# Are working hour preferences satisfied? 

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Several European studies show that there are more people in employment who wished that they worked fewer hours than there are people who wished that they worked more hours. The question addressed here is whether imbalanced working hours - working hour tension - influences changes in hours worked: do preferences become reality? On the basis of a Danish longitudinal time-use study, we find that more Danes prefer shorter working hours than longer working hours, which is in contrast to US employees. Moreover, not only do the vast majority of over-employed Danes adjust their working hours, those who are under-employed also do so within a decade. Factors behind these changes are analyzed and means of ensuring an optimization of time- and money-related wellbeing are discussed.

Keywords: Labor supply, working hours

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## 1. Introduction

The number of hours worked in society is important in order to meet the domestic and foreign demand for goods and services, while the numbers of hours worked by individuals relative to their preferred numbers of working hours - the working hour tension - is important for the wellbeing of the population. For the same reasons, the issue of working hours is often on the political agenda, and is a central theme in negotiations between unions and employer organizations, not to mention in everyday conversation. Hence, it is a key question whether Danes are working their preferred number of weekly hours or whether there is an imbalance between their actual hours worked and their preferred working hours, which would mean that the distribution of work and leisure time is not optimal for them. If there is negative working hour tension - preferred working hours lower than actual working hours - a possible result is a loss of productivity due to people being overworked. Conversely, positive working hour tension may result in productivity gains; when people are under-employed and when the workforce is motivated by a desire for advancement and higher incomes, they may become more productive during the hours they work. However, positive working hour tension also indicates a potential production loss, as the available workforce is not being fully used. So irrespective of whether the tension is negative or positive, it is an expression of a societal welfare loss, because the actual allocation of time differs from the working hour preferences in the population.

In addition to preferences regarding working hours, labor market constraints may also play a role in determining actual working hours. The supply of working hours is not completely flexible: it is often only available in combinations of fulltime and part-time, as governed by labor market regulations and negotiations between unions and employer organizations. Hence, the restrictions on working hours within the job are also important. Moreover, the implementation of preferences for working hours relies on the existence of working time sovereignty, and the determination of preferences and the reliability of the estimates of these depend on the degree to which the statements made by employees in this respect can be trusted.

To investigate the research question, all respondents in the Danish Time-Use Panel (DTUP) who were in employment were asked how many hours they currently worked, whether they were content with this number of working hours and, if not, whether they wanted to work more or fewer hours. They were also asked how many more or fewer hours they would like to work, given that changes to working hours would increase/decrease their income accordingly. Having asked these questions in both the 2001 and the 2008/09 waves of the survey, we are able to show whether preferences remained stable over time, and whether, if these were not in accordance with actual number of working hours in the first wave, the actual number of working hours later came into line with those earlier
preferred. We thus add to existing knowledge by analyzing the relationship between preferred and actual working hours in Denmark; but we also include the dimension of wellbeing in our analysis, and are thus able to investigate whether going from imbalanced to balanced working hours creates satisfaction with working conditions.

## 2. Literature review

There has been extensive research on labor supply in relation to both the decision to work and the number of hours worked, whereas the underlying preferences for working hours have received less attention, despite working hour tension the difference between preferred and actual working hours - being widespread and important for individual welfare and for society in general (see Jacobs \& Gerson (2004) for the US and Reynolds (2004) for many other countries).

At the micro level, investigations of working hour tensions have often focused on sociological questions, such as the work/family balance issue, with reduced working hours seen as a tool for improving the quality of everyday life for families with children and for resolving the "overwork problem" (Schor, 1991; Townsend, 2001; Clarkberg \& Moen, 2001; Jacobs \& Gerson, 2004). Hakim's (2000) preference theory of work/lifestyle choices is important in this context, as it distinguishes between adaptive preferences varying over the life-course, which are most commonly found among women, and work-centered preferences with little variation between different life-course stages, most often adopted by men. The implication is that it is more difficult for men with adaptive preferences than it is for women with similar preferences to achieve their desired working hours. Wanrooy's (2005) findings for Australia support this theory, although she notes that external factors, such as the availability of childcare institutions, are not an integrated part of the theory.

Within the literature in the field of economics, working hour tensions are mostly seen as market failures. The question typically posed is why ordinary labor supply models that assume free choice concerning hours worked, with employees selecting the desired utility-maximizing outcome at a given wage, are not applicable to all employees - see, for example, Steward \& Swaffield (1997). In addition, the impact of income taxes on labor supply has been used to explain the existence of working hour tensions on the labor market (Klevmarken, 2005).

In both these perspectives, the question to be answered is what determines people's working hour tensions, and how this might vary between population groups. Mertz (2002) shows how preferences for number of working hours and desired work schedules differ among German freelancers, self-employed individuals and ordinary employees. He also demonstrates that time-use on a household level, together with household size, number of children and household in-
come, all have a key impact on women's work preferences, but not on those of men. However, education and work experience are found to have no impact in this study, which is based on the German Socio-Economic Panel (GSOEP) 19851994.

If there is negative working hour tension - preferred working hours are lower than actual working hours - a possible outcome is a feeling of being overworked and a consequent productivity loss, while positive working hour tension may generate productivity gains as the result of possible desires to achieve advancement and higher incomes (Reynolds, 2004). Working hour mismatches may also lead to lower levels of psychological and physical wellbeing and problems within the family, either because of the person with mismatched hours not having sufficient time or because of financial problems. Under all circumstances, negative or positive working hour tensions are key candidates for explaining individuals' low level of wellbeing.

Labor market constraints are also central in determining actual working hours. The supply of working hours is not totally flexible, since employment is often offered as full-time or as various fixed amounts of part time work because of labor market regulations and the outcomes of negotiations between unions and employer organizations. Nevertheless, Steward \& Swaffield (1997) found that there was no indication of British unions rationing union workers to working fewer hours than comparable non-union workers in the beginning of the 1990s.

Moreover, job insecurity and the lack of job opportunities enable employers to offer working hours that do not match the desires of employees, because minimum hour constraints are a function of unemployment rates and risk of unemployment that can more readily be imposed as these levels rise (Steward \& Swaffield, 1997). As Böheim \& Tayler (2004) find using data from the British Household Panel Survey (BHPS), working hour constraints are significant determinants of British employees leaving the labor market and of within- and betweenemployer job mobility.

Preferences for working hours are correlated with the business cycle. That is, there are more people who would prefer to work more hours and fewer people who would prefer to work fewer hours - an increasing level of underemployment (Bell \& Blanchflower, 2011) - when there is an economic crisis and/or a high unemployment rate, as was the case immediately after the second wave of the DTUP conducted in 2008/09. Conversely, economic growth and/or a low rate of unemployment are correlated with fewer people wanting to work more hours and more people wanting to work fewer hours (Bonke, 2013). A likely explanation is that unemployment creates more disciplined workers who fear redundancy and are accordingly willing to work more hours, earning more income for future consumption. In growth periods, this fear is much smaller; consequently, stating a preference for fewer hours is less risky. The opposite picture emerges for the relationship between GDP per capita and hour constraints, as the prefe-
rences for more (fewer) hours are higher (lower) in poor countries than in rich ones.

