in 1995. The legislation implemented in 2001 reduced the possibilities for overtime work and Act No. 262/2006 Coll. set maximum hours of overtime and a fixed level of bonus that must be paid to employees. Since 2007, no employee may be ordered to do more than 8 hours of overtime work within a single week or more than 150 hours of overtime work within one calendar year. Act No. 365/2011 Coll. made it possible for employers to enter into arrangements with their employees such that overtime is included in their salary. For managerial employees, up to 416 hours in any year can be included in this way, and for ordinary employees up to 150 hours. Before this act came into force, every employee was entitled to their standard wage and a premium payment of at least 25% of their average earnings for any overtime work. The incidence of overtime work decreased most substantially in 2009, and currently only one in ten workers reports overtime work (see Table 1). Data from Czech Labour Force Surveys further documents that overtime is most prevalent among men, workers in senior positions and highly paid occupations; this is consistent with the European evidence (Messenger, 2010).

Table 1 shows there are still many people working very long hours, although the share of employed persons working more than 48 hours a week has declined from 17% to 13% in the last decade. Not surprisingly, long working schedules are most prevalent among men. In 2003 one in four men and only one in thirteen women worked over 48 hours per week. In 2013 these rates were lower, at 18% for male and 5% for female workers respectively, but these are still considered high percentages.

Table 1. The share of persons working atypical hours

Year	Overtime work	Long hours over 48	Evening work	Night work	Saturday work	Sunday work
2002	0.139	0.167	0.464	0.195	0.473	0.310
2003	0.130	0.182	0.490	0.215	0.509	0.354
2004	0.115	0.176	0.486	0.214	0.497	0.344
2005	0.117	0.171	0.490	0.219	0.493	0.341
2006	0.100	0.168	0.424	0.213	0.472	0.323
2007	0.098	0.174	0.356	0.190	0.423	0.278
2008	0.099	0.178	0.349	0.183	0.415	0.268
2009	0.079	0.171	0.322	0.162	0.382	0.248
2010	0.080	0.167	0.322	0.167	0.394	0.256
2011	0.105	0.154	0.329	0.174	0.425	0.273
2012	0.101	0.147	0.319	0.165	0.411	0.269
2013	0.095	0.134	0.310	0.166	0.396	0.253

Source: Author's calculation based on Czech Labour Force Surveys

Note: Sample includes employed workers aged 15-64 and design weights are applied.

The emergence of nonstandard working hours (including evenings, nights, and weekends) makes it difficult to integrate work with family time. The Figures in Table 1 point to a decline in such work shifts. These developments point to the higher standardization of working days in the Czech economy and likely improve workers' well-being.

2.4 Preferred working hours

The data suggests that the observed long-term reduction in average working hours mirrors workers' preferences. Table 2 documents the closing gap between workers' usual versus desired working hours. According to these statistics, men want to work at least 2 hours more per week than women, but women's usual working weeks are closer to their desired working-time.

Table 2 further shows the workers' preferences for working more or fewer hours. Interestingly, the share of female workers who would prefer to work more reached its minimum in 2007 and has been increasing since then. This is confirmed by the declining share of women who would prefer to work less. Preferences for working fewer hours are more common among men: one in five male workers currently prefers to work less. In general, these findings imply that many more people would prefer to working fewer rather than more hours, and working women exhibit more satisfaction with their working hours than working men. In the future, these working-time preferences suggest that the gender gap in hours worked will become narrower.

