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Time, Money and Inequality in International Perspective

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Abstract

Across OECD countries there are large differences in the average level and trend of working hours and there is persuasive evidence that attitudes to paid employment, particularly for women, differ significantly. This paper therefore asks the question: "How much of the difference between countries in inequality of the distribution of money income can be explained by differing probabilities of paid employment?" Luxembourg Income Study data on the USA, UK, Canada, Germany, France and Sweden is used to simulate the income distributions that other countries would have if they had the US (or German) female, and total, employment rate**.** In every case, measured trans-Atlantic differences in the inequality of money income increase - hence observed differences understate the extent of differences in well being. Put simply, in the US the less affluent have to work harder, and still end up relatively poorer, than in other countries.

1. Introduction

In thinking about economic inequality, it is a bit surprising that there has not been more attention paid to differences in non-work time.[1] Economists are interested in the distribution of money income primarily because it is thought to be a good guide to the distribution of economic well being - but there is good reason to think that people care about both money income and the amount of time they have to use to earn that income. If so, then measuring differences in inequality with reference solely to differences in the distribution of money income will produce misleading results, if money income differences are heavily influenced by differences in working time.

[Figure 1 about here]

The issue is likely to be important for cross country comparisons because differences across countries in average working time are now large - and Europe and the USA seem to be following different trends. For example, ILO data indicate that from 1980 to 2000, average actual working hours per adult (ages 15-64) rose by 234 hours in the USA to 1476 while falling by 170 hours in Germany, to 973. As Figure 1 illustrates, although Canada, France, Germany, Sweden, the United Kingdom and the United States all had average actual hours of paid work per adult which clustered in a fairly narrow interval in 1980, by 2000 the differential in actual hours of paid work was quite dramatic. When average working hours change to this degree, it is reasonable to ask whether the inequality of working hours might also have been changing - and whether trends in inequality of well being can reasonably ignore trends in working hours.

The measurement of working hours is, however, far from unproblematic[2]. As well, international differences in working hours per adult arise from differences in common entitlements to holiday and vacation time, differences in workforce participation and differences in hours of paid labour supply, conditional on participation. Differences between countries in average working hours per adult are sometimes dominated by differences in labour force participation (often called the "extensive margin" of labour supply) while the distribution

[1] Exceptions include: Jenkins and O'Leary (1996), Lee (2001), Doiron and Barrett (1996), Burtless (1993).

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The distinction between "actual" and "usual" hours of work per week is particularly important for comparative analysis. Because "usual" hours is working time during a "typical" week, usual hours do not capture international differences in paid holidays or vacation time. The conference version of this paper (available at http://is.dal.ca/~osberg/home.html) presents data from the OECD Growth Project (see DSTI/EAS/IND/SWP(2001)16) and the University of Groningen and The Conference Board, GGDC Total Economy Database, 2002,(available at http://www.eco.rug.nl/ggdc), which provide somewhat different estimates of actual hours of work per employee than the ILO. There are differences in detail but the same basic picture emerges of widening differences in average actual work hours between the USA and France/Germany.

of hours among those with some employment (i.e. the "intensive margin" of labour supply) may be more similar across countries. Osberg's data (2002a) indicates that the Germany/USA difference in household paid labour supply is primarily driven by differences in workforce participation. If so, the correlation between household members in probability of employment will be particularly important for inequality and social exclusion.

Section 2 therefore begins this paper with a discussion of the problems which consideration of working time creates for the comparison of relative levels of inequality across countries. It argues that differences between countries in the probability of participation in the paid labour market (i.e. differences at the extensive margin of individual labour supply) are responsible for much of the inter-country differences in average usual hours of work that have emerged in recent years. These differences are particularly marked for women, and there is some evidence that they are consistent with differing attitudes across countries to the relative importance of paid work and of child care and unpaid household production. Section 3 therefore proposes a methodology for assessing the extent to which differences in workforce participation may help to explain cross-country comparisons of money income inequality. Section 4 compares the actual distribution across individuals of equivalent disposable (after tax, after transfer) household money income with the results of two sets of simulations - one in which other nations' female workforce participation rates are increased to the US level and their aggregate participation rates rise to the US level and a second set in which the inequality outcomes of all nations are simulated at German levels of workforce participation. Section 5 concludes.

2. Inequality in Well-Being, Work and Money Income

In Figure 1, the countries plotted seem to group themselves into three broad types, with Canada, Sweden and the UK having very similar trends, intermediate between those observed in the USA and France/Germany. The trends in working time observed in Figure 1 do not just indicate that European labour markets were not able to generate as many jobs as the USA. If one adds to actual work hours the total number of unemployment hours (assuming that the desired weekly hours of the unemployed equal the actual weekly hours of the employed) differences are narrowed a bit, but the picture is not much changed (see Osberg, 2002b). Adding together hours

of actual work for pay and desired work (unemployment)in the year 2000, the average adult aged 15 to 64 in the USA supplied about 9 hours per week more time to the paid labour market than in France or Germany.

In thinking about the relationship between time and money income, neo-classical labour supply theory usually starts, in a one period model, with each individual maximizing a utility function, as in equation (1):

(1) $$U = u(C, L)$$

In this model, C represents consumption and L represents non-work time. The wage rate available in the paid labour market (w) and the total time (T) available for hours of paid work (H) and non-work time (L) are seen as the fundamentals which drive the time and money income constraints, as per equations (2) and (3).[1]

2 $$H + L = T$$

3 $$C = wH.$$

In this model, individuals are seen as choosing hours of work (H) to maximize utility (U). If it were really true that individuals could always obtain as many hours of work as they desired, at a constant real wage, then one could think of "full income" (wT) as the potential consumption available to each person (see Becker,). An individual's money income would, in this view, represent that person's choice to consume part of their potential income in the form of material goods rather than as leisure time - and one might as well summarize the options available to them in the hourly wage (w), since total time (T) is a constant.