Lastly, policies on working hours also seem to vary according to the economic growth condition in society. In periods of high unemployment, the focus has often been on lowering the number of weekly working hours for new jobs, as in Germany, France and Denmark in the 1980s. In periods of prosperity and/or demographic change (for example, with an ageing population), incentives aimed at delaying the retirement age and increasing the labor supply in general have been on the political agenda.

This paper aims to further elucidate these issues by investigating changes in working hour tensions between 2001 and 2008/09 and the extent to which these changes can be explained by changes in working hours over the same period. In other words, we seek to determine whether preferences for working hours are revised as a result of changes in actual working hours being made in accordance with those preferences over the survey period of 7-8 years.

## 3. Data

We use data from the Danish Time-Use Panel Survey 2001-2008/09 (DTUP). These data are based on a random sample of 4,164 18- to 74-year-olds drawn from the Danish administrative registers for 2001 and interviewed in that year. In 2008/09 a total of 2,764 of these respondents were re-interviewed, and they form the panel for the Danish Time-Use Panel Survey 2001-2008/09. A supplementary sample of 1,927 respondents, also drawn from the Danish administrative registers, was added in the 2008/09 wave, giving a total of 6,091 respondents in the Danish Time Use and Consumption Survey (DTUC) 2008/09. A unique identifier for each respondent permitted the merging of the DTUP data with administrative register data at Statistics Denmark, which allowed us to test for sample selection against the whole population.

Hence, we have an imbalanced panel for pooled cross-sectional estimations and a balanced panel for fixed effect estimations, the latter panel being weighted to represent the 2008/09 adult population in Denmark. Because the age distribution of the samples goes from 18 to 74 years, most of the people in employment interviewed in the 2001 wave also participated in the 2008/09 wave. For both waves, respondents first attended an interview, which elicited basic information on, for example, family composition, socioeconomic status, educational level, and average number of working hours. In each survey wave, respondents were then asked to complete two time-use diaries, and if the respondent was aged between 18 and 74 years and had a spouse or cohabiting partner, the spouse/partner was also asked to complete time-use diaries for the same days.

There are certain questions asked as standard in time use surveys. In questions about working hour tension, for example, the International Social Survey Program, the German Socio-Economic Panel (GSOEP), the British Household Panel Survey (BHPS), Household, Income and Labour Dynamics in Australia (HILDA), the Danish Time-Use Surveys from 2001 (DTUS-01) and 2008/09 (DTUC-08), and thus also the Danish Time-Use Panel Study (DTUP) 2001-2008/09, all ask whether the respondent would like to work more hours and earn more money or work fewer hours and earn less than he/she currently does, or whether he/she is satisfied with his/her current number of working hours. The Danish Time-Use surveys also enquired about the number of additional or fewer hours desired when a respondent was dissatisfied with his/her current number of working hours.

In our data, we include employees as well as self-employed individuals, although those who are self-employed are assumed to have greater freedom to choose their labor supply. In contrast to Böheim \& Taylor (2004), we include people with secondary jobs - around 10 percent of the Danish labor force in 2008 (Bonke, 2012) - because a secondary job might neutralize working hour tensions related to their primary employment, which is what most papers, including this, deal with.

Unlike Merz (2002), we do not include the unemployed because it can be reasonably assumed that they wish to work more hours than they currently do (Smith et al., 1998), and because the issue of unemployment is more a question of incentives to work and mismatch between demand and supply of labor to the labor market.

Information on educational background refers to the longest completed course of education recorded in the administrative registers. We create a binary indicator for whether the respondent completed a course of further education, and if so whether this was a short (under three years), medium-length ( 3 to 4 years) or long (more than 4 years) course program.

Other control variables we use are age, civil status (single or cohabiting/married), number of children, and net household income. Information on income comes from the administrative register data and is calculated in terms of quintiles.

Table 1 shows means and distributions for the variables used in the analyses. We see that some of the variables are of approximately the same values regardless of whether they relate to the balanced or the imbalanced panel. This is the case for the number of working hours, the proportion of people with flexible working schedules and the proportion of people with secondary jobs; on the other hand, there are a smaller proportion of married/cohabiting respondents, a smaller average number of children and a higher average level of education in the balanced than in the imbalanced panels for the year 2008/09. However, in the
analyses we weight both samples using register information from Statistics Denmark to ensure that they represent the Danish population at that time.

Table 1 Descriptive statistics for balanced and unbalanced panels.

|  | Balanced panel <br> $2001-2008 / 09$ | Unbalanced panel <br> $2001-2008 / 09$ |
| :--- | :---: | :---: |
| Working hours | Means | Means |
| Age | 38.5 | 38.0 |
|  | 48.4 | 44.6 |
| Flexible working time | Proportion | Proportion |
| Secondary job | 48.9 | 49.0 |
|  | 11.0 | 9.0 |
| Gender (women) |  |  |
|  | 55.8 | 50.9 |
| Married/cohabitation |  |  |
|  | 80.2 | 85.9 |
| No children |  |  |
| 1 child | 56.0 | 42.2 |
| 2 children | 15.7 | 18.2 |
| 3+ children | 20.2 | 29.0 |
|  | 8.1 | 10.7 |
| Education: |  |  |
| No further education/vocational training | 45.3 | 52.3 |
| Short further education | 10.3 | 9.5 |
| Medium-length further education | 27.5 | 24.1 |
| Long further education | 16.8 | 14.1 |
| N: | 763 |  |
| Sourci Danis Time Use Pan |  | 2,942 |

Source: Danish Time Use Panel

## 4. Empirical strategy

Many labor supply studies exist - for example, Blundell \& MaCurdy (1999) and Klevmarken (2005) - in which wages, virtual incomes and different socioeconomic factors are shown to have important impacts. Here, we investigate changes in working hours among those in employment and how these changes can be explained by explicitly mentioned preferences for working hours in light of various socioeconomic characteristics. We also investigate whether working hour tensions - unfulfilled work preferences - are removed through actual working-hour changes, and how preferences and working-hour changes impact satisfaction with working conditions in general.

The empirical models applied are, first, a model for explaining how preferences are revealed in the event of changes in working hours for respondents over the period 2001-2008/09, controlling for heterogeneity in gender and age.
$\Delta$ working hours $^{2008-2001}=\mathrm{f}\left(\right.$ pref $^{2001}$, age, age $^{2}$, sex $)$.

The next model uses changes in working hours during the period together with preferences in 2001 and structural and individual characteristics to predict the working hour tension/preferences in 2008.

$$
\begin{aligned}
\operatorname{Pref}^{2008}= & g\left(\Delta \text { working hours }{ }^{2008-2001}, \text { pref }^{2001}, \Delta \text { flex work, } \Delta\right. \text { sec. job, } \\
& \left.\Delta \text { marriage, } \Delta \text { children, } \Delta \text { educ., age, age }{ }^{2}, \text { sex }\right)
\end{aligned}
$$

We also investigate the impact of changes in preferences and specific working conditions, such as flexible working hours and a secondary job, on satisfaction with working conditions in general, controlling for certain socioeconomic characteristics. We know from the literature (e.g. Clark, 1996) that working hour tension contributes to satisfaction with working conditions. Our formalized equation is:
$\Delta$ Satisfaction with working
conditions 2008-2001 $=\mathrm{h} \Delta$ work tensions ${ }^{2000-2001}, \Delta$ flex work, $\Delta$ sec. job, (marriage, $\Delta$ children, $\Delta$ educ., age, age ${ }^{2}$, sex).