Table 2. Preferred working hours by gender

Year	Female workers				Male workers			
	Usual hours	Desired hours	Prefers to work more	Prefers to work less	Usual hours	Desired hours	Prefers to work more	Prefers to work less
2002	39.70	37.16	0.035	0.264	43.78	40.14	0.036	0.296
2003	39.75	37.88	0.035	0.203	44.15	40.57	0.027	0.269
2004	39.68	38.35	0.033	0.159	43.96	40.91	0.025	0.229
2005	39.72	38.50	0.034	0.146	43.76	41.12	0.027	0.207
2006	39.66	38.50	0.034	0.143	43.63	41.07	0.024	0.203
2007	39.65	38.40	0.030	0.143	43.61	40.92	0.020	0.208
2008	39.67	38.37	0.032	0.154	43.61	41.15	0.026	0.209
2009	39.37	38.41	0.039	0.137	43.36	41.10	0.034	0.205
2010	39.27	38.47	0.043	0.131	43.07	40.90	0.032	0.201
2011	39.23	38.55	0.044	0.122	42.86	40.86	0.030	0.194
2012	39.06	38.54	0.048	0.114	42.64	40.82	0.032	0.190
2013	38.73	38.36	0.054	0.107	42.26	40.68	0.032	0.174

Source: Author's calculation based on Czech Labour Force Surveys

Note: Sample includes employed workers 15-64 and design weights are applied.

3. Working-time arrangements during the economic crisis

After the global economic crisis hit in 2008, reductions in working-time played a major role in reducing the impact the crisis had on employment levels. Hijzen and Martin (2013) highlight two mechanisms by which working-time decreases significantly during the periods of economic crisis: the first is a temporary reduction in working hours, also known as short-time work (STW), and the second is a response to production decline, which has a long term impact on the level of employment. The idea of STW is the reduction of workers' hours accompanied with a compensation for their partial layoff. Depending on the exact STW scheme, the costs associated with shorter working-time are shared between the government, the employer and the employee.

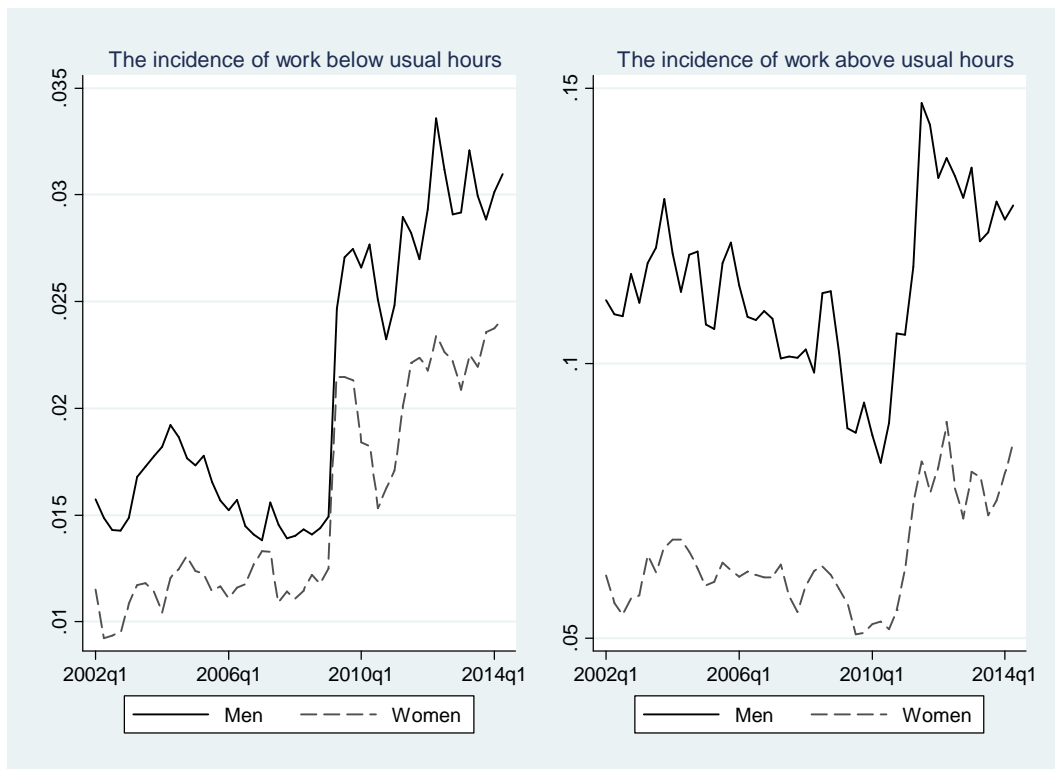
During the recent economic crisis, STW schemes operated in 25 of the 34 OECD countries to varying extents. At the peak of the crisis, more than 1.4 million workers were supported by STW schemes and take-up stood at over 7% in Belgium and around 4% in Germany. Hijzen and Martin (2013) estimate that the use of STW measures saved some 1.2 million jobs in Germany during the recent crisis and helped to keep unemployment low. The largest decrease in average annual working

hours during the economic downturn was registered in Austria, where STW schemes were used extensively. Austria also had a low unemployment rate (below 5%) in the period after 2009.

