Luxembourg Income Study Working Paper Series

Working Paper No. 526

The Time Divide in Cross-National Perspective: The Work Week, Gender and Education in 17 Countries

Peter Frase and Janet C. Gornick

December 2009

Luxembourg Income Study (LIS), asbl

The Time Divide in Cross-National Perspective: The Work Week, Gender and Education in 17 Countries

Peter Frase*

Janet C. Gornick†

December 13, 2009

Abstract

Prior empirical studies have found that American workers report longer hours than workers in other highly industrialized countries, and that the highly educated report the longest hours relative to other educational levels. This paper analyzes disparities in working hours by gender and education levels in 17 high- and middle-income countries in order to assess whether this finding holds cross-nationally. In contrast to many prior studies of working time, we use a measure of weekly rather than annual hours worked, which we argue provides a better window on the discretionary time available to individuals and households. We find that: 1) average weekly male hours in the United States do not appear exceptional, with averages exceeding 40 hours per week in both the U.S. and most western European countries; 2) U.S. women work longer hours than women in most other rich countries; 3) the within-country difference in average hours by education is not uniform, with higher-income countries more likely to show the U.S. pattern, and middle-income countries showing the reverse pattern, with the less educated reporting longer hours. We conclude by assessing some possible macro-level explanations for this variation, including per capita GDP, tax rates, unionization, and earnings inequality.

1 Introduction

The optimal length of the work week is an ongoing subject of academic and political debate. Some interpret low or reduced hours as a sign of a stagnant economy operating below its productive

*Sociology Program, The Graduate Center, City University of New York

†Sociology and Political Science Programs, The Graduate Center, City University of New York

capacity. Some argue that the main problem with respect to working time is one of maldistribution, with some working too much and others too little. Still others regard excessive time spent in waged work as socially destructive, the symptom of a culture of overwork and overproduction. Two important issues in these debates concern *who* is working especially long hours, and how the characteristics of labor markets and regulatory regimes shape the length of the working week. The findings presented here address these questions by disaggregating the average work week by gender and educational attainment, and comparing these demographic patterns across 17 high- and middle-income countries.

The data are taken from a single cross-section, so the focus is on variation across countries, rather than change over time. Within countries, we analyze differentials in working hours according to two main demographic axes: gender and education. This reflects prior findings about the variation in working hours in the U.S. and elsewhere. In all countries, women's labor market outcomes are very different than men's with respect to both employment rates and hours. And at least in the U.S., it has been argued that it is the upper stratum of more educated, professional workers who report the longest hours. We also relate cross-national variation in the hours distribution to several national-level explanations that have been proposed for differences in hours worked: national income, wage inequality, unionization and regulation, and tax rates.

In the next section, we review prior findings about the hours distribution in the United States and elsewhere, along with the explanations for this distribution that have been proposed by sociologists and economists. We then describe our empirical analysis using data from the Luxembourg Income Study (LIS). The analysis begins with a simple descriptive comparison of weekly hours across countries, by gender and by education. We next estimate country-specific regressions in order to control for cross-national variation in the demographic composition of the working-age population. Finally, we estimate regressions using country-level variables in order to assess the relative impact of macro-level factors on the cross-country variations we observe. Given the limitations of our data (i.e., the small macro-level N), these latter models are necessarily tentative, but they do provide suggestive directions for future research.

2 Background

The amount of time spent in paid work has been studied extensively by sociologists and labor economists. Previous work has addressed the historical trends in working hours, the possible negative social effects of very long work hours, and the social, cultural and political factors that shape differences in working time both within and across countries.

2.1 Trends in working time

With the rise of capitalist forms of production, there arose a sharp distinction between time in waged work, which is controlled by employers, and a worker's "free" time outside of paid work (Thompson 1967). For much of the subsequent history of capitalism, labor movements in the U.S. and abroad demanded and won progressively shorter hours of work (Roediger and Foner 1989). Demands for shorter hours diminished after World War II, however, as workers (or their representatives) increasingly took a share of increases in labor productivity in the form of higher wages rather than reduced hours (Hunnicutt 1988; Cutler 2004). Since the 1970's, the average work week has remained relatively steady or even increased in the United States and most other rich countries, although annual hours worked have continued to decline somewhat in many countries due to expansions of annual leave (Rones et al. 2001; Lee et al. 2007; Maddison 1995; Ramey and Francis 2006). Recently, there has been a growing focus on hours as a distinct aspect not only of labor market outcomes but of inequality more generally, with its own implications for social behavior and public policy. Moreover, sociologists have argued that the intrinsic value of non-working time should be better integrated into measures of social well-being, because statistics like the Gross Domestic Product can over-emphasize the value of money income relative to the value of time (Epstein and Kalleberg 2001; Verbakel and DiPrete 2008).

It is now often said that Americans work longer hours than do their counterparts in most other rich nations. Americans' longer hours are especially evident with respect to annual hours, because Americans receive much less paid annual leave—whether granted by statute, collective bargaining agreement, or both—than workers in other developed countries (Altonji and Oldham 2003; Gornick and Meyers 2003; OECD 2004). When the analysis is restricted to the usual weekly hours of work, however, U.S. hours appear less out of line with those of workers elsewhere (Lee et al. 2007).

Schor (1991) argued that Americans were working increasingly long hours at the expense of other activities, and portrayed this primarily as an involuntary response to the demands of employers, who have not offered workers the chance to trade greater income for greater leisure time. In this and later work, Schor and others argued that this equilibrium was also partly sustained by workers' desire for more income due to the pressures of marketing and the consumer society (George 1997; Schor 1999). Critics have said that the overwork thesis is an over-simplification, however, arguing that Americans had actually experienced an increase in leisure (Robinson and Godbey 1997; Aguiar and Hurst 2007). Jacobs and Gerson (2001) rejected this claim, largely on methodological grounds, but they too argue that the average work week of individual workers has not increased much in recent decades. To the extent that working hours have increased, the increase has been among well-educated and highly-paid workers. Kuhn and Lozano (2006) confirmed this finding in a study which also showed increases in the proportion of U.S. men who work very long hours (more than 48 per week). However, it is not clear that this pattern is particularly unique to the United States, because large numbers of workers in Western European countries also report very long weekly hours (Lee et al. 2007).

Whether or not overall working hours have increased, there are clearly differences in hours among different demographic groups. By far the largest is that between men and women: in all countries in recent times, women have been less likely to be in the labor force, and they work fewer hours when they are employed (Lee et al. 2007). (Although the recession which begin in the United States in 2007 disproportionately affected employment among men, which has had the effect of at least temporarily lowering male labor force participation to parity with that of women.) However, the size of these gaps vary widely by country: in general, female employment rates and average female working hours are inversely correlated (Osberg 2002), although the relationship is a fairly weak one.

In most of the industrialized world, however, women's employment has increased substantially in the last several decades, even as women continue to perform the bulk of unpaid household labor (Coleman and Pencavel 1993b; Fagan 2004). Thus, if the *household* is used as the unit of analysis then working hours have increased dramatically (Jacobs and Gerson 2001, 2004). This is particularly the case in the United States, due to a combination of factors: a rising proportion of dual-earner couples; increasing employment among single heads of households; longer average

work weeks, especially for women; and an increased proportion of people working very long hours (Bluestone and Rose 2000; Jacobs and Gornick 2002). However, women with young children are still much less likely to work for pay, and those who are employed work relatively few hours (Anxo 2004). Jacobs and Gerson (2004) and Hochschild (1997) have therefore argued that there is an increasing tension between the demands of child-rearing and waged work. Regulations that reduce annual and/or weekly working hours across the board have been proposed as a key step to facilitating work/family reconciliation (Gornick and Meyers 2003; Gornick and Heron 2006).

In addition to the differences by gender, there is evidence that working hours are stratified by education and occupation. Since 1940, average weekly hours in the United States have fallen among the less educated and risen among the more educated, particularly at the upper tail of the hours distribution (Coleman and Pencavel 1993a,b). Jacobs and Gerson (2004) argued that at the household level, the longest hours are found among highly educated professionals; they also reported that this pattern was evident in other industrialized nations. Indeed, in certain countries—Canada, the Netherlands, France, and Sweden—the disparities were even wider than in the United States. Some have interpreted this finding as a reason to be less concerned about long hours, since they are disproportionately concentrated among the more privileged social strata.

2.2 Implications of long hours

Discussions of the work week, particularly among economists, often place a neutral or positive value on long hours. In the most common neoclassical model of labor supply, workers are assumed to work a number of hours that is consistent with their relative preference for consuming goods or consuming leisure time. Over short periods of time, fluctuations in the length of the work week are a business cycle indicator: employers will often reduce hours as an alternative to layoffs, so short-term reductions in the average work week are associated with recessionary periods. Over the long run, longer work weeks are often interpreted as reflecting a more productive economy; conversely, shorter work weeks are read as a symptom of an inefficient or overly rigid labor market (e.g. Rogerson (2008)).

However, others have argued that even in narrow economic terms, very long hours are undesirable. Karl Marx, discussing British industrialization in the mid-19^{th} century, argued that without legal restrictions on the length of the working day, capitalists would over-exploit workers to the

point of physically degrading their capacities and undermining productivity (Marx 1990; Bourdieu and Reynaud 2006). Sydney Chapman (1909), working within the neoclassical tradition, made a similar argument: he proposed that in a free market, both employers and workers would choose a level of working hours that was greater than was optimal in terms of total output. This is due to the same tendency to degrade the productive power of labor that was observed by Marx: above a certain threshold, an increase in hours actually decreases the long-run level of output, because worker fatigue decreases productivity over the entire working day. However, because this new, lower-productivity equilibrium is only reached after a long period of over-work, employers and workers will tend to maximize their short-term profits and wages by agreeing to a working day which is above the long-run optimum. Moreover, a single firm will not have an incentive to restrain hours, if its competitors can hire away its well-rested workers at any time. This analysis implies that the work week could be reduced through collective bargaining or state policy without reducing the overall productivity of the economy. Over the 20^{th} century, this perspective became marginalized within economics, but some have revived it more recently (Nyland 1989; Burkett 2000; Walker 2000, 2007). It is a line of argument that feeds into calls for "work-sharing" as a response to economic downturns, as well as debates over whether reductions in hours decrease or increase unemployment (Calmfors 1985; Booth and Schiantarelli 1987; Roche et al. 1996; Hunt and Katz 1998; Hunt 1999; Bosch and Lehndorff 2001; Kapteyn et al. 2004).

Even when economically efficient, long hours may have other negative individual or social effects. Golden and Altman (2008) distinguish among three separate concepts: long hours, overemployment, and overwork. Long hours means simply hours that are longer than average. Overemployment refers to the situation in which workers are supplying more hours than they would like to, because employers do not offer work at the desired number of hours (conversely, workers who are offered work at a lower number of hours than they desire are under-employed). Overwork refers to an intensity or duration of labor that harms a worker's physical or mental health due to fatigue or stress. By this definition, it is possible to be overemployed or overworked even if one is not working "long hours", depending on preferences and job intensity; conversely, very long hours may be both voluntary and non-harmful to the worker. However, there is good reason to believe that long hours are associated with overwork and overemployment. Moreover, hours that are desirable and salutary for individuals may have negative social effects.

According to Galinsky et al. (2001), 28% of Americans are overworked, in the sense that they feel "overwhelmed" by their work responsibilities. Many prior studies using survey data have found that a substantial number of workers are "overemployed" as well, in the sense that would like to to sacrifice some income in order to work fewer hours than they do (Golden 2006; Friedman and Casner-Lotto 2003; Clarkberg and Moen 2001; Schor 1994; Feather and Shaw 2000; Berg et al. 2004; Stier and Lewin-Epstein 2003; Reynolds 2003, 2004). However, these estimates vary widely, depending on the data source and the exact definition of overemployment, from as low as 5 percent to as high as 50 percent (Lang and Kahn 2001; Golden 2006). Reports of overemployment also vary according to demographic and occupational characteristics. Berg et al. (2004) argued that workers are more satisfied with their work hours in more unionized countries, while Stier and Lewin-Epstein (2003) found that workers are more likely to report a desire for reduced hours if they are more educated or live in a higher-income country (presumably because both education and national income confer economic security and make shorter hours more economically feasible). Reynolds (2003, 2004) investigated mismatches between actual and preferred hours and hypothesized that tensions between work and family responsibilities might drive the desire for shorter hours. However, he found little evidence for this in most countries (Sweden is an exception); in the United States, he found that the workers most likely to desire reduced work hours were women in dual-earner couples with no children and childless men whose wives do not work for pay.