Here, "satisfaction with working conditions" relates to a subjective question about satisfaction with working conditions in general (Bonke et al., 2009).

Model (1) uses OLS estimations of changes in working hours as the dependent variable, with values ranging from -55 to 55 , while Model (2) uses multinomial logitestimations with the same hours as the reference category and under- and over-employment in 2001 among the explanatory variables (Böheim \& Taylor (2004) estimate a similar model for the United Kingdom). Model (3) uses OLS estimations with satisfaction values from -6 to 6 .

The model used for the preference estimations in (2) is also the one used for estimating the intra-person relationship between the spouses' working schedules and their preferences for working more or fewer hours per week, see Table 3.

## 5. Descriptives

It is reported in the literature that the preferences for working hours are in accordance with actual current working hours - i.e., that there is no working hour tension - for most people in most countries. Table 2 confirms that this is also the case for Denmark. Three out of four people in employment were satisfied with their actual working hours for the year 2008/09, though this was the case for only two out of three in 2001. Among those who were not satisfied with their working hours, 50 percent more people wanted to reduce the number of hours they worked than wanted to increase their hours. In 2001, 21 percent wanted to work fewer hours, and in 2008/09 the corresponding figure was 16 percent, whereas the percentage of people who wanted to work more hours was only 11 percent in each of the two survey years.

A comparison of 21 countries based on the International Social Survey Program, 1997 and 2005 (Otterbach, 2010) shows that the large majority of workers do not face working hour constraints, with Denmark, Norway and Switzerland at the top of the ranking order of nations, and also that the majority of constrained employees, in particular in the US, would prefer longer working hours (see also Reynolds (2004) with regard to working hour tension in the US). The exceptions to this majority preference for longer hours are found among employees in Denmark, Switzerland and Norway, where the majority of those whose working hours were constrained at the time of the survey wanted to work fewer hours, and to some extent Sweden, where an equal number of such people had preferences for more and for fewer hours. The same picture emerges from an examination of the survey data for 1997 only (Sousa-Poza \& Henneberger, 2002; Stier \& Lewin-Epstein, 2003).

Table 4 shows that for 2008/09 fewer women than men in Denmark wished to have more working hours, but more women than men wished to have fewer working hours.

There were no changes in weekly working hours agreed upon between the unions and employers' organizations in Denmark during the period of the study, except that the principle of granting 3 holiday periods per year was gradually introduced over the period up to 2002, and thereafter paid holidays were increased from five weeks to six.

Table 2 Weekly working hours in main occupation and desired working hours, employed individuals, 2001 and 2008/09

|  | Preferences for working time ${ }^{1}$ |  |  |  | Preferred hour change |  |  | N : |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | More hours | The same | Fewer hours |  | More | Fewer | Net hours change ${ }^{2}$ |  |
| 2008/09 <br> Weekly working hours in main occupation |  | Percent |  |  |  | Hours |  |  |
| <37 hours | 11.6 | 78.0 | 10.4 | 100 | 10.9 | 7.0 | 2.5 | 852 |
| 37 hours | 11.1 | 73.6 | 15.3 | 100 | 7.0 | 7.2 | -1.2 | 1,542 |
| 38-44 hours | 15.8 | 67.9 | 16.2 | 100 | 7.0 | 7.2 | -0.2 | 638 |
| 45+ hours | 5.2 | 71.6 | 23.2 | 100 | 10.0 | 11.9 | -7.8 | 722 |
| All | 10.9 | 73.2 | 15.9 | 100 | 8.2 | 8.5 | -0.46 | 3,754 |
| 2001 | 11.7 | 67.0 | 21.3 | 100 | 8.3 | 8.3 | -0.78 | 1,278 |
| Men | 12.2 | 73.3 | 14.6 | 100 | 8.0 | 9.3 | -0.4 | 1,914 |
| Women | 9.4 | 73.1 | 17.5 | 100 | 8.5 | 7.8 | -0.6 | 1,840 |
| Av. working time in main occupation |  | Hours |  |  |  |  |  |  |
| 2008/09 | 36.86 | 38.06 | 40.51 |  |  |  |  |  |
| 2001 | 34.2 | 37.1 | 38.9 |  |  |  |  |  |

1. Q: If possible, would you then wish to work more hours and earn more or work fewer hours and earn less? Q: About how many more/fewer hours would you like to work?
2. More and fewer hours weighted with their proportions and added together, i.e. net hours change.
Source: Danish Time Use Panel

Not surprisingly, people who currently work many hours a week are also those who more often wish to work fewer hours, and vice versa: more people who currently work fewer hours wish to work more hours than do those working many hours a week; see also Drago et al. (2005) for the same finding for Australia. For Danes working more than 44 hours a week, the ratio is $4: 1$ ( 23 and 5 percent respectively), while it is 1:1 ( 16 and 16 percent) for those working between 38 and 44 hours a week. For the majority of employed people, i.e. those who work 37 hours a week, the ratio is $3: 2$ ( 15 and 11 percent). However, of people with part-time work, i.e., those working fewer than 37 hours a week, slightly more want to work more rather than fewer weekly hours. The same is found for the Netherlands, with a greater probability of wanting a shorter working week the more a woman
works, and for a greater probability of wanting a longer working week the fewer hours a woman works; men were not included in that analysis (Yerkes, 2004).

Because the same questions about preferred and actual weekly working hours were asked in the Danish Time-Use Survey 2001 (DTUS-01) and the Danish TimeUse and Consumption Survey 2008/09 (DTUC), and the two surveys together constitute a panel, we are able to investigate how preferences and actual working hours changed for the same individuals over the 2001-2008/09 period. As the Danish labor market is often considered very flexible, with a high degree of mobility and changes of employment (Andersen, 2012), the expectation is that workers with imbalanced working hours in 2001 would no longer be working-hours constrained in 2008/09.

## 6. Couples' preferences for working hours

In the following we distinguish between the working hour tensions of men and women in marriages/cohabitating partnerships, because gender roles and career patterns are thought to vary between the two spouses of the household and because labor supply decisions are primarily made in the household context. The spouses' working hour preferences are therefore determined not only by their own actual working hours, but also by those of their partners, due to a desire either to synchronize their time allocations or to specialize in their roles.

By applying multinomial regression models for married/cohabiting women and married/cohabiting men who wish to work more or fewer hours than they actually do as the dependent variables in each case, and controlling for various socioeconomic factors, we find as shown in Table 3 that only for men is a high number of current working hours associated with the wish to work fewer hours to a greater degree than in the case of men working the standard 37 hours per week. For women, no such relationship is found. However, when both husbands and wives work part-time - fewer than 37 hours per week - a larger proportion wish to work more hours than is the case for husbands and wives who work standard hours.