[Figure 2 about here]

The labour/leisure choice model has many deficiencies, but it can also be used to motivate a discussion of why consideration of working time might affect the measurement of inequality. Figure 2 is constructed to represent the possible impact of differing leisure preferences on observed inequality. Imagine that two societies (labeled A and B) are exactly alike in the income earning opportunities which they present to the rich and the poor - as represented by the budget

[1] Clearly, this formulation assumes that work hours are available without quantity constraint at a constant real wage, without progressive taxation. Non-labour income (from capital or transfer payments) is assumed to be zero, and any complications of job matching or human capital investment through on the job training are ignored.

lines *Y* and *Y'* in Figure 2[2]. Imagine also that society A has more materialistic preferences, so that rich people in A maximize their utility at point *a'* (implying money income α') and poor people in A maximize their utility at point *a* (implying money income α). In less materialistic country B, which has different preferences but exactly the same choice set, rich people maximize utility at *b'* (hence have money income β') and poor people maximize utility at *b* (with money income β). It is clear that money income differences are greater in A than in B [αα' > ββ']. Money income inequality is greater in A than in B, although income earning opportunities are the same, because in A people prefer to take more of any given level of potential income in the form of cash income, rather than leisure (graphically, the expansion path of goods consumption with greater earnings potential has a steeper slope).

If this were a reasonable picture of the world, and if one were to assume that the USA is a more materialistic society than other nations, then this model might help to explain the greater inequality of money income - and the longer average hours of work, and higher average money incomes - in the USA than in Europe. [As well, this model requires approximately equal per hour labour productivity and predicts a lower variance of hours worked in the USA (for the adult population as a whole) than in Europe, both which are also true.] Its implication for the comparison of inequality across nations is that a correction for differences in tastes would narrow differences in the inequality of money income.

However, the trends in average actual hours of work per person of working age outlined in Figures 1 mingle the effects of trends in:

1. Common entitlements to leisure (i.e. paid public holidays, statutory paid vacations, etc.)
2. Individual participation in the paid workforce (often called the *extensive margin* of labour supply) and
3. Hours of work of workers (often called the *intensive margin* of labour supply)

One could not expect trends in all three components to be driven by the same processes or have the same impacts on inequality. Common entitlements are determined by collective action, through the political process or in collective bargaining. By their nature, common entitlements are an equalizing element in the distribution of economic well being, but although

[2]Implicitly, Figure 3 portrays a world where rich and poor differ in financial assets held, but not in human capital, hence the hourly wages implicit in both budget constraints are identical. Inequality in both human and financial capital is a more realistic assumption, but the same basic point remains.

differences in such entitlements across nations can be significant[3], their determinants are not well understood. The number of paid public holidays is, for example, determined by a set of political processes quite different from the determinants of individual decisions to enter the workforce and to work specific hours. Figure 2 cannot explain why individuals (as voters) in some countries clearly prefer a different level of *common* entitlement from *collective* decision making, as opposed to choosing (as potential workers) *individually* optimal hours of work and leisure.

Figure 2 is a model of *individual* choice of the working time decisions *of workers* - i.e. labour supply at the intensive margin - and is best suited to analysis of inequality *among workers*. It assumes the non-existence of involuntary unemployment, but constraints on available hours of work are most acutely experienced by the lower paid.[4] Since inequality in access to employment often interacts with inequality in hourly wages, measuring inequality solely in terms of a "full income / hourly wage" (which is not actually available to the involuntarily unemployed) seems likely to be misleading.

Other work (Osberg 2002a) has indicated that, particularly for prime age males, the distribution of usual weekly hours of work *of workers* is very similar for Germany and the USA, except for the extreme lower tail of the distribution. Differences between these two countries in usual hours of work in the 1990s appear to be dominated by differences at the extensive margin of labour supply (especially among women and older men). As well, within the USA, the argument has been made that the trend over time to greater inequality in household income is partly driven by the correlation of potential earnings of husbands and wives and the workforce entry of well educated women. If well educated women tend to marry well educated (high income) men and in the 1950s tended to stay home, but in the 1990s tended to get paid jobs, then rising female employment may disproportionately swell the household income of upper income groups, thereby increasing measured inequality in household money income. If this were also an explanation of cross country differences in measured inequality, one might think that if workforce participation elsewhere were to increase to US levels, measured inequality in household money income in other countries would also rise. Conversely, if employment elsewhere were to fall to

[3]Using data from 1990, Bell and Freeman (1994:4) argue that: "Differences in weeks of vacation and holiday time translate into a 17% reduction in working time in Germany compared to a 9% reduction of work time in the United States, and therefore contribute .08 ln points to the annual hours gap between the two countries."

[4]Osberg and Phipps (1993:283) estimated, using the Labour Market Activity Survey of Statistics Canada that the Atkinson index of inequality (r=-0.5) of earned income in Canada would have fallen by about 30% if all Canadian workers had been able to obtain their desired weeks of work in 1986/87. In the interpretation of unemployment, many have also stressed that involuntary joblessness carries significant social and psychological costs - see Jahoda (1979).

German rates, measured money income inequality elsewhere should also fall, as secondary earners in higher income households exit the workforce. If all this is true, comparing inequality in the actual distribution of household money income "overstates" international differences in inequality.