Overwork, even if voluntarily chosen, can have negative effects on the individual. Long hours have been associated with reduced mental and physical health, and increased mortality (Buell and Breslow 1960; Ala-Mursula et al. 2006; Liu and Tanaka 2002; Spurgeon et al. 1997; Sparks et al. 1997; Yang et al. 2006; Lamberg 2004). Long hours also increase on-the-job injuries (Hanecke et al. 1998; Caruso et al. 2004). As female employment and the prevalence of dual-earner couples has increased, the difficulty of balancing long hours with family responsibilities has increased (Jacobs and Gerson 2001; Jacobs and Gornick 2002; Gornick and Heron 2006). Long hours have also been proposed as a contributing factor in the decline in civic and community participation (Schor 1991, 1999; Putnam 2000).

2.3 Explaining variation in working hours

A number of general explanations have been advanced to explain variation in hours worked, both within and across countries. In this study, we empirically test four of these explanations: national income, short-term tax incentives, long-term career incentives, and the impact of union coverage. Prior arguments for the salience of these factors (which of course are not mutually exclusive) are discussed in this section, and the variables that operationalize the concepts are described in the following section. This account does not exhaust the mechanisms that have been proposed in the literature, which include the social context (whether a worker's peers have long or short hours) (Glaeser et al. 2003; Alesina et al. 2005), cultural differences in the relative preference for income or leisure (Blanchard 2004), the individual psychology of "workaholics" (Burke and Cooper 2008), and direct state regulation of the labor market (McCann 2004, 2005). However, these are beyond the scope of what we are able to test in this analysis.

2.3.1 National income

It is commonly assumed that there is a negative association between a country's level of income (captured by per capita income) and the average level of hours worked. In part, this inference derives from an historical correlation: in the early-industrializing countries, economic growth has coincided with reduced hours (Maddison 1995; Huberman 2005). It can also be derived from the micro-economic theory of a "backward-bending" supply curve for labor: in this model, leisure is treated as a good like any other, and high-income workers are predicted to consume more of it (Hamermesh and Rees 1984; Prasch 2000). However, the evidence for this relationship at a macro-level is inconclusive: Lee et al. (2007) show that among high-income countries (those with a per capita Gross National Income of over 20,000 U.S. dollars), there is not a clear relationship between aggregate income and average working hours.

2.3.2 Short-term incentives: taxes on labor income

In the neo-classical labor supply model, workers are assumed to supply hours of labor at a level consistent with their preferences for income over leisure. Thus, among economists, debates over working hours often turn on the distinction between labor market outcomes that result from the

exercise of individual preferences and those which are the consequence of "distortions" in the market caused by regulations or onerous taxes. Prescott (2004), in a comparison of the United States, France, and Germany, estimated a labor-supply model and concluded that differences in hours worked could be explained entirely by differences in tax rates: where the marginal tax rate was higher, people worked correspondingly less. Davis and Henrekson (2004), using a different set of cross-national data and different variable definitions, came to similar conclusions, although they emphasize that reductions in market work can translate into increases in household labor or work in the underground economy, rather than increases in leisure as in Prescott's model. However, Alesina et al. (2005) criticize both of these findings, arguing that the effect of taxation disappears when differences in unionization and regulation are properly controlled. In addition, they criticize the assumptions underpinning Prescott's model of labor supply: in an empirical test, they find that in order to explain differences in hours entirely in terms of tax rates, it is necessary to assume an unreasonably high elasticity of labor supply. That is, such a model implies that small changes in tax rates will produce much larger changes in individual labor supply than previous research would suggest is plausible.

2.3.3 Long-term incentives: career advancement

Another incentives-based argument is that people work long hours, not because of the immediate monetary return they receive, but because of the long-term career advantages that accrue to those who put in more "face time" than their co-workers. People may work longer hours out of a fear of losing their job; Bell and Freeman (1995) advanced this as one explanation for long hours in the United States, where the safety net is weaker. They may also put in long hours in order to win promotion. Bell and Freeman (2001) argued that the level of earnings inequality within an occupational category could be taken to represent the amount of additional income that workers in that occupation could expect to receive as they advanced up the career ladder. Using data from the U.S. and Germany, they concluded that, as expected, workers in occupations with higher levels of inequality had a higher propensity to work long hours.

In this study, we will use the inequality in full-time wages within a country to operationalize the above argument. If it is true that higher inequality leads to longer hours—whether through offering the "carrot" of promotion, the "stick" of potential unemployment, or both—we would expect to find

that wage inequality is positively associated with average weekly hours. However, a single measure of inequality may not be sufficient to capture these effects, particularly since we are dis-aggregating workers into educational groups, which are concentrated in different parts of the wage distribution (see table in Appendix A). For this reason, we will use two separate measures of wage inequality below.

2.3.4 Unionization

Another explanation for differences in hours worked appeals to the power of unions. Unions are thought to influence the work week in three principal ways. Most directly, individual unions can reduce the work week through the collective bargaining process, by including hours restrictions in contracts (Bosch and Lehndorff 2001). In their capacity as political actors, unions and union federations can also influence the degree to which working hours are regulated by the state. Finally, high levels of unionization are associated with lower earnings inequality (Boeri et al. 2001; Card 2001): by compressing the wage structure, they may disincentivize long work weeks by decreasing the long-term return to long hours (as argued by Bell and Freeman, see above). For all of these reasons, the work week is expected to be shorter in countries where more workers are either members of unions or covered by collective bargaining agreements. Prior research has found that higher union coverage, lower overtime thresholds, and tighter restrictions on maximum hours are all associated with shorter work weeks (Alesina et al. 2005; Gornick and Meyers 2003; Gornick and Heron 2006).

The country-level variables described below are chosen to operationalize the four explanations given above. We have chosen not to include a variable that directly measures labor market regulations, such as limits on weekly hours, despite the obvious relevance of such interventions. We made this choice for both methodological and substantive reasons. Empirically, there is relatively little variation among the countries in this study with respect to the limitations they place on hours, so adding this variable would have added additional noise to our estimates without promising much additional understanding.[1] To the extent that regulations do vary, different countries use different combinations of overtime and maximum hours rules, making it difficult to create a fully comparable variable across countries. Finally, on a substantive level it is not clear how relevant hours limits

[1]This is particularly the case for the countries that are part of the European Union, which imposes harmonized labor regulations on its members, including, e.g., minimum annual days off and maximum weekly work hours.

are, given that—as we show below—large segments of the labor force in all of these countries report average work weeks that are above the overtime threshold. However, we do anticipate that influence on labor market regulation is one possible mechanism by which a strong labor movement is able to affect the length of the work week. Hence, our union coverage variable may indirectly capture some of the influence of state regulation.

We now turn to our empirical analysis. We seek, first, to describe the U.S. work week in relation to the work week in other countries. After this overview, disaggregated by gender and education, we turn to an assessment of the explanatory arguments just discussed.

3 Data and Methods

Data for the analysis were obtained from the Luxembourg Income Study (LIS), an archive of comparable micro-datasets, mostly based on national household income surveys, currently for 36 high- and middle-income countries (Luxembourg Income Study (LIS) Database Luxembourg Income Study (LIS) Database). Microdata on income, household demography, and employment outcomes, including weekly work hours, are harmonized by the LIS staff in order to make these variables comparable across countries. The LIS data are available in waves that are spaced approximately five years apart, with Wave V, centered on 2000, being the most recent one that has been completed for all countries.[2]

This analysis uses only data from Wave V of the LIS data. Although the use of earlier waves would allow an analysis of trends, the data on working hours are much less consistent for earlier periods. Thus, this analysis focuses on drawing comparisons across countries rather than making inferences about changes over time. Of the countries available in LIS, we include only the 17 that contain data on the "usual weekly working hours" variable that is the key dependent measure in the analysis; other LIS datasets include "actual weekly working hours" but we have omitted those to maximize cross-country comparability.[3] The countries included in this study (with their two-letter abbreviations) are: Austria (AT), Belgium (BE), Switzerland (CH), Germany (DE), Spain (ES), France (FR), Greece (GR), Hungary (HU), Ireland (IE), Israel (IL), Italy (IT), Luxembourg (LU),

[2]For details on all LIS datasets (including the names and exact years of the original surveys, response rates, sampling frames and sample sizes) see `www.lisproject.org`.

[3]We also omitted two countries that contained "usual hours" information, Canada and Australia, due to concerns about data reliability.

Mexico (MX), the Netherlands (NL), Russia (RU), the United Kingdom (UK), and the United States (US).

The universe for the study is restricted to the non-military and non-agricultural population aged 25-54. Military and agricultural populations are excluded because of the difficulty of accurately measuring their hours. The age range is chosen to allow us to study the hours of prime-age workers, net of cross-national variation in the duration of education or the timing of retirement.

The LIS datasets, like most microdatasets based on household or worker surveys, provide data only on weekly hours—not on annual hours, which are generally based on enterprise data. (Note that rough estimates of annual hours can be constructed in the LIS data in datasets that include estimates of weeks worked per year). Ideally, we would have access to microdata on both annual and weekly hours; at the same time, we believe that the weekly hours measure has advantages. Annual hours measures conflate two separate dimensions with regard to the availability of non-working time to individuals. The first is what we might call "episodic" time, which is available in occasional blocks, such as vacation time or parental leave. The availability of these blocks of time off varies widely across countries, and contributes to observed differences in annual hours. The other relates to working (and non-working) time on a weekly basis. In this study, we are mainly concerned with time that is available on a regular, week-to-week basis. This kind of time is of particular sociological interest because it is the necessary for participating in ongoing unpaid activities, such as child care or civic participation.

3.1 Individual level analysis

In the first stage of our analysis, we describe the employment rates and average work week in each of the 17 countries, disaggregated by gender and education. We then control for various other individual-level characteristics that my explain different patterns of hours in different countries.

The key variables of interest are:

- Employment. Employed is coded according to the International Labor Organization definition; persons are coded as employed if they worked for pay at least one hour in the reference week. Data limitations make it impossible to consistently distinguish between those who are unemployed and those who are out of the labor force. Thus, these two groups are combined

into a single residual category (the not employed).

- Hours worked. Hours are captured by usual number of hours worked per week in all jobs currently held. In one LIS dataset, weekly hours were topcoded at 97, so we imposed that topcode on the other countries for consistency.

- Gender.

- Education. In order to make levels of education attainment comparable across countries, education was recoded into three broad categories: high (university/college or specialized vocational training); medium (secondary education or basic vocational training); and low (less than secondary education). These educational categories are defined by the highest level completed. Recoding was carried out using a standard international classification system provided by LIS.

For the multivariate analysis, we estimate 34 separate models predicting weekly hours: separate models for men and women, and separate models in each country. In the main text, we use graphs to show the key results from these models. The coefficients, standard errors, and sample sizes of the regressions are provided in Appendix B.

Men and women are modeled separately because it is known that they report distinct patterns with regard to both employment and working hours (Gornick 1999). (The same substantive results would be achieved by including interaction terms between gender and the independent variables.) Separate regressions by country allow the education gradient in hours to be compared cross-nationally while allowing the effect of all of the other predictors to vary across countries. In addition to the education variable described above, the following predictors are included as controls:

- Age. Age is available, and used in the analysis, as a continuous variable.

- Children. The presence of children is operationalized in two variables: the number of children in the household, and dummy variables for whether the youngest child is an infant (age 0-2), a toddler (3-5), or an older child (6-17). These variables account for the well-known fact that number and age of children strongly affect employment and hours, especially for women.

- Other household income. A combination of spouse's earnings (if applicable) and any cash income from property owned. Unlike many sources of household income, these two are,

arguably, largely independent of each worker's own work hours. The sum of the two is intended to approximate a workers' "endowed" income, the income s/he would have regardless of own hours worked.

- Homeownership. This captures whether the respondent owns a home (with or without an outstanding mortgage). This serves as another indicator of household wealth (along with the cash property income variable)

- Number of older persons in the household (persons over age 64). The presence of older persons is operationalized as two dummy variables, one for persons aged 65-74 and one for those aged 75 and older. We constructed these two age groups to account for the possibility that the presence of the "younger old" may facilitate labor force participation among the prime-aged household members by providing household labor (e.g., child care), while the "older old" may reduce participation because they require care themselves.

Although it would be desirable for the hours model to include job characteristics such as self-employment and occupational sector, these variables are not available for all of the countries. They were excluded so that the model could be specified identically in each country. However, adding these variables for the countries in which they are available does not change the main conclusions (results not shown).

Note that all of these models include only persons who are employed. In some ways, it would be desirable for employment and hours to both be modeled, because differences in hours are known to be correlated with differential probabilities of employment. For example, in certain groups (women, for example), employment rates may be low, but hours may be long among those who are employed. A dual employment and hours model allows us to capture both dimension of employment.