Table 3 Determinants of preferences for working more or fewer weekly hours. Employed husbands and wives - married or cohabiting. 2008/09.

|  | Husbands' desire to work: |  | Wives' desire to work: |  |
| :---: | :---: | :---: | :---: | :---: |
|  | More | Less | More | Less |
| Own working time |  |  |  |  |
| < 37 hours | $\begin{gathered} 0.801^{*} \\ (0.33) \end{gathered}$ | $\begin{array}{r} 0.0714 \\ (0.33) \end{array}$ | $\begin{gathered} 0.762^{* *} \\ (0.27) \end{gathered}$ | $\begin{aligned} & -0.868^{* * *} \\ & (0.18) \end{aligned}$ |
| > 37 hours | $\begin{array}{r} 0.0291 \\ (0.20) \end{array}$ | $\begin{gathered} 0.408^{*} \\ (0.16) \end{gathered}$ | $\begin{aligned} & 0.518 \\ & (0.34) \end{aligned}$ | $\begin{aligned} & 0.227 \\ & (0.19) \end{aligned}$ |
| Partner's working time |  |  |  |  |
| < 37hours | $\begin{array}{r} -0.627^{*} \\ (0.26) \end{array}$ | $\begin{array}{r} -0.019 \\ (0.19) \end{array}$ | $\begin{array}{r} -0.317 \\ (0.48) \end{array}$ | $\begin{aligned} & 0.156 \\ & (0.32) \end{aligned}$ |
| > 37hours | $\begin{gathered} 0.254 \\ (0.21) \end{gathered}$ | $\begin{aligned} & 0.041 \\ & (0.19) \end{aligned}$ | $\begin{array}{r} -0.582^{*} \\ (0.25) \\ \hline \end{array}$ | $\begin{array}{r} -0.091 \\ (0.16) \\ \hline \end{array}$ |
| Age | $\begin{array}{r} 0.0845 \\ (0.08) \end{array}$ | $\begin{array}{r} 0.411^{* * *} \\ (0.08) \end{array}$ | $\begin{array}{r} 0.0132 \\ (0.10) \end{array}$ | $\begin{array}{r} 0.0422 \\ (0.07) \end{array}$ |
| Age ${ }^{2}$ | $\begin{array}{r} -0.0018 \\ (0.00) \end{array}$ | $\begin{array}{r} -0.0043^{* * *} \\ (0.00) \end{array}$ | $\begin{array}{r} -0.0011 \\ (0.00) \end{array}$ | $\begin{array}{r} -0.0003 \\ (0.00) \end{array}$ |
| 1 child (no children) | $\begin{gathered} -0.252 \\ (0.26) \end{gathered}$ | $\begin{array}{r} -0.171 \\ (0.22) \end{array}$ | $\begin{array}{r} -0.610+ \\ (0.33) \end{array}$ | $\begin{aligned} & 0.131 \\ & (0.23) \end{aligned}$ |
| 2 children | $\begin{array}{r} -0.490+ \\ (0.26) \end{array}$ | $\begin{array}{r} -0.221 \\ (0.22) \end{array}$ | $\begin{array}{r} -1.304^{* * *} \\ (0.39) \end{array}$ | $\begin{array}{r} 0.598^{* *} \\ (0.23) \end{array}$ |
| $3+$ children | $\begin{gathered} -0.984^{*} \\ (0.41) \end{gathered}$ | $\begin{array}{r} -0.639^{*} \\ (0.32) \end{array}$ | $\begin{array}{r} -0.730+ \\ (0.44) \end{array}$ | $\begin{array}{r} 0.499+ \\ (0.29) \end{array}$ |
| Education (no education) |  |  |  |  |
| Vocational training | $\begin{gathered} 0.0125 \\ (0.26) \end{gathered}$ | $\begin{array}{r} -0.236 \\ (0.21) \end{array}$ | $\begin{array}{r} -0.522 \\ (0.33) \end{array}$ | $\begin{array}{r} 0.0241 \\ (0.23) \end{array}$ |
| Short further education | $\begin{array}{r} -0.00166 \\ (0.46) \end{array}$ | $\begin{aligned} & 0.168 \\ & (0.33) \end{aligned}$ | $\begin{gathered} 0.197 \\ (0.35) \end{gathered}$ | $\begin{gathered} -0.223 \\ (0.29) \end{gathered}$ |
| Medium-length further education | $\begin{array}{r} 0.944^{* *} \\ (0.31) \end{array}$ | $\begin{array}{r} -0.0146 \\ (0.27) \end{array}$ | $\begin{array}{r} -0.760^{*} \\ (0.36) \end{array}$ | $\begin{array}{r} -0.0565 \\ (0.24) \end{array}$ |
| Long further education | $\begin{gathered} -0.106 \\ (0.35) \end{gathered}$ | $\begin{aligned} & 0.135 \\ & (0.26) \end{aligned}$ | $\begin{array}{r} -1.278^{*} \\ (0.52) \end{array}$ | $\begin{aligned} & 0.193 \\ & (0.27) \end{aligned}$ |
| Secondary job (no secondary job) | $\begin{array}{r} -0.0190 \\ (0.31) \end{array}$ | $\begin{gathered} -0.431 \\ (0.27) \end{gathered}$ | $\begin{aligned} & 0.658 \\ & (0.38) \end{aligned}$ | $\begin{gathered} -0.109 \\ (0.32) \end{gathered}$ |
| Constant | $\begin{array}{r} -2.231 \\ (1.46) \\ \hline \end{array}$ | $\begin{array}{r} -10.85^{* * *} \\ (1.71) \\ \hline \end{array}$ | $\begin{array}{r} -0.379 \\ (1.72) \\ \hline \end{array}$ | $\begin{gathered} -2.581 \\ (1.40) \end{gathered}$ |
| Number | 121 | 244 | 87 | 288 |
| Total number |  | 74 |  |  |
| Log likelihood |  |  |  |  |
| Pseudo R ${ }^{2}$ |  | , 07 |  |  |
| LR (chi)32 |  |  |  |  |

$+\mathrm{p}<0.1,{ }^{*} \mathrm{p}<0.05,{ }^{* *} \mathrm{p}<0.01,{ }^{* * *} \mathrm{p}<0.001$
Note: Inclusive of a flexible working condition variable.
Source: Danish Time Use Panel

It is not only husbands' and wives' own working hours that have implications for their working hour tensions; the hours worked by their partners also matter. Hence, if the wife has a part-time job, it is less likely that her husband will wish to work more hours than if she works the standard 37 hours a week. However, if the husband works more than the standard weekly number of hours, the wife is less likely to wish to work more hours each week. This indicates that in the first case, there seems to be some synchronization process in play, while in the second case there is some specialization going on, with a career-oriented man and a homeoriented woman characterizing the household.