This paper therefore focuses on the impact of international differences in probability of employment on international differences in inequality. It adopts an annual time frame for the probability of workforce participation, since all the advanced countries have a substantial segment of the population who are employed for part, but not all, of the year[5]. The issues of why *workers* in different countries may get different annual hours of work or why the political processes of Europe and the USA choose different common entitlements is left to other work (e.g Jenkins and Osberg (2002)).

[Table 1 about here]

Table 1 presents a decomposition of the difference in average usual hours of work in the USA and the UK, Canada, Germany, France and Sweden due to employment rate differences, and annual hours per worker differences.[6] Evidently, differences between countries in the proportion of the working age population who have any employment during a year are a large part of the total difference in average working hours per person - and particularly so for women - but why might these have arisen?

Freeman (2002) has suggested that one should think of the US/Europe employment gap in terms of the "marketization" of production. He argues that the EU "produces relatively more goods and services through household production and less through the market than the US" (2002:2). Although he suggests this has implications for relative employment levels in the low skill service sector, and argues generally for the efficiency advantages of greater female labour force participation, he does not really explain how or why such a large difference in marketization might have occurred. By leaving open the question of whether it is higher tax rates or differences in life style tastes that may be the crucial issue, he avoids judgement on whether differences in

[5]The annual average of monthly employment rates - Column 2 of Table 1 - is always substantially less than the percentage of the population who report employment at some point during a year - see Table 4.

[6] Note that since Table 1 uses an annual time frame, the cross national differential in working hours per worker mingles differences in working hours per week and working weeks per year.

preferences explain inter-country differences in hours of work or whether the crucial issue is differences in the incentives which individuals (of broadly similar preferences) face.

By contrast, sociologists such as Garhammer (1999) do not hesitate to assert that nations can be characterized in terms of a specific "time culture", in which social institutions (such as the non-working weekend, or the holiday period surrounding Christmas and New Year's) and other norms for time use are expressed in laws (such as working hour regulations, legal holidays, shop opening hours, etc.), collective agreements and individual habits (e.g. siestas). He argues that there has been a distinctive European model of time culture in which the social enjoyment of time is highly prized and both "time prosperity" and material wealth are valued. He notes, for example, that "the majority of middle-aged Germans define the quality of life to which they personally aspire as "not being rushed".(Garhammer, 1999:69).

Typically, economists have preferred to emphasize differences in incentives and have been reluctant to appeal to differences in preferences to explain international differences in outcomes, while sociologists (such as Garhammer) have seen the description of national differences in values as entirely legitimate (indeed, some would say, central to the discipline). These contrasting methodological models are quite important for the empirical analysis of the connection between working time and inequality. This paper's objective is to compare the extent of economic inequality across countries by "standardizing" the distribution of money income to account for differences in probability of working. However, the crucial issue is: "What thought experiment is in fact being performed?"

If preferences are similar across countries, and if actual working time differences reflect primarily differences in incentive structure, then one could not have a change in labour supply without a change in incentives. In this case, the appropriate thought experiment is of a change in incentives, and its impact on both money incomes and time worked, because the structure of income distribution processes (i.e. the net income obtainable from work, after taxes and after any impact of earnings on transfer payments) would have to change if working hours were to change. In this perspective, one should model, for example, the impact of a similar income tax regime on both net earned money income *and* working time.

However, if the sociologists are correct in asserting that differences in social values can be significant[7], then it makes sense to ask how the distribution of income would change if preferences were similar, but the structure of incentives were unchanged. In this perspective, one

[7]Scott et al (1996) examine the evolution of gender-role attitudes in the UK, Germany and the USA. The difference in levels of support for what they call "pro-feminist" attitudes is striking.

might, for example, examine what the German distribution of income would look like, if Germans had the same preferences for material goods and non-work time as Americans, but continued to face unchanged incentives in the labour market.

These contrasting methodological models are particularly relevant for analysis of the differences between countries in workforce participation since these participation differences are so heavily influenced by the extent of non-employment of women. If there are differences between countries in such "cultural" dimensions as social norms about the proper locus of care for young children and the relative importance of paid work and family life in the definition of personal identity, then these may be important determinants of differences in female workforce participation. Hakim (2000) is an example of the sociologists who have tried to explain the evolution of female attitudes to "home-centred" and "work-centred" models of identity. If national societies can evolve differently in these dimensions, then one can ask (without necessarily having to model differences in the income tax and social policy regimes) a question such as: "What would the German distribution of income look like if German women had similar attitudes to workforce participation as American women, but faced the same labour market incentives as they now do? (And one can also ask the converse question, as to what the US income distribution would look like, with German levels of workforce participation.)[8].

[Table 2 about here]

Although almost everyone may already have some opinions on national differences in social attitudes, one does not have to rely solely on casual observation and introspection. The World Values Survey and International Social Survey Program have, in repeated random samples, asked a comparable set of questions on social attitudes in advanced capitalist countries. Table 2 summarizes the results of some questions asked in the 1990-91 World Values Survey and 1998 ISSP survey rounds which were intended to probe social attitudes to "home-centred" and "work-centred" models of female identity.

[8]The problem with this thought experiment is that if Germans had different attitudes as workers, they may also have different attitudes as voters - and changes in social policy and labour market incentives might result. German social policy has been expressly framed to provide substantial financial incentives, for up to two years, for women to remain at home and care for their children (Phipps:1994,1998). Tax/transfer incentives strongly favor the "Traditional" model of the family and child care by stay-at-home mothers. By contrast, American social policy has provided no such support for mothers to stay at home (indeed welfare policy has shifted strongly to encouraging/requiring the labour force participation of social assistance clients). This article is, therefore, best thought of as a *ceteris paribus* approximation in which labour market attitudes change, but voting behavior does not - thereby holding constant the current tax/transfer regimes and wage payment structures in each country.