However, there is no straightforward way to do this. In cases where an outcome of interest may be affected by differential selection into employment, it is typical to use a selection-correction method such as that developed by Heckman (1979). However, in the study of working hours this is problematic for two reasons. First, the relation between education/occupation and hours worked *among the employed only* is of substantive interest, and adding a correction term to this model would make it more difficult to interpret. Second, the Heckman correction is most powerful when the first-stage selection model contains a strong exclusion restriction: one or more variables that

predict employment, but do not predict the ultimate outcome of interest. In the case of hours worked, it is difficult to identify a variable that can plausibly be claimed to predict employment but not hours worked; at the very least, no such variable exists in the LIS data. Although the selection model can be identified without an exclusion restriction, this merely exploits the non-linear functional form of the selection equation, and is not recommended (Sartori 2003).

For this reason, the multivariate analysis is restricted to hours worked among the employed (without a selection correction). However, in order to account for the possibility that the observed distribution of hours is conditioned by selection into employment, we do examine employment rates and hours together in the descriptive analysis.

3.2 Country-level analysis

The final analysis assesses a set of country-level factors that may help to shape both average hours and the hours distribution. The variables below operationalize the concepts described in section 2.3 above. Where the data are taken from a source other than LIS, we tried to ensure that the macro-level data for each country were from the same year as the LIS microdata (1999, 2000, or 2001, depending on the country.) In a few cases, it was not possible to match the years exactly, but the temporal discrepancy between the micro- and macro-data is no more than three years for any country.

We used the following five variables :

- Real GDP per capita, from OECD data, normalized with 100 as the OECD average. Prior research suggests that this should correlate negatively with hours worked.

- Average tax rate on wages. The variable measures the estimated marginal tax rate on a worker earning the national average wage, combining income taxes and social security contributions. If high taxes disincentivize paid work, levels of taxation should correlate with lower average hours. This variable therefore allows us to us to test Prescott's contention that differences in hours are explained by cross-country differences in tax rates. While Prescott's specification derived tax rates from national accounts data, we have chosen instead to use existing data that directly estimates marginal tax rates on labor. The data comes from the OECD (2008), with the exception of the figure for Israel (Israeli Ministry of Finance 1997).

- Inequality between the top and middle of the earnings distribution, measured by the ratio between the 90^{th} and 50^{th} percentile of full-time workers' earnings. If people work longer in response to higher (anticipated) rewards to career advancement or fear of job loss, this should correlate positively with average hours. This effect is expected to be strongest among highly educated workers, who are concentrated in this part of the wage distribution. Since men and women can face quite different labor markets, we calculate the wage inequality variables separately for male and female workers. This and the following inequality measure are calculated from the LIS microdata.

- Inequality between the middle and bottom of the earnings distribution, measured by the ratio between the 50^{th} and 10^{th} percentile of full-time workers' earnings. This variable is expected to correlate positively with higher hours for the same reasons described above. Such an effect would likely be stronger among the less educated, however, since they disproportionately work in lower-wage jobs.

- Union coverage. The percentage of workers covered by wage bargaining agreements is taken from the database compiled by Visser (2009). (Union coverage measures the share of the workforce *covered* by collective bargaining agreements, whether or not they are union members; it is a better indicator of working conditions than union membership, which in some countries can be much lower than the coverage rate.) If unions are successful at reducing the work week, this should correlate negatively with hours worked.

Not all of these variables are available for the full set of countries, so a reduced set of 15 or 16 countries was used for the models in this section.

4 Results

This section reports the distribution of employment and working hours across the countries in the study. We begin with the United States, before introducing comparisons with other countries and relating these comparisons to variation in country-level factors.

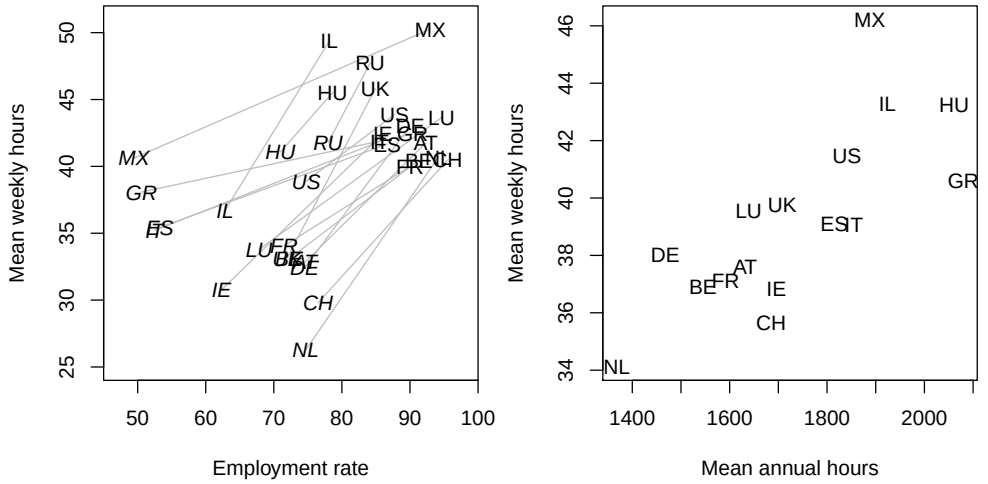

Figure 1: Left: Employment and average weekly hours, by gender and country (Women in italics). Right: annual and weekly hours, by country. (Annual hours for Russia were not available.)

4.1 Descriptive Overview

The plots in Figure 1 show the overall levels of employment and average hours for all 17 countries in the study. In the plot on the left, both average weekly hours and employment rates are given for men and women. The plot on the right compares our estimates of weekly hours to annual hours figures from the International Labor Organization.

In every country, women have lower employment rates and lower average hours among the employed, relative to men. Among both men and women, however, employment rates and weekly hours are negatively correlated: where employment rates are higher, average work hours among the employed are lower. Thus we can distinguish between countries in which the gender employment gap is high but the gender hours gap is fairly low (such as Mexico and Greece), and those where the gender employment gap is relatively low but the gender hours gap is high (such as Israel and the Netherlands).

As noted above, our study focuses on weekly hours, while some cross-national studies assess annual hours. The second plot in Figure 1 shows the relationship between average weekly hours (calculated from LIS data) and average annual hours (taken from other sources). While the two measures are highly correlated, the differences are large enough to suggest that the distribution of weekly hours is determined by a somewhat different set of factors than annual hours.

From these graphs, we see that average weekly hours in the United States are not the highest in this set of countries. One surprising finding that emerges here is that men's hours are uniformly high. While U.S. men's hours are, on average, higher than in most of the European countries, average male hours are remarkably similar across countries. This suggests that it would be a mistake to regard Europeans as uniformly working shorter hours than Americans, as is often reported. European *men*, at least, report spending nearly as much time working each week as do their American counterparts. (In general, the countries that rank above the U.S. are all substantially lower-income; we return to this point later.)

At the same time, there is much more dispersion among employment and average hours among women. Figure 1 shows that, in keeping with earlier findings, the United States has an unusual combination of high female employment and long working hours among the employed; only the post-Communist economies of Russia and Hungary show a similar combination.

Figure 2 represents the distribution of working hours in discrete intervals, in order to show the prevalence of long hours (defined as more than 40) and very long hours (defined as 51 hours or more). Here we see again that the U.S. does not stand out as particularly unusual: when the countries are ordered according to the proportion of men working very long hours, the U.S. falls in the middle of the group of countries. Even in many western European countries, the percentage of men and women reporting work weeks above 40 hours is higher than in the U.S. The U.S. is somewhat unusual, however, in that relatively few employed women work 30 or fewer hours per week.

We now turn to the question of disparities by educational level. Figure 3 reports the difference in average hours between high and low educated workers, or the "education hours gap", for each country, overall and by gender. There is a large differential in all of the countries, one which is generally larger among women than among men. But in contrast to the homogeneity in average hours, here the gap between different categories of worker takes two markedly different forms. One group of countries mirrors the United States: the highly educated work longer hours. In addition to the U.S., that pattern is seen in the U.K. and in seven continental European countries: Austria, Belgium, France, Germany, the Netherlands, Luxembourg, and Switzerland. The reverse pattern is found in Mexico, in two former Eastern bloc countries (Hungary and Russia) and in two southern European countries (Greece and Italy). In three other countries—Ireland, Spain, and Israel—the

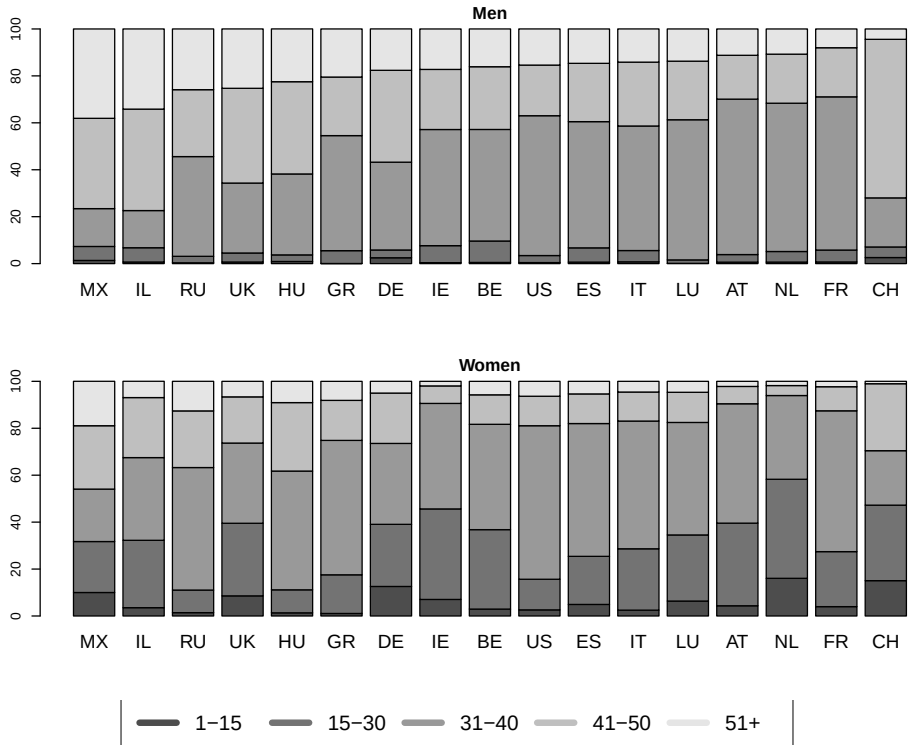

Figure 2: Hours distribution among employed adults (1-15, 15-30, 31-40, 41-50, 51+ hours).

pattern is mixed, with women resembling the former group of countries and men the latter. This diversity complicates the earlier finding of Jacobs and Gerson; it is clear that while the U.S. pattern holds true for some countries, it does not hold true for others.

One possible factor underlying these patterns is different levels of employment at the different levels of education. Recall that, as Figure 1 shows, higher overall employment rates are associated with lower average hours, for both men and women. The reasons for this correlation are not entirely clear; it may be that where the work week is more restricted (by state regulation or union contracts, for example), some people are willing or able to enter the labor force, who would otherwise be non-employed. (Or, it might be that where work hours are shorter, there are more jobs to go around, and thus a higher employment rate, consistent with one of the often-invoked reasons for reducing working hours). The same factors—including education—that make persons less likely to be employed may also make them likely to prefer or be offered lower hours. It may also be that in countries with less generous policies in support of reconciling work and family, the population of women becomes bifurcated between those who take up careers and delay or forgo child-rearing,

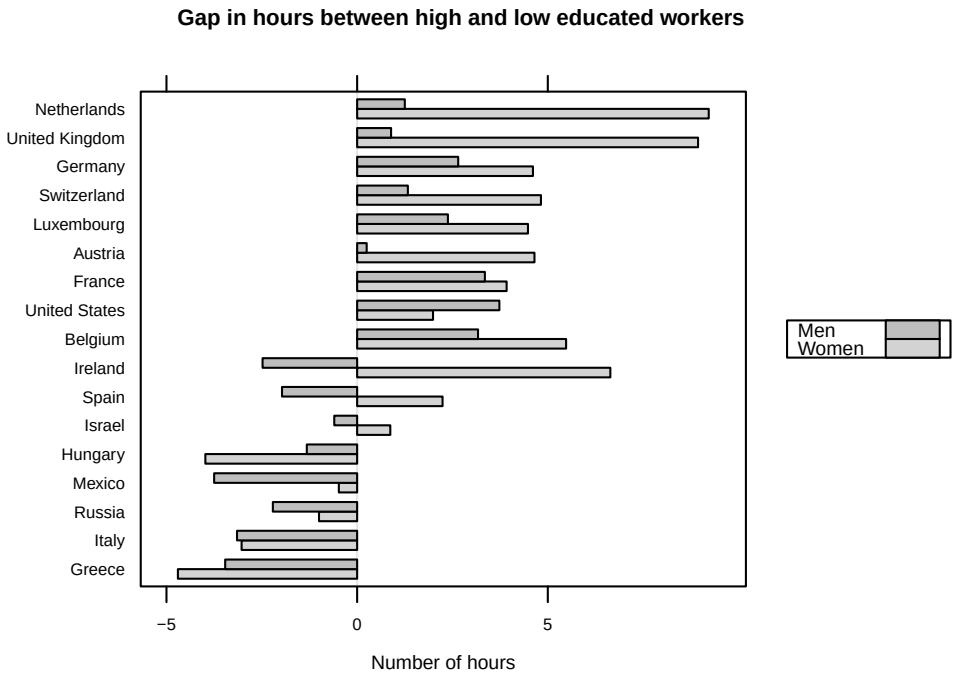

Figure 3: Differential in average working hours between high and low educated workers. When the bar points to the right, highly educated workers have longer hours. When it points to the left, low educated workers have longer hours. (The countries are ordered according to the size of the education hours gap for both genders combined.)

and those who stay out of the labor force entirely in order to raise children. We would expect the former group to be made up disproportionately of those with more human capital.