Table 3 also shows that men's desire to work fewer hours increases with their age up to a given point, and thereafter declines. For women, there is no such relationship between their age and desire to work more or fewer hours, i.e. SousaPoza \& Henneberger (2002) find the same for a number of other countries. However, children have a strong impact on women's preferences for working hours (see also Drago et al. (2006) for Australia). Having the first child reduces the mother's desire to work more hours, and this tendency becomes more pronounced when the second child is born. A third child also decreases the desire to work more hours, albeit less than for the second child and little more than that for the first child, which is also a pattern found for German women (Mertz, 2002). This pattern is repeated for the desire to work fewer hours; this is more pronounced for mothers of two and three children than for women without children. For men with three children, the level of desire to work more hours relative to that of men and women without children is almost the same as that of their female counterparts. However, contrary to the case for women, having three children reduces the desire to work fewer hours among men; moreover, having two children impacts on men only half as much as it does on women with regard to the desire to work more hours.

Finally, the desire to work more hours is more pronounced among men who have completed medium-length programs of further education than among men without any education, although their working hours are nearly the same in number. For women who have completed medium-length or long programs of further education, the opposite appears to be the case: fewer such women want to work more hours than is the case for women without any education. It is interesting that completing a long program of further education has differing impacts on the working preferences of men and women: fewer such women want to work more hours, while such men do not have this preference. Both men and women who have completed long programs of further education work longer hours than do men and women who have completed other programs of further education, or none at all (not shown in Table 3). A possible explanation for highly educated men working longer hours than their female counterparts is that these men have careers and take on less responsibility for family life than highly educated women do.

## 7. A panel analysis of preferred and actual working hours, the harmonization process, and constraints

The preference theory assumes that peoples' revealed preferences represent their normative preferences, understood as economic agents' true interests, and that preferences are stable over time, which means that a person will only change his/her behavior if it contributes to an optimization of available resources (Beshears et al., 2008). Hence, the desired number of working hours, for instance, determines an individual's actual number of working hours unless his/her living arrangements and environment make such a change impossible because of different kinds of constraints.

Table 4 shows that more than half of those employed in 2001 and 2008/09 were satisfied with their working hours in both years, while 7 percent maintained the desire to work fewer hours and 2 percent to work more hours per week. The remaining 37 percent changed their working hour preferences during the period. Hence, 12 percent of those wishing to work fewer hours in 2001 were satisfied with their working hours in 2008/09, and 5 percent wishing to work more hours had become satisfied by $2008 / 09$. Among those who were satisfied with their working hours in 2001 but not in 2008/09, nearly the same percentages wanted to work fewer hours and more hours, i.e. 11 percent in both categories, in 2008/09.

Table 4 Working hour tensions in 2001 and 2008/09, and changes in number of working hours between, 2001-2008/09

| N: 763 | 2001 |  |  |  |
| :--- | :---: | :---: | :---: | :---: |
| 2008/09 | More hours | Preferences <br> Same hours | Fewer <br> hours | All |
| Preferences | Per cent |  |  |  |
| More hours | $(1.7)$ | 10.7 | $(0.5)$ | 12.9 |
| Same hours | 4.7 | 52.1 | 11,5 | 68.3 |
| Fewer hours | $(0.1)$ | 11.4 | 7.3 | 18.8 |
| All | 6.5 | 74.2 | 19.3 | 100.0 |
|  |  | Hours |  |  |
| Change in working hours 2001-2008/09 | 8.45 | 3.59 | 1.97 |  |
| Working hours 2001 | 30.44 | 35.70 | 36.15 |  |
| Working hours 2008/09 | 38.88 | 39.30 | 38.12 |  |

Source: Danish Time Use Panel

In Germany only every fourth self-employed individual and employee (27 percent) remained satisfied with their working hours from 1985 to 1994 (Merz, 2002), compared to 52 percent in Denmark between 2001 and 2008/09 (Table 4) and 72 percent in the UK in the period 1991-99 (Böheim \& Taylor, 2004). In all cases, the great majority of those who were dissatisfied wanted to work fewer hours. For Australia, the number of individuals who remained satisfied in two consecutive years, 2001 and 2002, was nearly 40 percent, whereas 17-18 percent who were not satisfied in the first year became satisfied during the next year (Reynolds \& Aletratis, 2006). That only 20 percent of Germans who were not satisfied with their working hours in 1985 had become satisfied by 1994, in comparison with 62 percent of the Danes changing from being dissatisfied in 2001 to being satisfied in 2008/09. Moreover, that the total mover-index (proportion of people changing their preferences in the period) was 49 for Germany and 39 for Denmark in the two periods, is also probably due to the more rigid German labor market with lower labor mobility, and to the fact that the year 1994 and also to some degree 1985 were both characterized by high unemployment rates in both countries, unlike the years 2001 and 2008/09, which were growth years in Denmark and in Germany.

An important question here is whether under- and over-employed employees in the Danish survey in 2001 remained dissatisfied with their working hours in 2008/09, either because the number of their working hours had not changed within that period, or because such a change was not sufficiently large to satisfy their working hour preferences. Table 4 shows that those who wanted more hours of work in 2001 were working on average 8.5 hours more per week in 2008/09. However, those who said they wanted to work fewer hours in 2001 were actually working 2.0 hours more per week in 2008/09. Because working hours also increased for "balanced" people by 3.6 hours on average indicating that working hour norms had increased, and that the hours for overworked people had thus fallen slightly relative to the norm over the period under consideration.

Böheim \& Taylor (2004) showed results similar to those reported in this paper but for Britain during the period 1991-99, when nearly 40 percent of both men and women working full-time and having positive working hour tension (were under-employed) increased their working hours. The same was found for men and women with negative working hour tension (over-employed), who decreased their working hours (again in nearly 40 percent of cases) between two consecutive years during the period 1991-99. That said, however, more than 25 percent of the under-employed reduced their working hours, and the same share of the over-employed increased their working hours, during the same period, indicating either that the working hours preferences were not stable over time or that working hour constraints are widespread on the British labor market.

We also see that in Denmark, those able to fulfill their preferences of working fewer hours in 2001 and, hence, to become satisfied with their working hours by 2008/09 actually reduced their working time by $4 \frac{1}{4}$ hours per week in that period (Table 5). Similarly, those wanting to work more hours and who had become satisfied with their working hours in 2008/09 had increased their working time by $41 / 2$ hours per week in 2001-2008/09. Dutch employees (not including the selfemployed) were also able to decrease their working hours, if that was their preference, even within two-year periods, i.e., 1986-88, 1988-90 and 1996-98 (Baaijens \& Schippers, 2008).