In thinking about whether to enter the workforce, women must compare the positive attractions of possible greater intrinsic satisfactions of work for pay, compared to work in the home, with a possible negative - a potential cost in relationships, particularly with children. To the extent that families make joint decisions on these issues, male attitudes on these issues also matter. To track the perception of these issues, the WVS asked respondents whether they agreed that "A working mother can establish just as warm and secure relationship with her children as a mother who does not work" and the ISSP asked whether respondents disagreed that "family life suffers when the woman has a full-time job". Although there is some clear evidence in Table 2 of generational effects, there are also strong national differences, even among the relatively young - e.g the difference between younger German and American women in the 1990-91 WVS was very large (twenty five percentage points). By 1998 there was less difference between Germany and the USA in attitudes to whether "family life suffers when the woman has a full-time job", but it was still significantly large.

Moreover, it is notable that on the straightforward role differentiation question of "do you agree, disagree ..A husband's job is to earn the money, a wife's job is to look after the home and family", the percentage of younger Germans and Americans who "disagree" or "strongly disagree" in 1998 differed by sixteen percentage points for women and twenty six percentage points for men. Evidently, there continue to be substantial differences between countries in how people answer questions which are designed to elicit the extent of support for a more traditional "home centred" model of female identity[9].

The responses summarized in Table 2 do not always conform to the stereotype of "More Liberated American Women". In 1998, for example, the percentage of American women under 35 who disagreed with role differentiation was appreciably less than in Canada, the UK, Sweden or France. As well, it is very clear that male and female attitudes to gender roles differ - the discordance between under 35 Swedish males and females in attitudes to husband and wife roles is especially notable! However, more often than not, the differences in attitudes between men and women within countries, in any given year, are small compared to the differences between countries. In short, attitudinal survey evidence indicates broad support for the hypothesis of international differences in attitudes to participation in the paid workforce. However, the differences between "All ages" and "Under 35" attitudes can also be broadly taken as some

[9]As well, the definition of what it means to be a "feminist", and the focus of desired reforms to patriarchal institutions, may differ significantly between the USA and Europe.

evidence of convergence in attitudes - which can be seen as an indication that the thought experiment of "changing values" may not be entirely fanciful.

3. Statistical and Data Issues

The objective of this paper is examine how much of the differences in money income distribution between a selection of advanced capitalist countries may be due to inter-country differences in the probability of working for pay. Since the USA is the largest nation in our sample, with the longest average working hours and the highest average money incomes, it is used as the initial basis for comparisons. Since Germany is the largest European country, and has a strong trend to reduced working hours per adult (and employment rate differences are very important for both men and women), the comparison is then reversed to ask what other nation's income distributions would look like, at German levels of workforce participation.

In both cases, the thought experiment being considered is a change in other countries' probability of paid employment, given the reward structure already in place there. Hence, this paper models the impact of a change (from the current country determinants to a US (German) model) in the probability of any employment in a year and, conditional on being employed at some point in the year, the expected net income associated with employment, for a person or household of given characteristics. The analysis proceeds in two stages, first examining the implications of changed workforce participation by women and then considering men and women together.

In doing this, it considers separately the employment outcomes of single individuals and of persons in households. A probit model of the probability of employment at some point in the year in the USA (Germany) is estimated for single workers, the results of which are presented in Appendix Tables B1 and B2. Because there is a long tradition in labour economics (going back to, for example, Killingsworth, 1983) which recognizes that the labour supply decisions of husbands and wives living in households are interdependent, a multinomial logit model of household labour market decisions in the USA (Germany) is estimated, conditional on the personal characteristics of both partners. For each household, four possible states are identified - [1] both husband and wife are employed at some point in the year; [2] husband employed, but wife never employed; [3] wife employed but husband never employed; [4] neither husband nor wife employed at any point in the year. The results are presented in Tables B3 and B4.

The coefficients from these estimated equations are then used to answer the question - what would the probability of employment at some point in the year be, for a person of given characteristics, if it was determined by the same probability process as in the USA (Germany)? For a single person, it is their own characteristics, plus the structural parameters estimated in Table B1 (or B2), which determine an expected probability of some employment. For a person who is part of a household, the probability that they individually will be employed at some point in the year is the sum of the associated probabilities of household behaviour implied by Table B3 (or B4) (e.g. a married woman's probability of employment is sum of [1] the expected probability that a two adult household whose members have the same characteristics as her household will have both husband and wife employed plus [2] the expected probability that a two adult household whose members have the same characteristics as her household will be a "wife employed but husband not employed" household).

In all tables, the influence of education on probability of employment is captured by a relative education variable which is calculated as the mean educational rank of a person of given educational credentials, in their ten year birth cohort. Countries differ significantly in the educational credentials they report, and equivalencies between credentials in different countries are sometimes problematic, but relative intra cohort educational rank is a concept that can be directly compared across countries. Individuals are classified as employed if they report any earnings or any weeks of work during the survey year.

[Tables 3A and 3B about here]

To simulate the income distribution that could be expected if the workforce expanded to an American level of participation (or contracted to the German level), the expected probability of employment is calculated for each person and all persons are ranked by that probability. Table 3A reports the results obtained from a simulation of [1] changed behaviour by women and [2] when both male and female workforce participation is at US levels. Assuming that a change (to US values) in probability of employment would most affect those at the margin of labour market participation, this change in outcomes is simulated by adding to the workforce the non-employed who have the greatest relative probability of employment. Table 3A presumes that those individuals who already have some employment would continue in employment, and that if

workforce participation were to rise to US levels it would be the individuals with highest expected probability of employment who would join the workforce.