It is therefore important to examine whether the education gap in hours is associated with a corresponding gap in employment. While the more educated are almost always employed at higher rates than the less-educated, the size of this differential varies substantially by country. Thus, to the extent that less educated workers are employed at lower rates than more educated workers within a given country, we would also expect that those who are employed would report relatively longer hours. That is, there should be a negative correlation between the education gap in employment (the difference in employment rates between high and low education workers) and the education gap in hours.

Figure 4 plots both employment and hours by country, disaggregated by education and gender. With respect to the United States, these figures seem to confirm the story told by Jacobs and Gerson and others: the more highly educated report more hours than the less educated. Note also that the difference is substantively quite large. The gap in average hours between a high- and low-educated man is 3.7 hours, or nearly 9%. This is nearly as large as the gap between a highly educated man and a highly educated woman. At least in basic descriptive terms, then, the education gap in hours is comparable in magnitude to the gender gap. On the other hand, relatively long hours are reported by men at all educational levels; in each educational group, American men report working, on average, more than 40 hours per week—that is, above the 40-hour overtime threshold set by the U.S. Fair Labor Standards Act). Why U.S. men's average hours exceed the statutory overtime threshold cannot be discerned in these data. Clearly, some work overtime at their primary jobs, some are multiple job holders, and some (including many professionals) work in jobs that are exempt from coverage.

The generally high hours among men can be seen in the plot on the upper right. The disparities in hours by education are once again evident. However, we can see here that the varied country patterns seen in Figure 3 are mostly driven by differences in the hours worked by the less educated. The highly educated work fairly similar hours in all of these countries, but in many of the richer countries, the less educated work considerably fewer hours. Moreover, it does not appear that the differences in hours levels among countries are directly correlated with differences in employment rates. So, for example, low-educated men in France and Italy are employed at roughly the same

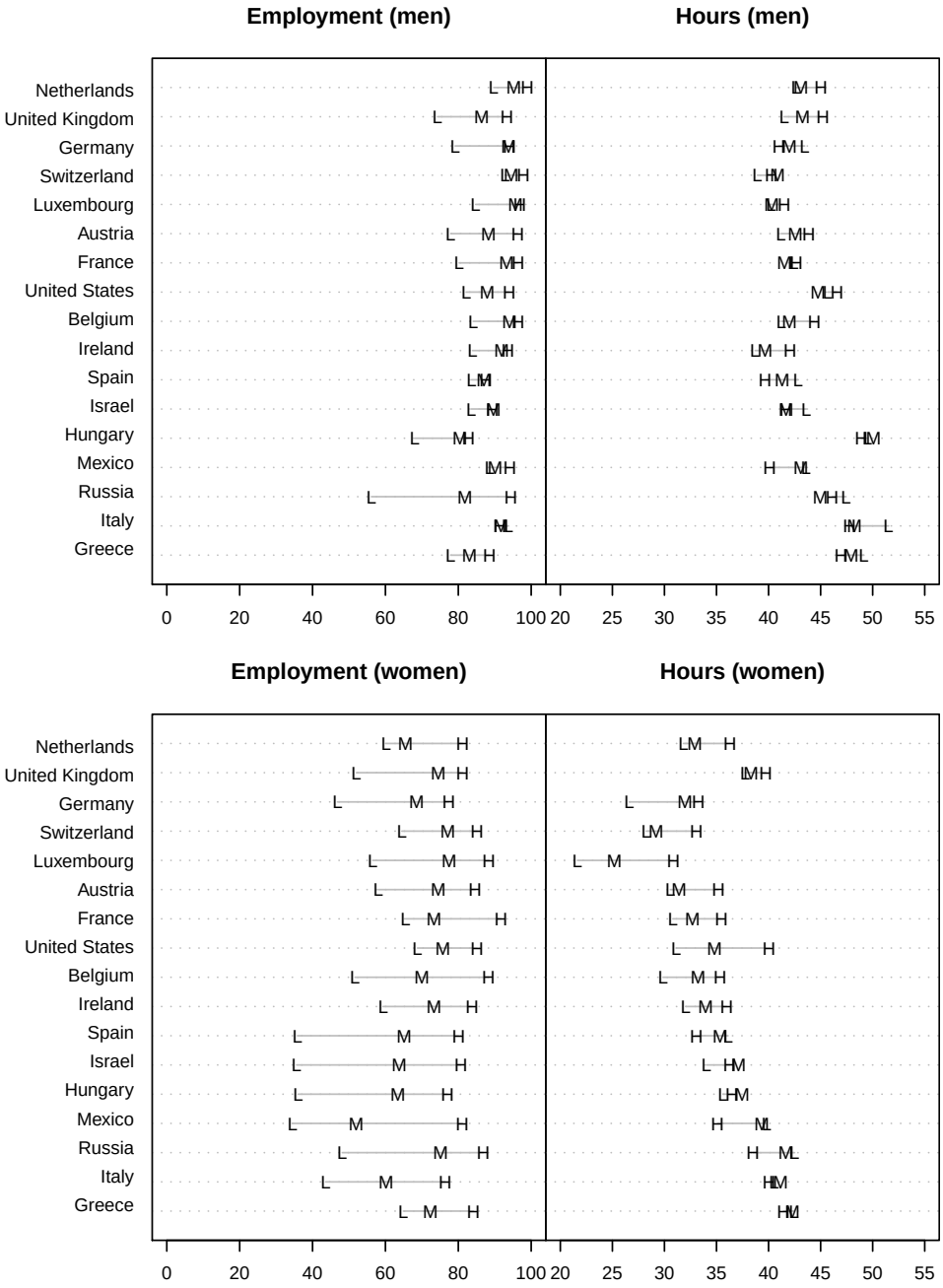

Figure 4: Hours by Education and Gender. (As in the previous graph, the countries are ordered according the the overall size of the gap between high- and low-education workers, from highest to lowest.)

rates, but have quite different work weeks—both relative to each other, and to more highly educated men in their own countries.

4.2 Multivariate models: Regression models of employment and hours

This section elaborates the patterns described previously. We use multivariate methods to analyze the within-country associations between gender, education and hours, net of a set of controls. These models employ only control variables that are available for all of the countries in the study. This results in a fairly limited set of covariates, but it is the only way to produce coefficients for the effect of education that are truly comparable across all of the countries. (See Section 3.1 for an explanation of the other predictors, and Appendix B for the complete set of coefficients and standard errors for these models.)

In order to examine the effect of education on hours, we can compare the coefficient for the "high education" dummy variable across models. (Because low education is the reference group, this amounts to comparing the education gap across countries, net of all the other controls.) Below we describe a regression using the hours worked among the employed only. Those coefficients are reported in Figure 5.[4]

Here we see that the pattern described in the prior section appears to hold. It is not as consistent as it was in the bivariate descriptive context—some of the confidence intervals cross the zero line—but the general clustering of countries persists.

One clear exception, Ireland, bears some further discussion. At the time these data were collected, Ireland had just experienced a period of extremely rapid growth. So while it now has national income levels close to those of the United States and other western European countries, it was a substantially poorer country in the recent past. This may explain the persistence of higher hours among low-educated women, which could be a holdover from the recent past. The recent economic crisis was particularly severe in Ireland, and future studies will have to determine how working time patterns have developed in that country in recent years.

The other noteworthy finding from these models is that controlling for demographics has dif-

[4]In an analysis not shown here, we also estimated models of employment, using the same predictors. When comparing the models for each country, the low-educated have a lower probability of employment, but there is no consistent pattern beyond that. This is further evidence against the explanation of hours gaps in terms of differential probabilities of employment.

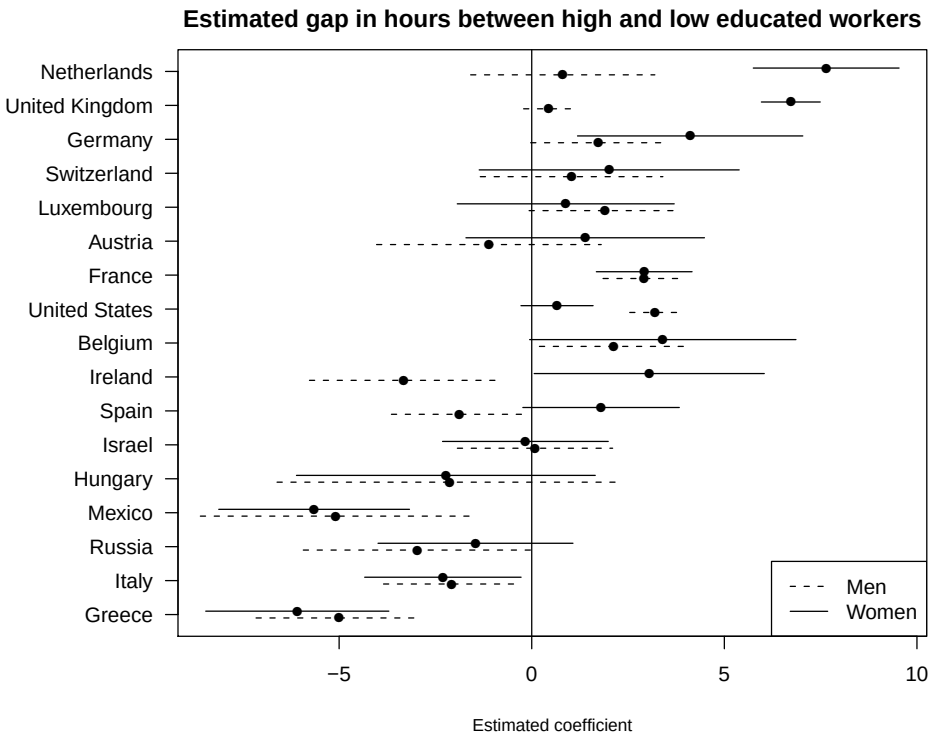

Figure 5: Coefficient of high education (vs. low education) on predicted weekly hours, among the employed, with 95% confidence intervals. As in the previous figures, the countries are ordered according to the overall size of the education hours gap.

ferent implications for men than for women. Note that in Figure 4, the difference in weekly hours between the more and less educated workers is generally greater among women than among men. In Figure 5, however, the gap in hours is as large or larger for men than for women in many of the countries. This implies that the education gradient in hours among women has more to do with the differences between high- and low-educated workers with respect to family structure and alternative sources of income. For men, these demographic factors actually conceal the full independent effect of education on hours.

For both genders, however, the results of the multivariate analysis indicate that the observed variation among countries with respect to the education gradient in hours cannot be attributed entirely to the demographic composition of the workforce in these countries. This suggests that country-level differences explain at least some of the pattern.

4.3 Country-level analysis

Previously, we discussed country-level factors that have been hypothesized to affect working hours, including national income, taxation of earnings, inequality, and unionization. Given the small number of countries in this study, any attempt to analyze relationships at the country level will have a limited capacity to detect relationships. However, we offer the following as a preliminary analysis.

The dependent variable for this analysis is mean weekly hours, at the country level. However, we will use eight different measures, reflecting the demographic distinctions we have identified so far: mean weekly hours for all men, for all women, and for men and women of high, medium, and low education.