Table 5 Working hour preferrences in 2001 and 2008/09 and changes in weekly working hours over the period 2001-2008/09.
$\left.\begin{array}{lcclccc}\hline \text { N: 763 } & \text { Pct. } & \begin{array}{c}\Delta \text { working hours } \\ \text { 2001-2008/09 }\end{array} & & \text { Pct. } & \begin{array}{c}\Delta \text { working } \\ \text { hours }\end{array} \\ & & & & & \\ \text { 2001-2008/09 }\end{array}\right]$

An important question is how working hour mismatches are created and resolved through changes in both actual and preferred hours of work (see Reynolds \& Aletraris (2006) regarding this issue for Australia). Table 6 shows that there is no relationship between being under-employed in 2001 and being under-employed in 2008/09 when changes in working hours, for example, are taken into account, while being under-employed in 2001 has a negative impact on the desire to work
fewer hours - being over-employed - in 2008/09. For those who were overemployed in 2001, there was a positive impact on the desire to work fewer hours and a negative impact on the desire to work more hours in 2008/09. This indicates that for under-employed people, controlling for working hour changes reveals a higher working hour tension balance, while this is only partially the case for those who are over-employed, of whom some contribute to accentuating the wish to work fewer hours and others decrease the wish to work more hours a week.

The impact in isolation of working hour changes on preferences for working hours is very limited, as neither working more hours nor working fewer hours in the second wave of the survey are correlated with the desire to work more hours expressed in the first wave, and the same holds for the relationship between an actual decrease in working hours and the wish to work fewer hours. Further, a working hour increase results in fewer people wanting to work fewer hours when working hour preferences in 2001 are controlled for, possibly because of adaptive preferences integrating actual working hours into an individual's preference function.

An interesting result is that having been granted a flexible working hour schedule (the right to alter the starting and ending times of the work day) at some point during the period 2001-2008/09 is positively associated with the desire to work more hours, i.e., with being under-employed, while there is no significant association with the desire to work fewer hours, although the coefficient for this is negative (Table 6). This shows that changing the actual work schedule does not reduce working hour tension; instead, it increases the demand for more hours. This is in contrast to findings for the US, where having flexible working hours though not any change in this arrangement - increases the desire to work fewer hours (Golden \& Gebreselassie, 2007).

Table 6 Preference shifts and working constraints Multinomial logistic regression estimations.

| N: 762 | More work/same work 2008/09 | Less work/same work 2008/09 |
| :---: | :---: | :---: |
| Preferences 2001: |  |  |
| More work | . 428 (.414) | -1.604** (0.555) |
| Less work | -2.233* (1.075) | $1.134^{* * *}$ (0.220) |
| Actual working hours: |  |  |
| Increased | . 235 (.447) | -0.580* (0.295) |
| Decreased | -0.493 (0.367) | -0.038 (0.214) |
| Working conditions: |  |  |
| Flexible working time: |  |  |
| 2001 not 2008 | 0.136 (0.548) | -0.301 (0.353) |
| 2008 not 2001 | 0.826* (0.359) | -0.273 (0.269) |
| Secondary job: |  |  |
| 2001 not 2008 | -1.109 (0.794) | -0.149 (0.320) |
| 2008 not 2001 | -1.553 (1.1349) | -0.305 (0.526) |
| Socioeconomic factors |  |  |
| $\Delta$ Marriage | 0.697+ (0.372) | $-0.486+(0.267)$ |
| $\Delta$ Children | $-1.953 * * *(0.530)$ | $0.385+(0.224)$ |
| $\Delta$ Further education | -0.463 (0.620) | -0.951 (0.611) |
| Age (2001) | 0.011 (0.128) | $0.166+(0.087)$ |
| Age ${ }^{2}$ | -0.001 (0.002) | -0.003* (0.001) |
| Gender | 0.153 (0.324) | 0.129 (0.199) |
| Constant | -1.041 (2.258) | -3.826+ (1.688) |
| Adj. R ${ }^{2}$ | 0.134 | 0.134 |

$+\mathrm{p}<0.1,{ }^{*} \mathrm{p}<0.05,{ }^{* *} \mathrm{p}<0.01$, ${ }^{* * *} \mathrm{p}<0.001$
Note: The inclusion of job change in the period does not produce significant results, and nor does it change the other coefficients in the model; only the number of jobs is reduced.
Source: Danish Time Use Panel

Taking on or giving up a secondary job during the period 2001-2008/09 has no impact whatsoever on working hour tensions in 2008/09. This also holds for changes of job, which, in contrast to findings by Böheim \& Tayler (2004), is not found to have any impact on working hour tension, neither does it impact on any of the other coefficients (results not shown in the table).

Lastly, the models in Table 6 include some socio-demographic characteristics. These show that being married increases the desire to work more hours and decreases the desire to work fewer hours on the labor market. This is to be considered a net impact, as we control for gender. Furthermore, having a child has the opposite impact to being married: it decreases the likelihood of wanting to work more hours and increases the likelihood of wanting to work fewer hours. The impact of having a child, however, is not found to be greater for men than for wo-
men, i.e. the coefficient for an interaction term is not significant (not shown). Having completed further education is not correlated with the desire to work either more or fewer hours per week, neither does gender impact working hour tension, even if we include an interaction with being married or having children (not shown).

## 8. Working hour tension and wellbeing

An important element in satisfaction with one's working conditions is the number of hours worked, and especially whether this number is in accordance with one's preferences for the amount of working time per week. British data show that working hours have a significant impact on job satisfaction, motivation and retention of employees (Clark, 1996). This relationship is confirmed in Table 7, where satisfaction with working conditions - as indicated by responses to the question "are you satisfied with your working conditions/financial situation/amount of leisure?" on a six-point scale (1 not satisfied ... 6 very satisfied) is higher for people who are satisfied with their working hours - no working hour tension - than for people wanting to work more hours and, even more, for those wanting to work fewer hours. The relationship holds for both 2001 and 2008/09.

Table 7 Satisfaction within different domains, people in employment, 2001 and 2008/09

|  | 2008/09 |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | ---: | :---: | :---: | :---: |
| Satisfaction with: | Want more | Want same <br> hours | Waurs fewer <br> hours | N |  |  |  |
| Working conditions | 4.75 | 4.88 | 4.69 | 3759 |  |  |  |
| Financial situation | 3.82 | 4.47 | 4.75 | 3762 |  |  |  |
| Amount of leisure | 4.44 | 4.39 | 3.61 | 3763 |  |  |  |
| Percent | 9.02 | 74.17 | 16.81 | 100.00 |  |  |  |
|  |  | 2001 |  |  |  |  |  |
| Satisfaction with: | Want more | Want same | Want fewer | N |  |  |  |
|  | hours | hours | hours |  |  |  |  |
| Working conditions | 4.59 | 4.9 | 4.75 | 1375 |  |  |  |
| Financial situation | 3.67 | 4.58 | 4.81 | 1375 |  |  |  |
| Amount of leisure | 4.73 | 4.57 | 3.58 | 1375 |  |  |  |
| Percent: | 12.07 | 67.42 | 20.51 | 100.00 |  |  |  |

Satisfaction scale 1-6 for all domains, with 0 as the least and 6 as the most satisfying. Source: Danish Time Use Panel

In regressions for both 2001 and 2008/09 we also find that over-employed individuals, particularly women, are less satisfied with their working conditions, and that under-employed individuals are more satisfied (though not significantly so), than are people who are satisfied with the number of hours they work. Moreover,
having a fixed working schedule is also associated with greater satisfaction with working conditions (not shown in the tables).