For countries with lower employment rates than Germany, Table 3B reports the results obtained from simulating changed behaviour by women and by both males and females when workforce participation is at German levels by *subtracting* from the workforce those employed persons who have the lowest relative probability of employment. It presumes that if workforce participation were to fall to German levels it would be the individuals with lowest expected probability of employment who would leave the workforce.

The impact, on the household distribution of disposable income, of those individuals joining (or leaving) the workforce will depend on the size of their additional individual earnings, the size of any associated change in the earnings of other household members, the impact of changed earnings (of both partners) on transfer payments and the change in taxes paid by both partners. To estimate the net income that the households containing additional workers would receive this paper uses the country specific regressions reported in Tables B5 to B8 which are, for each country, of the form:

Net Disposable Income = F(age, age^2, relative education, family status, disability, immigrant and labour market participation status, etc....)

The purpose of these regressions is to enable prediction (for the purpose of simulation). They can be seen as a reduced form of the structural equations system which might predict the expected working hours of a person (or household) of given characteristics with specific expected wage(s), the earnings that those work hours would imply and the net income that a household with those earnings would receive after income tax is deducted and transfer payments are adjusted. Both the structure of the tax/transfer system and the functional form of the labour supply function may be rather complex - hence the linear functional form of the reduced form equations reported in Table B3 should be seen as a first order approximation.

In the simulated income distributions for each country reported in Tables 3A and 3B, this imputed net disposable income, of the households with simulated changes in workforce participation, is added to the income of the other households whose labour market status is unchanged, and household equivalent income distribution statistics are calculated for the population as a whole. Note that this methodology will impose on all countries the American

pattern of correlation across spouses in employment in Table 3A (and the German pattern of correlation across spouses in employment in Table 3B) but leaves the country-specific income determination process of workers unchanged, under the maintained hypothesis that those households with unchanged workforce status do not change their net income.

The important issue for the accuracy of the simulations reported in Tables 3A and 3B is whether the conditional expectation of disposable household income of workforce leavers or entrants - as calculated using the combination of their personal characteristics and the additional income associated with those characteristics implied by Tables B5 to B8 - is systematically biased to a degree that affects the summary statistics on income distribution reported in Tables 3A and 3B. Since there is always an element of judgement in the specification of the net income function (e.g in choice of functional form, or selection of right hand side variables), one way to check is to use an alternative plausible specification. Those alternatives that have been tried to date do not make very much difference.

This paper uses Luxembourg Income Study micro data to present point estimates of income distribution for the following economies: Canada (1997), France (1994), Germany (1994), Sweden (1995), United Kingdom (1995), and United States (1997). The focus is on "standardizing" the distribution of equivalent income among individuals to account for the impact of different national probabilities of employment, but the statistical starting point is the LIS definition of total household money income after tax (disposable household income)[10] as the basis for calculation of the "equivalent income" of all working age individuals (and dependent children). All summary statistics refer to the distribution of equivalent disposable income among all national residents living in households with a head aged 64 or less, excluding only those economic families or unattached individuals who reported a zero or negative before tax money income. In all cases, where money figures are provided, local currency figures for income have been converted to year 2000 US dollars using the relevant country price deflator for consumer expenditure and OECD PPP estimates of purchasing power parity for consumption by households.

[10]Disposable income consists of the sum of gross wages and salaries, farm self-employment income, non-farm self-employment income, cash property income, sick pay, disability pay, social retirement benefits, child or family allowances, unemployment compensation, maternity pay, military/veteran/war benefits, other social insurance, means-tested cash benefits, near cash benefits, private pensions, public sector pensions, alimony or child support, other regular private income, and other cash benefits; minus mandatory contributions for self employed, mandatory employee contribution, and income tax.

Estimates of the economic well-being of individuals within households depend heavily upon the assumptions made about the degree and pattern of economic sharing within households[11]. As well, estimates of the total well-being of the household depend upon the equivalence scale which is used to estimate the economies of scale in household consumption.[12] This paper uses the so-called LIS equivalence scale[13] in which the number of equivalent adults in each household is calculated as $N^{0.5}$. The LIS equivalence scale implies fairly large economies of scale in household consumption - the second person in a household counts as 0.41, the third person receives a weight of 0.32 and a four person household is thought of as having the same relative level of consumption needs as two unattached individuals (i.e. with the same total money income, two adults living separately could live as well as a four person family living together). This paper makes the assumption of equal sharing among all household members, and calculates the equivalent income of each household member as equal to the total money income of the household, divided by the number of equivalent adults in the household. This equivalent income is assigned to all household members, and the distribution of equivalent income across individuals is then calculated.

The most popular summary statistic of inequality is undoubtedly the Gini index, which is most sensitive to changes in the mid-range of the distribution. The Theil index is more sensitive to the bottom end, and also has the advantage of being additively decomposable (for further discussion see Jenkins (1991)). As an indicator of the distance between extremes of the income distribution, we present also the "90/10 ratio" -i.e. the ratio between the average incomes of the top 10% of persons and the average incomes of the bottom 10%. However, none of these measures reveal directly which part of the income distribution is changing - e.g. whether inequality is widening because the top end is pulling away from the middle or because the poor are falling behind the income growth of the middle of the income distribution. Since these issues are often of interest, the 90/50 and 50/10 ratios are also presented in order to better distinguish changes in the top and bottom of the income distribution. The percentages of the population with

[11] See Phipps and Burton (1995:194)

[12] Phipps and Garner (1994:13) argue that if one uses the same methodology for estimating equivalence scales, US and Canadian results are statistically and practically indistinguishable. Burkhauser, Smeeding, and Merz (1996) emphasize the differences in incidence and patterns of poverty implied by alternative equivalence scale methodologies in official use in Germany and the US and provide estimates of the sensitivity of the poverty rate in the US and Germany to alternative scale elasticities. See also Buhmann et al. (1988); Coulter, Cowell, and Jenkins (1992);

[13] Figini (1998, p. 2) notes that "OECD and other two-parameter equivalence scales empirically used show a similarity of results [in measurement of inequality] to one parameter equivalence scales with elasticity around 0.5."

equivalent income greater than 150%, and less than 50%, of the median are also reported, as these statistics have also often been used as a guide to the degree of "polarization" in living standards.