Figures 6, 7 and 8 show the bivariate associations between these predictors and mean weekly hours, with separate plots for men and women. Due to data limitations, in three cases the country-level variable on the x-axis is the same for men and women (GDP per capita, taxes, unionization), while in one it differs (earnings inequality, which is calculated separately for male and female full-time workers). Countries are plotted according to the mean weekly hours for all workers of the relevant gender. In each graph, regression lines are drawn corresponding to the relationship for all workers, as well as the relationship for each of the three education subgroups. So, in the left graph of Figure 6, the solid line represents the relationship between GDP per capita and average hours

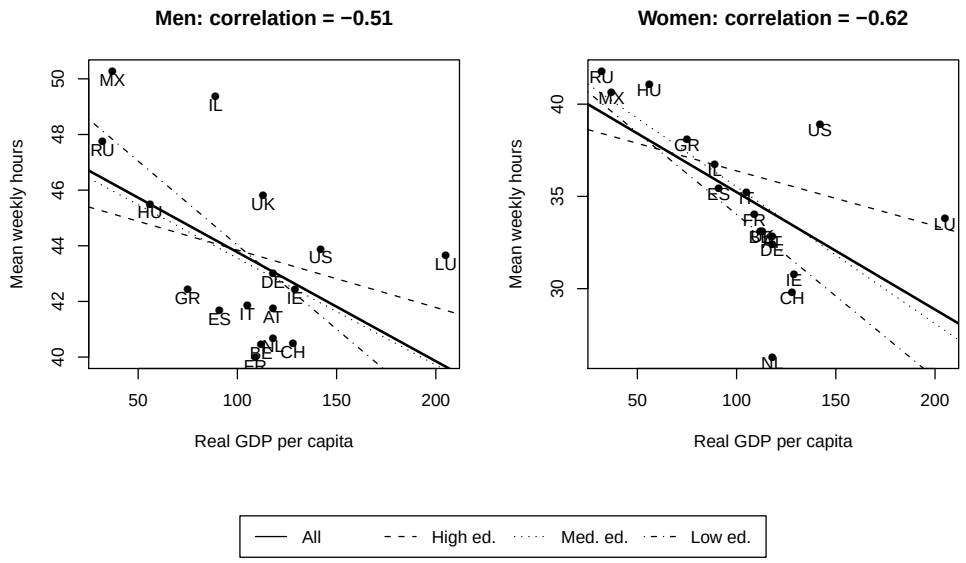

Figure 6: Real GDP per capita and average weekly hours, by gender and education category. GDP is normalized, with 100 set to the OECD average.

for all men, while the other lines represent the relationship between GDP and the average hours of each education group.

From these figures, we see that for all groups, higher GDP per capita is associated with lower average hours, and that this relationship is stronger for the highly educated. The cross-national variation in the education gap in hours is evident here again: on the left side of these graphs, the line for the low-educated is above the line for the high-educated, indicating that the less educated work longer hours. On the right side of the graph, the relationship is reversed.

Moving on to taxation, we see that income taxes, as a share of GDP, are positively associated with hours among men. Among women, the result is mixed, with essentially no relationship among the highly educated and a negative relationship among the less educated. This result is generally at variance with the argument of those, like Prescott, who argue that taxes reduce hours by disincentivizing work: if that account were correct, we would expect to see the lines slope downward. The discrepancy between our findings and Prescott's may relate to the way in which taxes are measured: we prefer our variable because it uses a direct estimate the marginal tax on wages, whereas Prescott uses strong modeling assumptions to derive marginal tax rates from national accounts.

Inequality at the top end of the wage distribution is associated with longer hours, for both

men and women; surprisingly, this relationship is slightly stronger for the less educated workers. In general, the direction of the effect is consistent with Bell and Freeman's argument that in the presence of higher earnings inequality, there will be greater returns to moving up the career ladder, and hence a greater incentive to spend more time at work.

The effect of inequality at the bottom of the distribution is different, however: reversed for men, and nearly flat for women. In countries where there is a larger gap between the middle of the wage distribution and the bottom, men work fewer hours on average. It is possible that low-wage male workers face fewer opportunities for advancement, and that their hours are therefore less responsive to the distribution of earnings. However, note that the labor supply of low-education workers—both male and female—does rise where top-half wage inequality is higher, despite the fact that few low-education workers ever earn wages in this part of the distribution. This raises the possibility that the *perceived* rewards to long hours may be more important than the actual promotion prospects of these workers.

Finally, we see that higher union coverage is associated with lower hours (see Figure 8), for both genders and across all education categories. This is consistent with the argument that unions in many countries both seek to restrain working hours and succeed in doing so. Note that this effect appears stronger among men than women, which may reflect the fact that men are more likely to be in unionized occupations or sectors.

Our final step is to estimate a regression which estimates the effect of all of the explanatory variables simultaneously. This allows us to account for the fact that the variables are all correlated: for example, the countries with high 90/50 wage inequality also tend to be lower-income countries. Table 1 and Table 2 show each of the eight hours variables regressed on the five country-level predictors. The variables have been standardized, so that the coefficients represent the effect of a one standard-deviation change in the predictor variable. This exercise is intended to estimate the independent effects of these different macro-level factors; however, the limited number of data points (N=15) makes this a tentative analysis. (Two of the countries had to be dropped from the full models because one of the predictors was unavailable, leaving only 15 countries). Thus, the absence of a statistically significant effect for a given variable should not be taken as an indication that the variable has no effect in actuality; many effects will be undetectable with so few degrees of freedom.

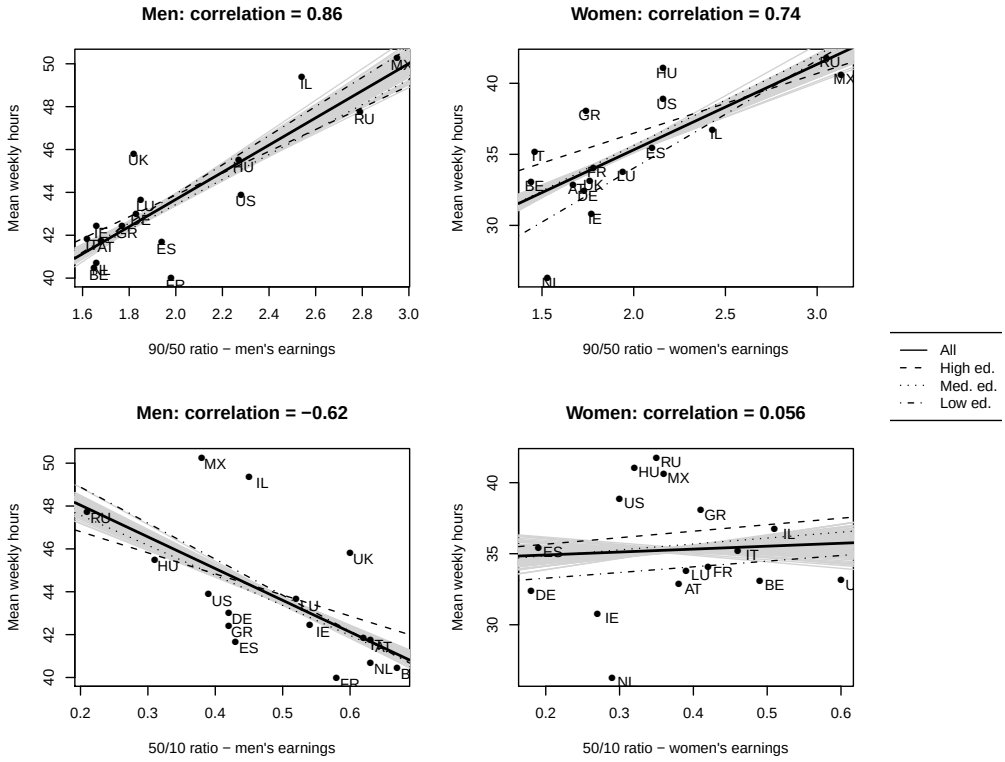

Figure 7: Earnings inequality and hours. Points represent the average overall hours in each country. The plotted regression lines represent the association the variable on the x-axis and overall hours (solid line), hours for the highly educated (dashed line), hours for the medium educated (dotted line) and the for the low-educated (dot-dash line). The uncertainty in both the x and y variables was used to simulate possible values of the main regression line (of overall mean hours on x), shown in gray.

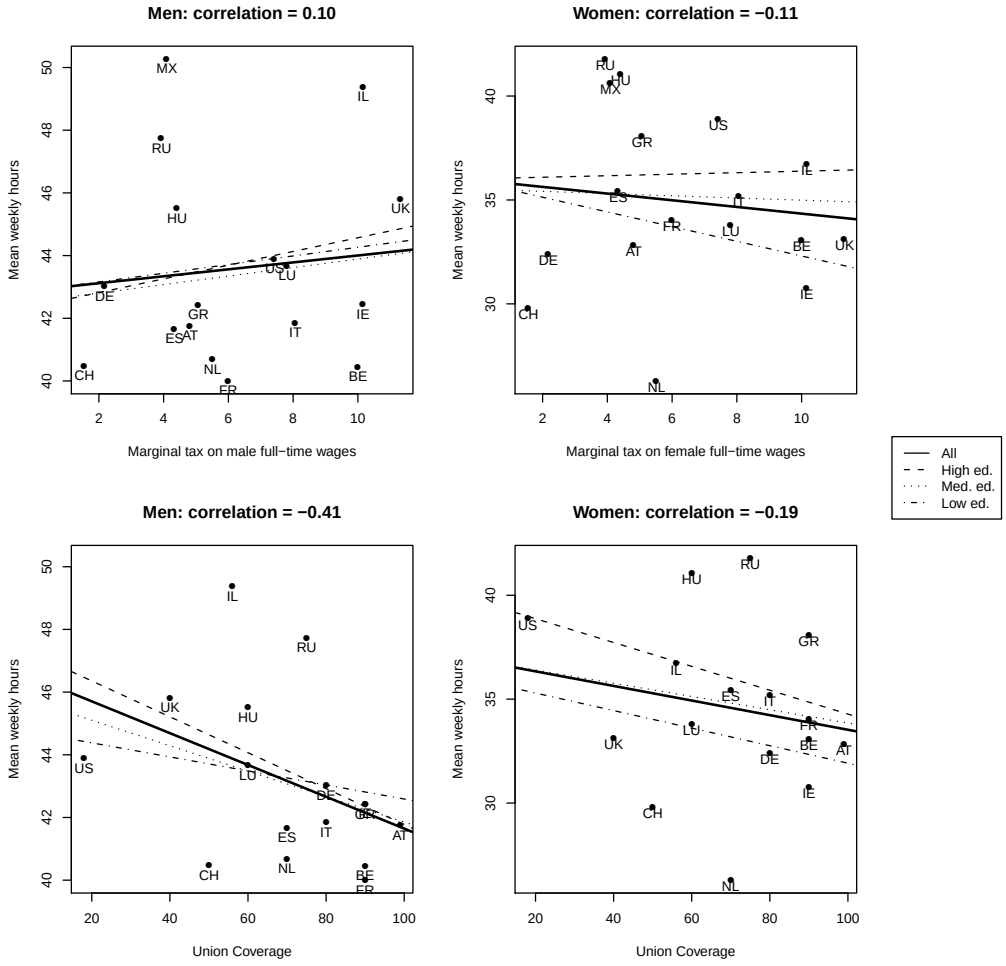

Figure 8: Taxation, union coverage, and hours

Even given these limitations, however, some illuminating patterns emerge. First, we see that the effect of GDP per capita is negative, statistically significant and large in the models without the inequality variables. The effect of GDP per capita decreases and becomes non-significant in the presence of the inequality controls, however, suggesting that it may in fact be inequality, rather than overall national income, which is the important factor influencing hours.

Second, the counterintuitive finding that higher tax rates are associated with longer hours of work is only evident among highly educated men. However, the coefficient for taxes is small and not statistically significant in the other models, so we do not see any evidence in favor of the Prescott argument. It is not immediately evident why the tax coefficient would be positive for highly educated men: assuming it is not a statistical fluke, this finding may reflect other attributes of the high-tax countries in this study which are not captured by the other variables in the model.

Third, the positive association between high-end inequality and hours appears to be robust even when controlling for other factors. However, it seems to primarily affect the hours of the more highly educated workers, in contrast to the pattern we observed in the simple bivariate comparisons. As noted above, this is consistent with Bell and Freeman's hypothesis. These findings suggests that their story is more applicable to highly educated workers, who are also disproportionately high-wage workers. However, in light of the discussion above, note that the effect of 90/50 inequality for low-education workers, while not statistically significant, is much larger than the coefficient for 50/10 inequality.

Finally, while there is no clear effect from union coverage in the full model, unionization does appear to correlate with reduced hours when the inequality variables are removed, at least for men. This suggests that the effect of unions may operate, at least in part, through their effect on inequality, rather than through direct attempts to reduce hours.