Table 7 shows that the desire to work more or fewer hours may be due to economic reasons, inasmuch as people with a desire to work more hours are less satisfied with their financial situation than are people in working hour balance. More obviously, there is a correlation between working hour tension and satisfaction with the amount of leisure time, as the leisure time and working time are obvious substitutes (Bonke et al., 2009). Hence, the desire to work fewer hours is related to a much smaller degree of satisfaction with leisure time than is the desire to work the same or more hours a week.

An interesting question is whether changes in working hour tension have an impact on satisfaction with working conditions in 2001 and 2008/09, i.e., whether going from imbalanced working hours - preferred and actual working hours not in accordance with each other - to balanced working hours leads to greater satisfaction with working conditions. This then leads on to the question of whether the opposite movement, from balanced to imbalanced working hours, means decreased satisfaction with working conditions.

Table 8 Working conditions and working hour tensions. OLS estimations

|  | $\Delta$ Satisfaction with working conditions ${ }^{1}$ 2001-2008 |  |  |
| :---: | :---: | :---: | :---: |
|  | All | Men | Women |
| Work hour tension: |  |  |  |
| Balance/imbalance | $-0.231+(0.143)$ | -0.278 (0.182) | -0.186 (0.224) |
| Imbalance/balance | 0.074 (0.129) | 0.102 (0.166) | 0.019 (0.201) |
| Imbalance/Imbalance | -0.030 (0.174) | $0.526^{*}(0.231)$ | -0.575* (0.268) |
| Flexible working time: |  |  |  |
| 2001 not 2008 | -0.240 (0.166) | -0.250 (0.233) | -0.178 (0.242) |
| 2008 not 2001 | 0.148 (0.131) | 0.241 (0.167) | 0.114 (0.209) |
| Secondary job: |  |  |  |
| 2001 not 2008 | 0.375* (0.167) | 0.306 (0.202) | 0.456 (0.288) |
| 2008 not 2001 | -0.061 (0.243) | 0.0283 (0.167) | -0.240 (0.467) |
| N | 755 | 410 | 345 |
| Adj. $\mathrm{R}^{2}$ | 0.022 | 0.029 | 0.015 |
| + p<0.1, * $\mathrm{p}<0.05$ |  |  |  |
| 1. Numerical variable -4 to 4 , mean value 0.027 (0.051) |  |  |  |
| Controls: age, age*age, marriage, children, education; see the variables in Table 6. Source: Danish Time Use Panel |  |  |  |

Table 8 shows that only the second change has the expected impact on satisfaction: satisfaction with working conditions is reduced when the working hours balance becomes an imbalance, but this is only at the 10 percent significance level. When the sample is divided into men and women, this relationship retains its magnitude (the coefficients are of the same size), but the statistical significance disappears, probably because of the smaller sample sizes. For movement from imbalanced to balanced working hours the coefficients are positive, but far from
being significant. However, if the number of working hours in the period remains unsatisfactory, men become more satisfied and women less satisfied with their working conditions. This difference between men and women is possibly because being over-employed is more disappointing than being under-employed (Reynolds \& Aletraris, 2006), and more women wanted to work fewer hours in 2008 than in 2001 ( 86 vs. 80 percent), whereas this number was virtually unchanged for men ( 76 vs. 74 percent).

Surprisingly, there is no correlation between being granted or losing a flexible working schedule and satisfaction with working conditions; this holds for both men and women. Giving up a secondary job increases satisfaction with working conditions, although this increase is netted out when calculations are made for women and men separately (Table 8). Conversely, having a secondary job does not impact on satisfaction with working conditions, and this also holds true when men and women are considered separately.

## 9. Preferred and actual working hours - a macro perspective

The working hour tension balance is not only of importance for the welfare of individuals; the implications for society are also very relevant. A shortage of labor supply at a societal level due to demographic changes in the population, or a surplus of labor in periods of recession with substantial unemployment, are both economic policy issues that are often referred to in the political debate.

A comparison of the numbers of hours that people wanted to work more or fewer reveals that the figures were approximately the same in both 2001 and 2008/09. In both survey waves, the working hour tensions found amounted to a wish for 8 hours more work or less work per week. Because the two samples are of different sizes, the working hour tension can be calculated as equivalent to 7 percent of the total labor supply in 2001 and 6 percent in 2008/09. This implies that the net imbalances are fairly small, with a net deficit of labor supply in both years, equivalent to nearly 30 minutes in 2008/09 and 45 minutes in 2001 for the quarter of the labor force who were either over-employed or under-employed in the two years.

Grözinger et al. (2008) show that the working hour tension in Germany results in job satisfaction, life satisfaction and health satisfaction all being considerably smaller than they would be if no tension were present; the same is found for Australia using the Household, Income and Labour Dynamics (HILDA) (Wooden et al., 2009), because over-employment and under-employment have negative impacts on quality of life. High unemployment rates result in people working more unpaid hours than they do in growth periods, because this increases their chances of better jobs and higher earnings in the future.

## 10. Summary

The number of hours that individuals works relative to their preferred numbers of working hours - the working hour tension - is important for the wellbeing of the population. Negative working hour tension - when the preferred number of working hours is lower than the actual working hours - may result in individuals feeling that they are overworked and have an unsatisfactory life situation, with productivity losses as a possible consequence, while positive working hour tension - when the preferred number of working hours is higher than the actual working hours - may also be unsatisfactory, although this situation may also generate productivity gains when individuals are motivated by a desire for advancement and higher incomes.

On the basis of responses about preferences for working hours and current actual working hours obtained from the Danish Time-Use Panel Survey 20012008/09 (DTUP), where the samples for the 2001 and the 2008/09 waves were drawn randomly from administrative registers by Statistics Denmark, we find that most Danish people's preferences regarding working hours are in accordance with their actual working hours. Three out of four employed people were satisfied with their actual working hours for the year 2008/09, while only 2 out of 3 had that privilege in 2001. Among those not satisfied with their working hours, 50 percent more wanted to reduce the number of working hours relative to those wanting to increase these hours. In 2001, 21 per cent wanted to work more hours; in 2008/09 this was 16 percent, whereas the percentage of people wanting to work more hours was only 11 for the two yearssurvey waves.

We also found that working hour tension was correlated with the number of working hours, not only those of individuals but also with those of their partners. If the wife has a part-time job, it is less likely that her husband will want to work more hours than if she works the standard 37 hours a week; but if the husband works more than the standard number of hours, the wife is less likely to wish to work more hours per week. This indicates that in the first case there seems to be some synchronization process in play, while in the second case some degree of specialization, with a career-centered man and a home-oriented woman, characterizes the household.

Preferences regarding working time were satisfied throughout the period 2001-2008/09 for nearly half of those in employment, while 7 percent maintained a desire to work fewer hours throughout the period and 2 percent to work more hours per week. The remaining 37 percent changed their working hour preferences during the period.