In international comparisons, a frequently used relativistic conception of poverty draws the poverty line at one half the median national standard of living (Hagenaars, 1986, 1991) and since this paper calculates the equivalent income of each individual in each year, it defines the poverty line as one half the median equivalent income of all individuals in that year. Two measures of poverty are presented - the poverty rate (percentage below half the median equivalent income) and the Sen-Shorrocks-Thon (SST) index of poverty intensity. Although the poverty rate is undoubtedly the most commonly used measure of poverty, it does not reflect the amount by which the incomes of the poor fall below the poverty line and it ignores the degree of inequality among the poor. As Osberg and Xu (2000) note, the Sen-Shorrocks-Thon index of poverty intensity is preferable on axiomatic grounds and can be decomposed into:

$$P(Y; z) = (RATE)\ (GAP)\ (1+G(X)). \tag{3}$$

Where *RATE* is the poverty rate, and *GAP* is the more familiar average poverty gap ratio among the poor. Since *(1+G(X))* is in practice nearly constant over time and across countries, the SST index has the appealing property that it is roughly proportional to the expected poverty gap of a randomly selected individual (i.e. the crude probability of poverty multiplied by the expectation of the poverty gap, conditional on being poor).

4. Empirical Results

Tables 3A and 3B present the actual median and mean equivalent disposable income and the above set of income distribution summary statistics for the USA (1997), UK (1995), Canada (1997), Germany (1994), Sweden (1995) and France (1994). For the latter five countries Table 3A presents the results of simulating US-level employment probability of women and of men and women combined, while 3B simulates the impact of German employment rates on the other five countries.

In these simulations, the impact on household disposable income of a change in probability of workforce participation is simulated - i.e. the simulations calculate the net benefit to households of greater workforce participation *after* subtracting direct taxes and *after* any associated reduction in transfer payments. Typically, rising employment levels would partially benefit the budget balance of governments (as well as the net income of households), and one would expect the impacts of greater (or lesser) workforce participation on GDP per capita to exceed its impacts on average disposable personal income. However, since the focus here is the distribution of households' command over resources (of time and money), this paper emphasizes the change in equivalent disposable household income.

It is no surprise that in all countries the results indicate that if additional workers entered the paid labour force, average and median equivalent income would rise. The effect is particularly marked in the UK when additional workforce participation by both men and women is considered. On an annual basis, LIS data indicate higher employment rates in both the USA and Germany than in the UK (see Table 4). The simulations in Table 3A indicate that median equivalent disposable income might be expected to rise by about 16% and average income by 10.4% if employment were to rise to the USA level, while Table 3B indicates that a rise to German employment rates would increase median equivalent income by 6.3% and mean incomes by 5.4%.

Osberg (2002c) notes that 20.4% of households of working age in the UK in 1995 LIS data have no reported employment - well above the rate in other countries[14]. Hence, although in the UK work hours *per adult* are higher than in Germany, that employment is concentrated among households. Since households without any earnings are the poorest of the poor, bringing more households into the workforce would have large impacts on poverty. The biggest changes in UK data therefore occur at the bottom of the income distribution. Bringing male and female workforce participation to US levels could be expected to cut poverty intensity from 8.4 to 3.3 - and the poverty rate would fall from 15.6% to 8.9%. Polarization (as measured by the 90/10 ratio) would decline from a 10:1 ratio to about a 6:1 ratio, but most of that is happening because there is a compression at the bottom, since the 50/10 ratio shrinks by about a half while the 90/50 ratio declines by only about a fifth. All these improvements in the money income of the less affluent would reduce measured inequality, and since the Theil index is more low end sensitive than the

[14] See also Gregg et al (1999).

Gini, the fall in inequality as measured by the Theil (from .212 to .147) is proportionately much larger than the fall in the Gini (from .344 to .286). In general, bringing female UK workforce participation to US levels produces about half the total change from bringing male and female UK participation to US levels. (Qualitatively similar, but quantitatively smaller, impacts could be expected if UK employment rates were to have a (smaller) increase to German levels.)

Where there are smaller differences in workforce participation to begin with(e.g. USA/Canada), the impacts on average and median incomes of changing to US participation levels are correspondingly smaller. (Table 4 shows the annual employment rate, by country.) In Canada, for example, median income increases by only $32 (about 0.2%) as the Canadian female workforce participation rate rises to US level, and by a further $186 (about 1%) as male and female employment levels are standardized. Still, in the Canadian data, added workforce participation affects low income households more than high income ones. Changes in the Canadian simulations show up more strongly in indices which are low end sensitive - the Theil index falls proportionately more than the Gini, and the 50/10 ratio falls while the 90/50 ratio remains constant. In aggregate, poverty intensity and the poverty rate both fall by about a tenth, in the full simulation of US employment rates.