5 Discussion

In this comparison of the work week, we have found that:

- Men report surprisingly long weekly hours in all the countries in our study, and (contrary to expectation) average weekly hours in the United States are not much higher than in other countries.

	All men	All men	High Ed.	Med. Ed.	Low Ed.
(Intercept)	34.84***	51.18***	20.63**	31.6***	40.24***
	(10.2)	(3.27)	(8.73)	(10.64)	(13.56)
Avg. marginal tax on wages	0.01	0.05	0.87*	-0.09	-0.06
	(0.62)	(0.71)	(0.53)	(0.64)	(0.82)
Union coverage	-0.62	-1.39**	-0.81	-0.27	-0.38
	(0.69)	(0.67)	(0.59)	(0.72)	(0.92)
Inequality (90/50)	2.27*		3.72***	2.65**	1.71
	(1.22)		(1.04)	(1.27)	(1.62)
Inequality (50/10)	0.14		1.42*	0.34	-0.03
	(0.93)		(0.79)	(0.97)	(1.23)
GDP per capita	-0.19	-1.39**	0.23	-0.28	-1.15
	(0.76)	(0.68)	(0.65)	(0.8)	(1.01)
R^2	0.66	0.38	0.76	0.65	0.56
N	15	16	15	15	15

Table 1: Regressions of men's mean weekly hours at a national level, regressed on country-level predictors (Sig.: *=0.90, **=0.95, ***=0.99)

- Women in the United States report a combination of both long hours and high employment rates that is not seen in other comparably rich countries.
- Confirming prior research, in the United States highly educated workers report longer hours than the less-educated.
- The education gradient in hours is not uniform across countries. In general, the U.S. pattern holds only in the richer countries in our study, with countries farther down the income rankings showing a reverse pattern, with the less-educated reporting longer hours.
- There is evidence that the micro-level patterns that we find are influenced by macro-level factors. Some of the cross-country variation in hours worked is explained by variation in levels of inequality at the top of the wage distribution, with at least the highly educated working longer hours where inequality is greater. This inequality may, in turn, be influenced by union coverage rates. The association of high GDP per capita with lower average hours also seems to be at least partly explained by lower levels of inequality in the richer countries. We find no evidence that high tax rates on earnings are associated with lower hoursâĂŤin some cases, the effect of taxes appears to be the opposite of the predicted one.

	All women	All women	High Ed.	Med. Ed.	Low Ed.
(Intercept)	29.97**	46.26***	29.22***	33.09***	30.93*
	(11.84)	(4.81)	(7.41)	(12.43)	(18.21)
Avg. marginal tax on wages	0.01	-0.15	0.23	-0.39	-0.16
	(1.04)	(1.05)	(0.65)	(1.1)	(1.61)
Union coverage	-0.65	-1.26	-0.97	-0.66	-0.87
	(1.02)	(0.98)	(0.64)	(1.07)	(1.57)
Inequality (90/50)	2.46*		2.07**	2.3	2.73
	(1.42)		(0.89)	(1.49)	(2.18)
Inequality (50/10)	0.43		0.71	0.54	0.61
	(0.9)		(0.57)	(0.95)	(1.39)
GDP per capita	-1.41	-2.7***	-0.26	-1.9	-2.42
	(1.12)	(1)	(0.7)	(1.17)	(1.72)
R^2	0.6	0.41	0.68	0.63	0.53
N	15	16	15	15	15

Table 2: Regressions of women's mean weekly hours at a national level, regressed on country-level predictors (Sig.: *=0.90, **=0.95, ***=0.99)

These findings suggest a number of avenues for future research.

The finding of such long average work hours among men in several countries is particularly surprising. According to our results, in most of these countries, male prime-age workers, *on average*, are working hours that are longer than the standard work week, which is generally defined by the overtime threshold as set by statute or collective agreement. It may indeed be the case that such long hours are more common than previously understood. If this is so, further research is needed to determine the degree to which employers are actually utilizing overtime hours on a routine basis, the extent to which observed patterns reflect low levels of coverage or widespread exemptions from overtime regulations; and/or the extent to which standard or maximum hour thresholds are unenforced. Multiple job-holding is another possible explanation, because our measure of hours combines the hours worked at all jobs. It is also possible that substantial numbers of workers are over-reporting their hours. It has been shown that surveys often turn up estimates of hours worked that are higher than those from administrative sources and establishment surveys (Fleck 2009), although it is still unclear which source produces estimates closest to the usual hours worked.

More research is needed to explain these new findings on the education gradient in hours across countries. Our preliminary analysis suggests the potential importance of inequality and perhaps unions, but this is based on few countries and fairly crude macro-level measures. The inclusion of

more countries would be crucial, particularly more middle- and low-income countries.

More work should be done to investigate the effect of inequality within occupations and educational categories, thus updating and extending Bell and Freeman's earlier analyses. Likewise, rather than looking at aggregated tax rates on earnings, it would be useful to estimate the actual tax rates faced by workers given their occupation, education, and hours, in order to better assess the argument that higher taxes reduce working hours. In addition, more needs to be done to operationalize the claim that the value of non-working time is dependent on its context, and that there is a "social multiplier" associated with generalized reductions in hours.

Finally, a major limitation of this study is its strictly cross-sectional design. Many of the key macro-level variables we have identified change siginficantly over time; if this change is associated with changes in the relative hours of more and less educated workers, this would provide a stronger explanatory framework for the phenomenon. A stylized fact produced by the present inquiry is that in the highest-income countries, the most highly educated work the longest hours, while in lower-income countries, the less educated do. The question is whether, as countries move up (or down) the global income ladder, their distributions of working hours change to conform with this pattern. And if so, what are the mechanisms through which this occurs?

The analysis presented here underscores the importance of understanding the ways in which the distribution of working time is stratified and unequal, both within national labor markets and across countries. At the same time, we have emphasized the degree to which long work weeks, often extending beyond the legal definition of full-time work, are common in all segments of the labor market. Of course, these facts are open to a wide variety of normative and policy interpretations, of which we introduce only a few. The prevalence of very long hours raises the possibility of widespread over-work or over-employment associated with it, topics that call for future research. The long weekly work hours among men, in particular, pose a potential obstacle to equalizing the distribution of household labor and unpaid care work between men and women. And in light of the economic and political arguments in favor of reducing hours, those concerned with designing and implementing policy should attend to the relation between long hours and inequality, as well as the seemingly weak responsiveness of labor supply to tax rates on earnings. But regardless of whether societies want to increase, redistribute, or decrease hours, it is vitally important that we understand who works how many hours, and what motivates them to do so.

References

Aguiar, M. and E. Hurst (2007, August). Measuring trends in leisure: The allocation of time over five decades. *Quarterly Journal of Economics 122*(3), 969–1006.

Ala-Mursula, L., J. Vahtera, A. Kouvonen, A. Vaananen, A. Linna, J. Pentti, and M. Kivimaki (2006). Long hours in paid and domestic work and subsequent sickness absence: does control over daily working hours matter? *British Medical Journal 63*(9), 608.

Alesina, A., E. Glaeser, and B. Sacerdote (2005, April). Work and leisure in the u.s. and europe: Why so different? Technical Report 11278, National Bureau of Economic Research, Cambridge, MA.

Altonji, J. and J. Oldham (2003). Vacation Laws and Annual Work Hours. *Economic Perspectives 27*(3), 19–30.

Anxo, D. (2004). Working time patterns among industrialized countries: A household perspective. In J. Messenger (Ed.), *Working time and workers' preferences in industrialized countries: finding the balance*. Routledge.

Bell, L. and R. Freeman (1995). Why do Americans and Germans work different hours? pp. 101–31.

Bell, L. A. and R. B. Freeman (2001, May). The incentive for working hard: explaining hours worked differences in the USand Germany. *Labour Economics 8*(2), 181–202.

Berg, P., E. Appelbaum, T. Bailey, and A. L. Kalleberg (2004). Contesting time: International comparisons of employee control of working time. *Industrial and Labor Relations Review 57*(3), 331–349.

Blanchard, O. (2004, Summer). The economic future of europe. *Journal of Economic Perspectives 18*(4), 3–26.

Bluestone, B. and S. Rose (2000). The enigma of working time trends. pp. 21–37. Routledge.

Boeri, T., A. Brugiavini, L. Calmfors, and F. Debenedetti (2001). *The role of unions in the twenty-first century*. Oxford University Press, USA.

Booth, A. and F. Schiantarelli (1987). The employment effects of a shorter working week. *Economica*, 237–248.

Bosch, G. and S. Lehndorff (2001). Working-time reduction and employment: experiences in Europe and economic policy recommendations. *Cambridge Journal of Economics 25*(2), 209–243.

Bourdieu, J. and B. Reynaud (2006). Factory discipline, health and externalities in the reduction of working time in nineteenth century France. *Socio-Economic Review 4*(1), 93–118.

Buell, P. and L. Breslow (1960). Mortality from coronary heart disease in California men who work long hours. *Journal of chronic diseases 11*, 615.

Burke, R. J. and C. L. Cooper (Eds.) (2008). *The Long Work Hours Culture: Causes, consequences, and choices*. Emerald.

Burkett, P. (2000). Natural, social, and political limits to work time: The contemporary relevance of Marx's analysis. In L. Golden and D. Figart (Eds.), *Working Time: International trends, theory and policy perspectives*, pp. 143–158. Routledge.

Calmfors, L. (1985). Work sharing, employment and wages. *European Economic Review 27*(3), 293–309.

Card, D. (2001). The effect of unions on wage inequality in the US labor market. *Industrial and Labor Relations Review*, 296–315.

Caruso, C., E. Hitchcock, R. Dick, J. Russo, and J. Schmit (2004). Overtime and extended work shifts: recent findings on illnesses, injuries, and health behaviors. *Washington DC: National Institute of Occupational Safety and Health*, 2004–143.

Chapman, S. J. (1909). Hours of Labour. *The Economic Journal*, 353–373.

Clarkberg, M. and P. Moen (2001). Understanding the time-squeeze. *American Behavioral Scientist 44*(7), 1115–1136.

Coleman, M. and J. Pencavel (1993a). Changes in work hours of male employees, 1940-1988. *Industrial and Labor Relations Review*, 262–283.

Coleman, M. and J. Pencavel (1993b). Trends in market work behavior of women since 1940. *Industrial and Labor Relations Review*, 653–676.

Cutler, J. C. (2004). *Labor's Time: Shorter Hours, the UAW and the Struggle for American Unionism*. Temple University Press.

Davis, S. J. and M. Henrekson (2004, May). Tax effects on work activity, industry mix and shadow economy size: Evidence from rich-country comparisons. Working Paper 10509, National Bureau of Economic Research.

Epstein, C. F. and A. L. Kalleberg (2001, February). Time and the sociology of work. *Work and Occupations 28*(1), 5–16.

Fagan, C. (2004). Gender and working time in industrialized countries. In J. Messenger (Ed.), *Working time and workers' preferences in industrialized countries: finding the balance*. Routledge.

Feather, P. and W. Shaw (2000). The demand for leisure time in the presence of constrained work hours. *Economic Inquiry 38*(4), 651–661.

Fleck, S. E. (2009, May). International comparisons of hours worked: an assessment of the statistics. *Monthly Labor Review*, 3–31.

Friedman, W. and J. Casner-Lotto (2003). *Time is of the essence: New scheduling options for unionized employees*. Berkeley: Work in America Institute, Labor Project for Working Families.

Galinsky, E., S. Kim, and J. Bond (2001). Feeling overworked: When work becomes too much. Report, New York: Families and Work Institute.

George, D. (1997, January). Working longer hours: Pressure from the boss or pressure from the marketers? *Review of Social Economy 55*(1), 33–65.

Glaeser, E., B. Sacerdote, and J. Scheinkman (2003). The social multiplier. *Journal of the European Economic Association 1*(2-3), 345–353.

Golden, L. (2006). Overemployment in the United States: Which workers are willing to reduce their work-hours and income? In J.-Y. Boulin, M. Lallement, J. C. Messenger, and F. Michon (Eds.), *Decent working time: new trends, new issues*, pp. 209–234. Intl Labour Organisation.

Golden, L. and M. Altman (2008). Why do people overwork? oversupply of hours of labor, labor market forces and adaptive preferences. In R. J. Burke and C. L. Cooper (Eds.), *The Long Hours Culture: Causes, consequences and choices*, pp. 61–84. Emerald.

Gornick, J. (1999). Gender equality in the labor market. In D. Sainsbury (Ed.), *Gender and Welfare State Regimes*. Oxford University Press.