An important question addressed in this paper is whether any working hour tension was eliminated due to changes in working hours over the period 20012008/09. Those people who were able to fulfill their preferences for working fewer hours in 2001 and, hence, were satisfied with their working hours in 2008/09,
actually reduced the number of hours they worked by $4 \frac{1}{4}$ per week during the period. Those who wanted to work more hours in 2001 and who became satisfied with their working hours by 2008/09 increased their working hours by $4 \frac{1}{2}$ hours per week. However, when we take changes in working hours into consideration, we find that being under-employed in 2001 has a negative impact on the desire to work fewer hours - being over-employed - in 2008/09. In the case of those who were over-employed in 2001, controlling for working hour changes had a positive impact on the number of people wanting to work fewer hours and a negative impact on those wanting to work more hours in 2008/09. Thus, for under-employed individuals, controlling for working hour changes results in an increased number of individuals for whom work tension is in balance, while this is only partially the case for over-employed individuals, some of whom contribute to accentuating the desire to work fewer hours and others contribute to decreasing the desire to work more hours per week.

An interesting question is whether changes in working hour tension from 2001 to 2008/09 have an impact on changes in reported satisfaction with working conditions; i.e., does going from imbalanced working hours to balanced working hours, with preferences and actual working hours in accordance with each other, produce greater satisfaction with working conditions? Does the opposite movement, from balanced to imbalanced working hours, mean less satisfaction with working conditions? In fact, only the second change has the expected impact on working conditions: satisfaction is reduced when balance turns to imbalance. For a change from imbalanced to balanced working hours, the coefficients are positive but not significant. However, if the number of working hours remained unsatisfactory throughout the period, there was a positive correlation with change in satisfaction with the working conditions as men became more satisfied and women less satisfied.

A comparison of the number of additional hours desired by people who wanted to work more with the number of hours fewer desired by those who wanted to work less reveals that there was virtually no difference in the totals in either 2001 or 2008/09. The net imbalances are fairly small, with a net deficit in the labor supply in both years of nearly 30 min in 2008/09 and 45 min in 2001 for the quarter of the people in the labor force who were either over-employed or under-employed in the two survey years.

If we calculate the number of weekly working hours that are imbalanced in terms of full-time equivalents, the result shows that there was a labor supply surplus equivalent to 2.8 percent of the individuals who were under-employed in 2001 and 2.4 percent in 2008/09, while the equivalent shares of over-employed individuals were 3.5 percent and 3.3 percent in 2001 and 2008/09, respectively. From a political viewpoint, this shows that a considerable number of Danish employees do not work hours that are in accordance with their preferences, suggesting in turn a welfare loss to society.

## Bibliography

Andersen, T. (2012). A flexicurity labour market in the great recession: The case of Denmark. De Economist 160/2, 117-140.
Baaijens, C. \& Schippers, J. (2008). The unfulfilled preference for working fewer hours in the Netherlands. In D. Anxo (ed.) Understanding Time Allocation over the Life Course: The Role of Institutions. Labour Market Transitions and Time Adjustments over the Life Course. Dutch University Press. The Netherlands.
Bell, D.N.F. \& Blanchflower, D.G. (2011). Youth underemployment in the UK in the great recession. National Institute Economic Review 215/1, R23-R33.
Beshears, J. Choi, J.J., Laibson, D. \& Madrian. B.C. (2000). How are preferences revealed? Working Paper 13976. National Bureau of Economic Research.
Böheim, R. \& Taylor, M.P. (2004). Actual and Preferred Working Hours. British Journal of Industrial Relations 42/1, 149-166.
Bonke, J. (forthcoming). Normal and actual working hours - why are they different? Working Paper. The Rockwool Foundation Research Unit.
Bonke, J., Deding, M. \& Lausten, M. (2009). Time and money - A simultaneous analysis of men's and women's domain satisfactions. Journal of Happiness Studies 10/2, 113-131.
Blundell, R. \& MaCurdy, T. (1999). Labor supply: a review of alternative approaches. In: O.C. Ashenfelter \& Card, D. (eds), Handbook of Labor Economics, vol 3A.North-Holland: Amsterdam.
Clark, A.E. (1996). Job satisfaction in Britain. British Journal of Industrial Relations34, 189-217.
Clarkberg, M. \& Moen, P. (2001). Understanding the time squeeze: Married couples' preferred and actual work-hour strategies. American Behavior Scientist 44, 1115-36.
Drago, R., Wooden, M. \& Black. D. (2006). Who Wants Flexibility? Changing Work Hours Preferences and Life Events. IZA Discussion Paper No. 2404.
Drago, R., Tseng, Y-P \& Wooden, M. (2005). Usual and preferred working hours in couple households. Journal of Family Studies 11, 46-61.
Golden, L. \& Gebreselaissie, T. (2007). Overemployment mismatches: The preference for fewer work hours. Monthly Labor Review 18-37.
Grözinger, G., Matiaske, W. \& Tobsch, V. (2008). Arbeitszeitwünsche, Arbeitslosigkeit und Arbeitszeitpolitik, WSI Mitteilungen 2, 92-98.
Hakim, C. (2005). Work-Lifestyle Choices in the $21^{\text {st }}$ Century: Preference Theory. New York: Oxford University Press.
Jacobs, J.A. \& Gerson, K. (2004). The Time Divide: Work, Family, and Gender Inequality. Cambridge, MA: Harvard University Press.
Klevmarken, N.A. (2005). Estimates of a labor supply function. In: Hamermesh, D. \& Pfann, G.A. (eds), The Economics of Time Use. Oxford: Elsevier.

Merz, J. (2002). Time and economic well-being - A panel analyses of desired versus actual working hours. Review of Income and Wealth 48/3, 317-346.
Otterbach, S. (2010). Mismatches between actual and preferred work time: Empirical evidence of hours constraints in 21 countries. Journal of Consumer Policy 33, 143-161.
Reynolds, J. (2004). When too much is not enough: Actual and preferred work hours in the United States and abroad. Sociological Forum 19/1, 89-120.
Reynolds, J.\& Aletraris, L. (2006). Pursuing Preferences: The Creation and Resolution of Work Hour Mismatches. American Sociological Review, 71/4, 618-638.
Schor, J.B. (1991). The Overworked American: The Unexpected Decline of Leisure. New York: Basic Books.
Sousa-Poza, A. \& Henneberger, F. (2002): An empirical analysis of working-hours constraints in twenty-one countries. Review of Social Economy 60/2, 209-242.
Steward, M.B. \& Swafield, J.K. (1997). Constraints on the desired hours of work of British men. The Economic Journal 1007/4451, 520-535.
Stier, H. \& Lewin-Epstein, N. (2003). Time to work: A comparative analysis of preferences for working hours. Work and Occupations 30/3, 302-326.
Townsend, B. (2001). Dual-earner couples and long work hours: A structural and life course perspective. Berkeley Journal of Sociology. 45, 161-79.
Yerkes, M. (2004). Actual versus Preferred Working Times in the Netherlands: Parttime Pattterns or Preferences? The Netherlands: Amsterdam School for Social Science Research.
Wanrooy van, B. (2005). Adapting to the lifecourse? Evaluating men and women's working-time preferences. Australian Journal of Labour Economics 8/2, 145-162.