In Table 3A the Swedish results are quite similar to the Canadian ones in projecting a relatively small change in median and average equivalent income, and a tendency for income changes to be somewhat concentrated in the lower part of the income distribution. When both male and female participation is modelled at US levels, Poverty Intensity falls significantly (from 6.6 to 4.7) as the bottom tail of the distribution compresses by considerably more than the top - the 90/50 shrinks from 2.0 to 1.9, while the 50/10 ratio declines from 2.8 to 2.3. Canadian inequality starts from a considerably higher level than Swedish inequality, by any statistic one can choose, but the absolute size in Table 3A of the reduction in inequality is remarkably similar. In Table 3B, the implications for median and mean equivalent income of Sweden moving to a German employment rate are also quite small. However, Table 3B indicates one could expect some compression of the income distribution in both tails, and a consequent decline in indices of inequality.

In the UK, and to a lesser extent in Canada and Sweden, the simulated changes in workforce participation of moving to US employment rates reduce inequality most at the low end of the income distribution. In Germany and France, however, Table 3A indicates that changes in family income from an increase in workforce participation to US levels would be spread more evenly throughout the distribution - the change in both countries in the Gini is less than the drop in the Theil, but the drop in the German population percentage with incomes above 150% of

median income is considerably larger (2.1 percentage points) than the decline in the poverty rate (1.6 percentage points). In Germany and France, the simulated income distribution at US employment rates is more compressed than the actual income distribution - the simulated decline in the 50/10 ratio and the drop in the 90/10 ratio are of roughly the same size. Poverty intensity starts from a lower base in both countries and although it falls in both (from 4.7 to 3.7 in Germany and from 3.6 to 2.6 in France), the decline is not nearly as dramatic as in the UK.

Reversing the onus of comparison, and looking to Table 3B to see what the US income distribution would look like at German aggregate employment rates, we see substantially more inequality (the Gini ratio rises from 0.37 to 0.39, the Theil index increases from 0.25 to 0.28) and more poverty (the poverty rate is 3 percentage points higher). Proportionately, the low end sensitive measures of changes in income distribution are greater than the decline in median (7.3%) or mean (6.0%) equivalent income.

In Table 3B, there is not much difference between the simulated (at German employment rates) Swedish or French income distribution compared to the actual income distribution (if the Gini or Theil indices were rounded to two decimal places, typically no change is observed). The continental European countries have, to begin with, an income distribution that is substantially more equal than that in the US, UK or Canada. Their actual poverty rates (among working age households) are in the 8% range, well below the poverty rate in Canada (13.5%), the UK (15.6%) and the USA (16.8%). Poverty intensity and the 50/10 ratio are similarly much lower in Germany, Sweden and France than in the Anglo-American countries, even before one considers the impact of added workforce participation. In continental Europe one can therefore argue the income poverty and employment dimensions of social exclusion are much less closely aligned than in the Anglo-American regimes to begin with. Hence, the simulations of rising workforce participation, to USA levels, tend to show, for France and Germany, more of a compression of the distribution of income as a whole, rather than an effect concentrated in the lower tail.

Simulations of the impact of changing workforce participation on the income distribution can be a useful way of analyzing particular welfare state regimes. Table 3A has two very general conclusions.

[1] In Europe and Canada, a higher employment rate (at US levels) would mean more equality of income distribution.

[2] In the mid 1990s, the USA clearly had higher inequality, and more poverty, than any other country examined on every statistical measure - often by a very large margin. (The actual 90/10 ratio for the USA is, for example, about double that in Germany, Sweden or France - 13.2

compared to 6.3, 5.7 and 6.6, respectively). The differences between the USA and other countries in inequality would increase, if other countries had US levels of employment.

In Table 3B, one can see that the USA/Germany differences in inequality indices (Gini, Theil) or poverty measures (rate, poverty intensity) or polarization (90/10 ratio) would also widen if employment rates were standardized at the German level. Similarly Canada/Germany inequality differences would widen, if Canadian employment were to be at German levels.

The argument suggested by Figure 1 was that standardizing for workforce participation should have narrowed differences in measured inequality of income. As well, within the USA, the argument has been made that the trend over time to greater inequality in household income is partly driven by the correlation of potential earnings of husbands and wives and the workforce entry of well educated women (married to high income men) in the 1980s and 1990s, which may tended disproportionately to swell the household income of upper income groups, thereby increasing measured inequality in household money income. If either of these arguments were an explanation of cross country differences in measured inequality, one might think that if workforce participation elsewhere were to increase to US levels, measured inequality in household money income in other countries would also rise. Conversely, if American employment rates were to fall to German levels, measured inequality in the USA should fall. If so, comparing inequality in the actual distribution of household money income "overstates" international differences in inequality.

However, the simulations of this paper indicate emphatically that this is not the case. In every country, rising workforce participation reduces inequality. If other countries had US style determinants and levels of employment, differences between the USA and other countries in money income inequality and poverty would be larger - not smaller - than they are in actual data. Conversely, if the USA were to have German style employment rates, measured USA/Germany differences in inequality and poverty would also increase. "Standardization" for workforce participation *accentuates* measured trans-Atlantic differences in income inequality.

[Figure 3 about here]

Figure 3, which examines working hours per household adult at different points in the distribution of income in 1994-95, may help to explain the simulation results. In Figure 3, individuals are ordered in each country by their equivalent individual disposable money income (after direct taxes and after transfers) and the average labour supply per household adult is calculated for each income decile. Panel A presents the average hours total. In Panel B each country's decile average is expressed as a fraction of the corresponding US decile. With the

exception of the top income decile in the UK (which has the least work effort of the top decile of all countries examined[15]), there is a clear tendency for work hours to be higher in higher deciles of the income distribution- both absolutely and relative to the US. At all points in the income distribution, Americans work more hours - but although the US incentive system has its greatest differentials in hourly rewards at the top of the income distribution, the differential in hours of work is significantly smaller at the top of the income distribution than at the bottom.