Gornick, J. and A. Heron (2006, June). The regulation of working time as work-family reconciliation policy: Comparing Europe, Japan, and the United States. *Journal of Comparative Policy Analysis 8*(2), 149–166.

Gornick, J. C. and M. K. Meyers (2003). *Families that Work: Policies for Reconciling Parenthood and Employment*. Russell Sage Foundation.

Hamermesh, D. and A. Rees (1984). *The economics of work and pay*. HarperCollins Publishers.

Hanecke, K., S. Tiedemann, F. Nachreiner, and H. Grzech-Sukalo (1998). Accident risk as a function of hour at work and time of day as determined from accident data and exposure models for the German working population. *Scandinavian journal of work, environment & health. Supplement 24*(3), 43–48.

Heckman, J. J. (1979). Sample selection bias as a specification error. *Econometrica 47*(1), 153–161.

Hochschild, A. R. (1997). *The Time Bind: When Work Becomes Home and Home Becomes Work*. Metropolitan Books.

Huberman, M. (2005). Working hours of the world unite? New international evidence of worktime, 1870–1913. *The Journal of Economic History 64*(04), 964–1001.

Hunnicutt, B. K. (1988). *Work Without End: Abandoning Shorter Hours for the Right to Work*. Temple University Press.

Hunt, J. (1999). Has Work-Sharing Worked In Germany? *Quarterly Journal of Economics 114*(1), 117–148.

Hunt, J. and L. F. Katz (1998). Hours reductions as work-sharing. *Brookings Papers on Economic Activity*, 339–381.

Israeli Ministry of Finance (1997). Annual state revenue report. Technical report, Israeli Ministry of Finance.

Jacobs, J. and J. Gornick (2002, May). Hours of paid work in duel earner couples: The U.S. in cross-national perspective. *Sociological Focus 35*(2), 169–187.

Jacobs, J. A. and K. Gerson (2001, February). Overworked individuals or overworked families?: Explaining trends in work, leisure, and family time. *Work and Occupations 28*(1), 40–63.

Jacobs, J. A. and K. Gerson (2004). *The Time Divide: Work, Family and Gender Inequality*. Harvard University Press.

Kapteyn, A., A. Kalwij, and A. Zaidi (2004). The myth of worksharing. *Labour Economics 11*(3), 293–313.

Kuhn, P. and F. Lozano (2006, January). The expanding workweek? understanding trends in long work hours among u.s. men, 1979-2004. Technical Report 1924, Forschungsinstitut zur Zukunft der Arbeit/Institute for the Study of Labor, Bonn, Germany.

Lamberg, L. (2004). Impact of long working hours explored. *JAMA: Journal of the American Medical Association 292*(1), 25–26.

Lang, K. and S. Kahn (2001). Hours constraints: Thoery, evidence, and policy implications. In G. Wong and G. Picot (Eds.), *Working Time in Comparative Perspective. Volume I: Patterns, Trends, and the Policy Implications for Earnings Inequality and Unemployment.*, pp. 261–287. WE Upjohn Institute for Employment Research.

Lee, S., D. McCann, and J. Messenger (2007). *Working Time Around the World: Trends in working hours, laws, and policies in a global comparative perspective*. Routledge and ILO.

Liu, Y. and H. Tanaka (2002). Overtime work, insufficient sleep, and risk of non-fatal acute myocardial infarction in Japanese men.

Luxembourg Income Study (LIS) Database. http://www.lisproject.org/techdoc.htm (multiple countries; accessed January 2009 to November 2009).

Maddison, A. (1995). *Monitoring the World Economy, 1820-1992*, Volume Development Centre Studies, OECD. Paris: OECD.

Marx, K. (1990). *Capital, vol. I*. London: Penguin Books.

McCann, D. (2004). Regulating working time needs and preferences. In J. Messenger (Ed.), *Working time and workers' preferences in industrialized countries: finding the balance*. Routledge.

McCann, D. (2005). *Working time laws: a global perspective*. International Labor Organization.

Nyland, C. (1989). *Reduced worktime and the management of production*. Cambridge University Prress.

OECD (2004). *Employment Outlook*. Organization for Economic Cooperation and Development.

OECD (2008). *Taxing Wages 2007/2008*. Organization for Economic Co-operation and Development.

Osberg, L. (2002, January). Understanding growth and inequality trends: The role of labor supply in the usa and germany. *Canadian Public Policy 29*.

Prasch, R. E. (2000). Reassessing the labor supply curve. *Journal of Economic Issues 34*(3), 679–692.

Prescott, E. C. (2004, July). Why do americans work so much more than europeans? *Federal Reserve Bank of Minneapolis Quarterly Review 28*(1), 2–13.

Putnam, R. D. (2000). *Bowling Alone: The collapse and revival of American community*. Simon & Schuster.

Ramey, V. A. and N. Francis (2006, May). A century of work and leisure. Technical Report 12264, National Bureau of Economic Research.

Reynolds, J. (2003). You can't always get the hours you want: Mismatches between actual and preferred work hours in the United States. *Social Forces 81*(4), 1171–199.

Reynolds, J. (2004, March). When too much is not enough: Actual and preferred work hours in the United States and abroad. *Sociological Forum 19*(1), 89–120.

Robinson, J. and G. Godbey (1997). *Time for Life: The surprising ways Americans use their time*. Pennsylvania State University Press.

Roche, W., B. Fynes, and T. Morrissey (1996). Working time and employment: A review of international evidence. *International Labour Review 135*, 129.

Roediger, D. R. and P. S. Foner (1989). *Our Own Time: A History of American Labor and the Working Day*. Verso.

Rogerson, R. (2008). Structural transformation and the deterioration of european labor market outcomes. *Journal of Political Economy 116*(2), 235–259.

Rones, P. L., J. M. Gardner, and R. E. Ilg (2001). Trends in hours of work in the United States. In G. Wong and G. Picot (Eds.), *Working Time in Comparative Perspective. Volume I: Patterns, Trends, and the Policy Implications for Earnings Inequality and Unemployment.*, pp. 45–70. WE Upjohn Institute for Employment Research.

Sartori, A. E. (2003). An estimator for some binary-outcome selection models without exclusion restrictions. *Political Analysis 11*, 111–138.

Schor, J. (1991). *The Overworked American: The Unexpected Decline of Leisure*. Basic Books.

Schor, J. (1994). Worktime in a contemporary context: Amending the FLSA. *Chicago-Kent Law 70*(1), 157–72.

Schor, J. (1999). *The Overspent American: Upscaling, Downshifting, and the New Consumer*. Basic Books.

Sparks, K., C. Cooper, Y. Fried, and A. Shirom (1997). The effects of hours of work on health: A meta-analytic review. *Journal of occupational and organizational psychology 70*(4), 391–408.

Spurgeon, A., J. Harrington, and C. Cooper (1997). Health and safety problems associated with long working hours: a review of the current position. *British Medical Journal 54*(6), 367–375.

Stier, H. and N. Lewin-Epstein (2003, August). Time to work: A comparative analysis of preferences for working hours. *Work and Occupations 30*(3), 302–326.

Thompson, E. (1967). Time, work-discipline, and industrial capitalism. *Past & Present 38*(1), 56–97.

Verbakel, E. and T. DiPrete (2008, December). Non-working time, income inequality, and quality of life comparisons: The case of the U.S. vs. the Netherlands. *Social Forces 87*(2), 679–712.

Visser, J. (2009). Database on institutional characteristics of trade unions, wage setting, state intervention and social pacts in 34 countries between 1960 and 2007.

Walker, T. (2000). The 'lump-of-labor' case against work-sharing: Populist fallacy or marginalist throwback? In L. Golden and D. Figart (Eds.), *Working Time: International trends, theory and policy perspectives*, pp. 196–211. Routledge.

Walker, T. (2007). Why economists dislike a lump of labor. *Review of Social Economy 65*(3), 279–291.

Yang, H., P. L. Schnall, M. Jauregui, T.-C. Su, and D. Baker (2006). Work hours and self-reported hypertension among working people in california. *Hypertension 48*, 744–750.

A Earnings and education level

Table A shows the percentage of full-time workers that earn more than the median full-time annual earnings in their country, by gender and educational attainment.

B Country-level regression estimates

Tables B and C below report the full set of covariates, with coefficients and standard errors, for the individual-level regressions discussed in the main text.

Table A: Percentage of full-time workers earning more than the median full-time wage, by gender and education.

		Country															
		US	DE	NL	FR	IE	IT	GR	AT	UK	BE	RU	MX	ES	HU	LU	IL
All	High ed.	80	53	53	62	42	62	58	68	49	59	55	57	52	67	67	71
	Med ed.	52	38	35	49	44	44	45	41	35	48	46	22	39	44	42	53
	Low ed.	25	22	22	23	24	27	20	25	15	34	41	5	21	16	18	30
Men	High ed.	84	65	77	67	52	62	58	76	60	72	59	53	57	61	73	75
	Med ed.	55	54	57	53	43	42	42	46	44	57	52	23	40	41	47	59
	Low ed.	27	26	29	24	30	20	21	30	24	34	36	4	22	13	22	30
Women	High ed.	83	38	38	59	48	71	68	55	35	64	66	66	53	63	66	77
	Med ed.	50	25	20	44	26	40	37	32	19	44	51	20	35	46	40	53
	Low ed.	21	17	12	18	15	23	15	16	6	24	41	7	14	15	9	28

Table B: Linear regression: male hours

Variable	at00	be00	ch00	de00	es00	fr00	gr00	hu99
rage	-0.118	-0.06	-0.296	-0.136	-0.104	0.068	-0.149	-0.064
	(0.084)	(0.086)	(0.069)	(0.078)	(0.082)	(0.041)	(0.086)	(0.127)
ragesq	0.003	-0.017	-0.014	-0.012	-0.003	-0.011	0.004	0.015
	(0.007)	(0.009)	(0.006)	(0.006)	(0.008)	(0.004)	(0.009)	(0.009)
hieduc	1.388	3.402	2.011	4.112	1.8	2.92	-6.086	-2.229
	(1.58)	(1.764)	(1.722)	(1.492)	(1.036)	(0.634)	(1.213)	(1.979)
mededuc	0.86	0.827	-0.683	-0.996	1.901	1.617	-2.531	-0.32
	(1.178)	(1.829)	(1.56)	(1.44)	(1.037)	(0.579)	(1.097)	(1.719)
otheduc		-5.795	-4.545	-0.374	5.737			
		(5.232)	(1.664)	(2.882)	(1.21)			
infant	-3.871	-0.792	-9.737	-11.588	-4.45	0.922	-1.002	12.685
	(2.413)	(1.928)	(2.077)	(2.182)	(1.534)	(0.985)	(1.963)	(9.175)
toddler	-8.964	-0.921	-10.187	-7.66	-3.412	0.024	-2.431	-3.358
	(2.468)	(1.982)	(2.121)	(1.643)	(2.009)	(1.19)	(2.203)	(2.417)
oldchild	-4.31	-2.392	-4.692	-1.029	-3.038	0.454	-0.844	-0.128
	(1.706)	(1.871)	(1.772)	(1.323)	(1.578)	(0.972)	(1.728)	(2.025)
numchild	-0.905	-1.951	-3.288	-3.938	0.688	-1.756	0.198	-0.536
	(0.846)	(0.827)	(0.826)	(0.688)	(0.786)	(0.499)	(0.818)	(1.15)
spemp1	-4.99	-2.34	-4.22	-1.706	-0.113	-4.799	0.171	-1.636
	(1.599)	(1.587)	(0.94)	(1.861)	(2.059)	(1.429)	(1.72)	(1.652)
spnonemp1	-4.076	-0.866	-1.303	2.265	-1.759	-4.906	-2.617	-3.285
	(2.171)	(2.42)	(2.213)	(2.062)	(2.638)	(1.596)	(1.96)	(1.858)
homeown	-1.218	-2.45	-0.534	-1.476	2.585	-1.035	2.761	-3.1
	(0.99)	(1.752)	(0.867)	(0.632)	(1.455)	(0.512)	(1.185)	(1.738)
othinc	0.222	-0.016	-0.455	0.866	0.138	1.914	2.503	-0.637
	(0.532)	(0.71)	(1.616)	(0.737)	(0.466)	(0.493)	(1.349)	(0.509)
selfemp	9.12	15.066	-1.575	9.438	9.173	5.954	11.492	4.835
	(4.757)	(3.474)	(2.013)	(2.269)	(2.324)	(2.86)	(1.785)	(2.655)
old6574	-0.95	5.473	-2.304	-1.019	4.063	-0.958	-0.599	0.446
	(2.689)	(9.824)	(3.934)	(3.944)	(3.016)	(1.975)	(2.098)	(2.059)
oldge75	3.218	5.106	2.411	-1.205	1.578	2.292	-1.448	1.932
	(1.659)	(4.572)	(4.737)	(2.54)	(1.891)	(2.689)	(1.877)	(1.275)
_cons	39.813	40.303	39.789	38.613	33.701	38.855	39.005	48.945
	(1.864)	(2.61)	(2.119)	(2.18)	(2.835)	(1.455)	(2.048)	(3.148)
N	703	729	941	2704	837	2629	620	535