The Czech economy experienced two economic crises – in 1997 and in 2009 – during which the country encountered negative economic growth and sharp increases in the unemployment rate. During both periods, working-time increased (see Figure 1); during 1997-1999 annual working hours increased by 41 hours and during 2009-2011 by 27 hours. These changes, although relatively small, are worth exploring given that in the majority of OECD countries annual working hours decreased during the economic downturn. One potential reason for this difference is that there was very low use of STW schemes in the Czech Republic. Workers receiving STW were obliged to undertake compulsory training measures and participation in STW was limited to 6 months. The take-up rate for STW schemes in the Czech Republic reached its maximum in 2010 at 2% of employees (Hijzen and Martin 2013).

The empirical analysis supports the hypothesis that companies responded to the economic downturn by reducing their numbers of employees (which led to an increase in unemployment) and later, when the economy recovered, the work that would previously have been carried out by the dismissed employees was divided among the rest of the company’s employees, who had to work longer hours as a result. I employ the Czech Labour Force Survey, which asks workers about the number of hours they *usually* work in their main job and the number of hours they *actually* worked during the reference week. When these two figures are different, the respondents also indicate the reason why their working hours were different in the reference week than usual.

Figure 2. The incidence of work below and above usual working hours



Source: Author’s calculation based on quarterly Czech Labor Force Surveys

Note: Sample includes employed workers aged 15-64 and design weights are applied. The quarterly time series are smoothed using the exponential method.

Figure 2 plots the share of workers who reported working below or above their usual working hours for economic reasons, overtime, irregular or flexible working-time. The left graph illustrates

that at the beginning of the economic crisis in 2009 the incidence of reduced working-time increased from 1.5% to 2.7% among men and from 1.2% to 2.1% among women. The data confirms that working-time reduction schemes were applied very rarely. It is important to note that many workers lost their jobs in 2009 and the registered unemployment rate increased from 6% to 9.2%.⁴

The right graph in Figure 2 shows that during 2009 the incidence of working above usual working hours dropped to a minimum, before increasing during 2010-2011 from 8.6% to 14.3% among males and from 5.3% to 7.6% among females. In 2011 approximately 13% of Czech workforce were working more than their usual working hours, an increase from 7% in 2009. That finding is consistent with the hypothesis that employers rather stretched the working hours of their employees instead of hiring an additional workforce. Unsurprisingly, the unemployment rate remained high during 2010 and 2011.

4. Conclusions

Long-term developments have shown that working-time arrangements in the Czech Republic are becoming more favourable to workers. Compared to 10 years ago, fewer people now work in the evenings, nights or over weekends. The incidence of overtime and long hours has decreased and more people work close to their desired working hours.

The particular focus of this paper was on working-time changes during the economic crisis. I have argued that public schemes intended to preserve jobs during the crisis were not much implemented in the Czech Republic, and my analysis has confirmed that working-time reductions were very rarely applied. As a consequence, many workers lost their jobs in 2009 and the unemployment rate rose quickly. In 2010, when the economy started to grow, businesses did not hire these workers back (the unemployment rate remained high) but rather distributed the work among their existing employees, who then had to work longer. This is supported by data that shows a sharp increase in the number of people working more than their usual working hours after 2010.

In general, these findings imply that there is low flexibility in working contracts in the Czech Republic. During periods of economic uncertainty employers prefer to stretch the working hours of their existing employees rather than hiring further staff. The promotion of more flexible work practices may therefore improve job stability and reduce the incidence of long working hours.

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