Table B: Linear regression: male hours (continued)

Variable	ie00	il01	it00	lu00	mx00	nl99	ru00	uk99	us00
rage	-0.334	0.118	-0.04	-0.264	0.101	-0.206	-0.199	-0.104	-0.013
	(0.104)	(0.075)	(0.068)	(0.098)	(0.093)	(0.064)	(0.082)	(0.027)	(0.02)
ragesq	0.006	-0.032	-0.002	-0.008	-0.02	-0.015	-0.002	-0.015	-0.005
	(0.01)	(0.006)	(0.006)	(0.009)	(0.01)	(0.006)	(0.007)	(0.002)	(0.002)
hieduc	3.05	-0.165	-2.307	0.883	-5.649	7.644	-1.46	6.726	0.656
	(1.524)	(1.097)	(1.036)	(1.437)	(1.263)	(0.965)	(1.291)	(0.39)	(0.478)
mededuc	3.142	0.952	-0.105	-0.517	-1.804	2.749	-0.887	2.481	-0.352
	(1.344)	(1.122)	(0.837)	(1.504)	(1.272)	(0.916)	(1.409)	(0.658)	(0.46)
otheduc		8.091		9.766		10.445			
		(12.644)		(3.361)		(3.452)			
infant	-2.487	-1.723	-1.862	0.608	-1.98	-8.476	-4.827	-7.379	-2.783
	(2.045)	(1.429)	(1.704)	(2.229)	(2.172)	(1.237)	(2.394)	(0.69)	(0.479)
toddler	-2.758	-0.701	-2.162	-0.311	-1.945	-7.188	-6.87	-6.892	-1.72
	(2.59)	(1.421)	(1.531)	(2.806)	(2.111)	(1.608)	(2.252)	(0.77)	(0.5)
oldchild	-0.77	0.679	0.273	-1.404	-2.807	-4.739	-2.479	-1.686	-0.858
	(1.679)	(1.076)	(1.311)	(2.767)	(1.75)	(1.292)	(1.338)	(0.568)	(0.354)
numchild	-1.332	-2.418	-1.328	-3.144	-1.2	-2.111	0.022	-2.431	-1.247
	(0.677)	(0.369)	(0.702)	(1.365)	(0.642)	(0.553)	(0.834)	(0.268)	(0.165)
spemp1	1.23	0.559	-0.524	-6.334	-2.825	-6.116	3.755	-2.113	-1.166
	(2.135)	(1.657)	(1.379)	(1.413)	(1.699)	(1.274)	(2.163)	(0.572)	(0.328)
spnonemp1	5.45	-2.428	-0.121	-7.389	-3.662	0.54	4.39	-1.365	-0.155
	(3.264)	(1.925)	(2.009)	(3.435)	(3.84)	(2.595)	(2.574)	(0.844)	(0.499)
homeown	-0.18	-0.199	0.686	-3.362	-1.187	0.574	0.571	0.406	-0.798
	(2.78)	(0.84)	(0.761)	(1.144)	(1.054)	(0.847)	(1.71)	(0.462)	(0.266)
othinc	0.764	2.209	-0.833	1.009	7.963	0.527	4.411	0.554	-0.217
	(0.717)	(0.618)	(0.457)	(0.934)	(2.017)	(0.332)	(1.71)	(0.145)	(0.076)
selfemp	7.548		2.009	18.897	1.738	5.2	5.477	2.426	-1.276
	(3.463)		(1.457)	(5.838)	(2.923)	(2.356)	(2.019)	(1.147)	(0.712)
old6574	1.978	-0.647	0.366	-3.757	-1.715	-4.473	0.69	0.668	-0.532
	(3.965)	(1.761)	(1)	(5)	(2.306)	(3.518)	(1.576)	(1.287)	(0.701)
oldge75	3.77	3.386	-0.634	0.61	4.609	2.596	-0.121	2.93	0.94
	(2.334)	(1.728)	(1.588)	(3.824)	(2.931)	(2.342)	(2.249)	(1.52)	(0.897)
_cons	31.019	39.337	37.182	44.101	26.733	34.304	30.521	39.09	42.595
	(3.476)	(2.355)	(1.545)	(1.932)	(6.208)	(1.479)	(5.096)	(0.752)	(0.604)
N	690	1633	1716	675	1145	1453	773	6685	12937

Table C: Linear regression: female hours

Variable	at00	be00	ch00	de00	es00	fr00	gr00	hu99
rage	0.084	-0.044	-0.037	0.229	0.004	0.224	-0.27	-0.24
	(0.118)	(0.077)	(0.06)	(0.091)	(0.059)	(0.044)	(0.097)	(0.137)
ragesq	-0.01	-0.005	0	-0.019	-0.006	-0.013	0.016	0.004
	(0.008)	(0.006)	(0.005)	(0.006)	(0.006)	(0.003)	(0.007)	(0.009)
hieduc	-1.112	2.124	1.034	1.73	-1.881	2.911	-5.001	-2.133
	(1.488)	(0.982)	(1.209)	(0.896)	(0.899)	(0.54)	(1.1)	(2.285)
mededuc	-1.067	-0.203	1.213	1.104	-2.124	0.289	-1.672	-4.099
	(1.009)	(0.998)	(1.154)	(0.812)	(0.676)	(0.4)	(1.023)	(1.73)
otheduc		-1.35	-11.052	0.032	-4.687			
		(1.107)	(11.514)	(3.481)	(1.072)			
infant	-0.856	-1.575	-1.287	-1.849	0.942	0.554	-3.179	-1.23
	(1.62)	(1.554)	(1.167)	(1.356)	(1.353)	(0.812)	(1.75)	(2.61)
toddler	-1.754	-0.744	-0.56	-1.416	1.349	-0.806	-0.936	-0.371
	(2.78)	(1.702)	(1.137)	(1.277)	(1.782)	(0.876)	(1.906)	(2.585)
oldchild	0.056	-0.548	-1.012	-1.033	1.889	-0.969	-0.788	2.083
	(1.5)	(1.229)	(1.224)	(1.165)	(1.385)	(0.758)	(1.743)	(2.007)
numchild	0.595	0.718	0.206	0.459	-0.787	0.264	1.589	-0.069
	(0.846)	(0.529)	(0.454)	(0.484)	(0.763)	(0.354)	(0.838)	(1.03)
spemp1	0.939	1.905	3.266	4.173	1.396	0.925	1.94	1.305
	(1.509)	(1.342)	(0.989)	(2.293)	(1.133)	(0.98)	(1.63)	(2.176)
spnonemp1	-0.279	1.067	3.293	5.581	1.14	2.734	3.598	2.531
	(2.044)	(1.802)	(1.191)	(2.297)	(1.217)	(1.013)	(1.677)	(2.325)
homeown	1.373	-0.196	0.097	-0.51	0.513	-1.108	0.254	-1.016
	(0.903)	(1.256)	(0.634)	(0.687)	(0.825)	(0.41)	(0.959)	(2.225)
othinc	-0.068	0.162	-0.533	0.467	-0.245	0.168	-0.533	1.098
	(0.406)	(0.615)	(1.208)	(0.43)	(0.218)	(0.367)	(1.329)	(0.488)
selfemp	9.768	12.076	5.947	10.525	8.968	8.572	10.119	3.497
	(2.724)	(1.441)	(1.313)	(1.471)	(1.039)	(1.546)	(0.957)	(2.456)
old6574	0.501	-4.067	0.981	-5.574	-1.238	-0.321	-0.924	0.368
	(1.634)	(2.534)	(2.048)	(3.869)	(1.371)	(1.63)	(1.262)	(1.601)
oldge75	-0.191	6.865	-3.696	1.01	1.155	-2.8	-0.642	-0.267
	(1.719)	(4.774)	(3.166)	(2.084)	(1.568)	(1.961)	(1.806)	(1.663)
_cons	41.706	40.702	37.824	39.065	42.305	39.487	41.178	43.707
	(1.712)	(1.67)	(1.599)	(2.163)	(1.409)	(0.95)	(1.864)	(2.85)
N	831	796	1231	2931	1029	2518	771	438

Table C: Linear regression: female hours (continued)

Variable	ie00	il01	it00	lu00	mx00	nl99	ru00	uk99	us00
rage	-0.157	0.259	0.059	0.052	-0.136	-0.084	0.026	0.108	0.09
	(0.091)	(0.086)	(0.069)	(0.075)	(0.125)	(0.064)	(0.13)	(0.028)	(0.019)
ragesq	-0.009	-0.023	-0.011	-0.011	0.009	0.003	-0.013	-0.011	-0.009
	(0.008)	(0.007)	(0.005)	(0.006)	(0.01)	(0.005)	(0.009)	(0.002)	(0.002)
hieduc	-3.324	0.085	-2.084	1.904	-5.095	0.805	-2.974	0.439	3.198
	(1.248)	(1.028)	(0.9)	(1.006)	(1.79)	(1.22)	(1.508)	(0.331)	(0.334)
mededuc	-1.084	0.812	-0.962	0.933	-2.838	-0.771	-0.551	-0.644	1.382
	(1.06)	(1.083)	(0.622)	(0.779)	(1.655)	(1.117)	(1.491)	(0.642)	(0.318)
otheduc		-11.59		5.237		-1.464			
		(6.17)		(2.705)		(2.682)			
infant	-0.29	5.132	2.156	-0.317	-1.838	0.073	5.373	0.186	-0.132
	(1.581)	(1.489)	(1.512)	(1.297)	(2.697)	(1.223)	(3.242)	(0.624)	(0.4)
toddler	2.087	7.806	0.395	-0.1	-2.077	-0.044	-1.474	0.952	-0.959
	(2.307)	(1.587)	(1.431)	(1.592)	(3.359)	(1.263)	(2.569)	(0.697)	(0.421)
oldchild	1.427	5.311	1.089	0.407	-0.727	1.785	1.136	1.269	-0.78
	(1.732)	(1.21)	(1.127)	(1.498)	(2.119)	(1.099)	(1.764)	(0.537)	(0.313)
numchild	0.949	-2.479	0.074	-0.117	-0.648	-0.017	0.5	-0.133	0.285
	(0.601)	(0.507)	(0.638)	(0.736)	(0.961)	(0.467)	(1.105)	(0.253)	(0.134)
spemp1	-2.115	2.747	1.214	-0.498	4.325	1.68	2.035	2.127	1.202
	(1.836)	(1.651)	(1.111)	(1.331)	(2.435)	(1.687)	(2.324)	(0.5)	(0.334)
spnonemp1	-0.908	3.287	0.426	0.931	3.926	3.036	-3.99	3.885	3.03
	(1.997)	(1.948)	(1.094)	(1.347)	(3.401)	(1.654)	(5.303)	(0.733)	(0.391)
homeown	3.458	-0.016	0.212	-2.015	0.494	0.302	-3.45	-0.748	0.434
	(1.772)	(0.98)	(0.586)	(0.868)	(1.553)	(0.743)	(1.855)	(0.452)	(0.266)
othinc	0.05	1.248	-0.804	0.167	1.974	0.197	6.114	0.115	0.267
	(0.65)	(0.83)	(0.319)	(0.711)	(2.498)	(0.254)	(1.98)	(0.125)	(0.073)
selfemp	8.235		7.872	11.211	1.954	11.277	3.351	4.07	4.22
	(1.494)		(0.885)	(3.014)	(1.522)	(1.923)	(2.555)	(0.548)	(0.425)
old6574	-1.69	-2.823	1.035	-0.206	-4.347	-0.295	-1.173	-0.873	-1.522
	(2.388)	(1.999)	(1.318)	(1.833)	(2.548)	(2.466)	(1.495)	(1.165)	(0.551)
oldge75	7.43	-3.044	0.713	1.309	3.642	-1.087	-2.478	0	-1
	(4.566)	(1.792)	(1.466)	(3.408)	(2.291)	(2.826)	(2.06)	(1.445)	(0.752)
_cons	42.056	46.181	41.155	44.84	42.51	38.321	35.811	45.128	41.165
	(2.39)	(2.672)	(1.098)	(1.531)	(8.403)	(2.341)	(5.245)	(0.669)	(0.488)
N	777	1487	2168	802	1076	1591	645	6885	13859