If non work time has utility, these data indicate that comparisons of money income inequality between the USA and other countries will underestimate differences in the inequality of utility. In the USA, the less affluent work significantly harder for their greater relative poverty than they do in other countries. Cross country comparisons of inequality in money alone understate inequality differences in time and money.

5. Implications

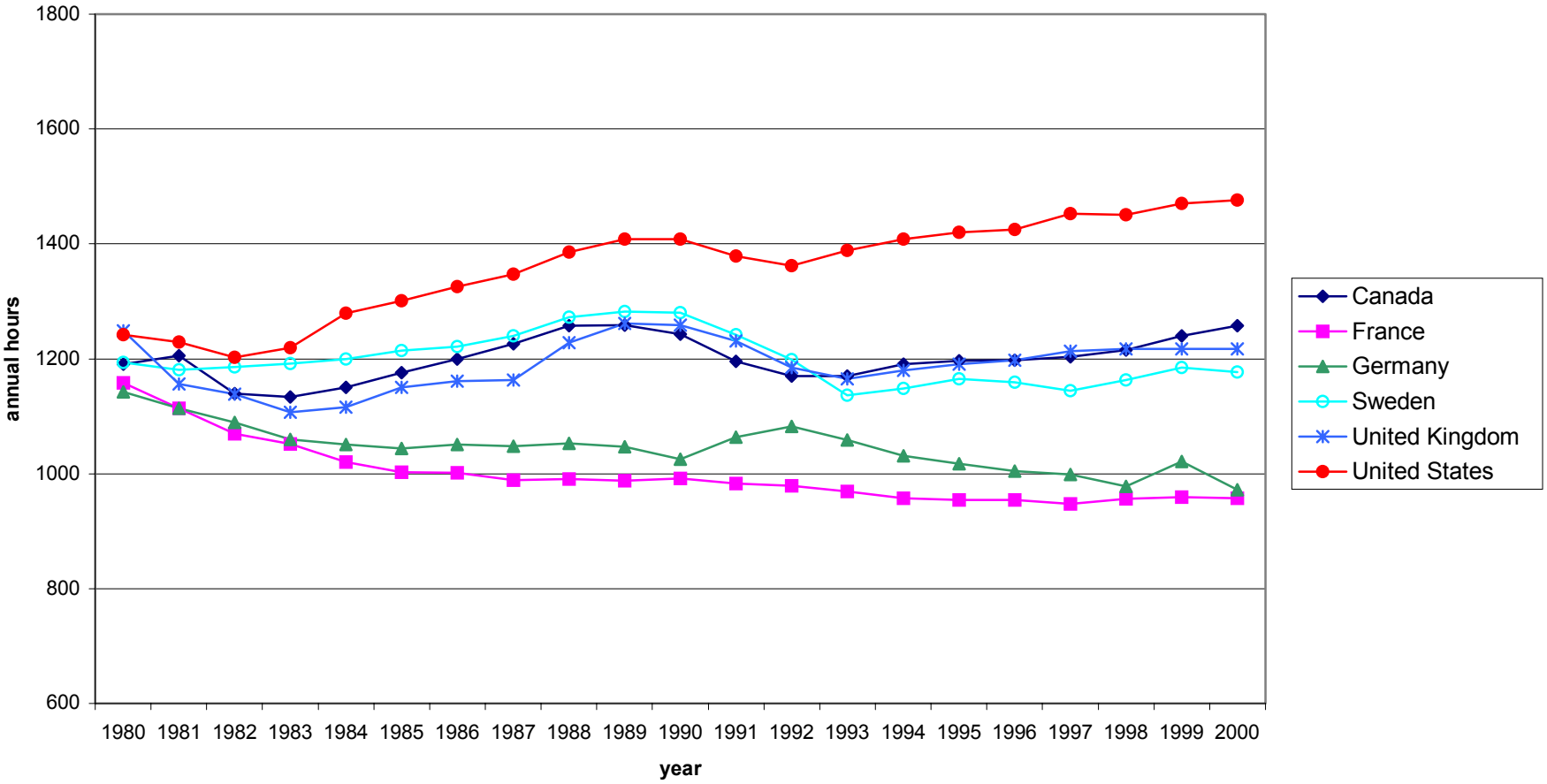
"Quality of life" or " Economic Well Being" may be hard to define precisely, but most would agree that they depend on both an individual's income level and the discretionary time they have in which to enjoy it. Hence, money income alone is a misleading indicator of economic well being, and international comparisons of money income inequality are potentially misleading indicators of the inequality of well being.

Trends in average actual working time are driven by collective decisions on common leisure entitlements, individual probabilities of having any employment and the average working hours of workers. The USA and Europe (particularly France and Germany) have diverged sharply in these trends in recent years. This paper examined the extent to which differences in employment probability can explain differences in inequality and concluded that comparisons of the level of money income inequality likely understate the degree of difference between the USA and Europe in the inequality of economic well being. In the US the relatively poor have to work harder, and still end up with less income, than in other countries. Clearly, it is worse to be poor in time and money than in income terms alone.

[15] Given the rhetoric surrounding "incentives" and "initiative" during the Thatcher era, this is an intriguing finding.

Figure 1

Annual Number of Hours Worked per Person Aged 15-64 [1]



[1] = Average hours worked per employed person *(Employment / pop. age 15-64)
Canada and France 1999, 2000 and UK, US 2000 are extrapolations.
Sources: hours of work: Key Indicators of the Labour Market 2001-2002, International Labour Office
population and employment data: OECD Health Data 98 CDROM, "A Comparative Analysis of 29 Countries".

Figure 2

Differences in Tastes and Money Income Inequality

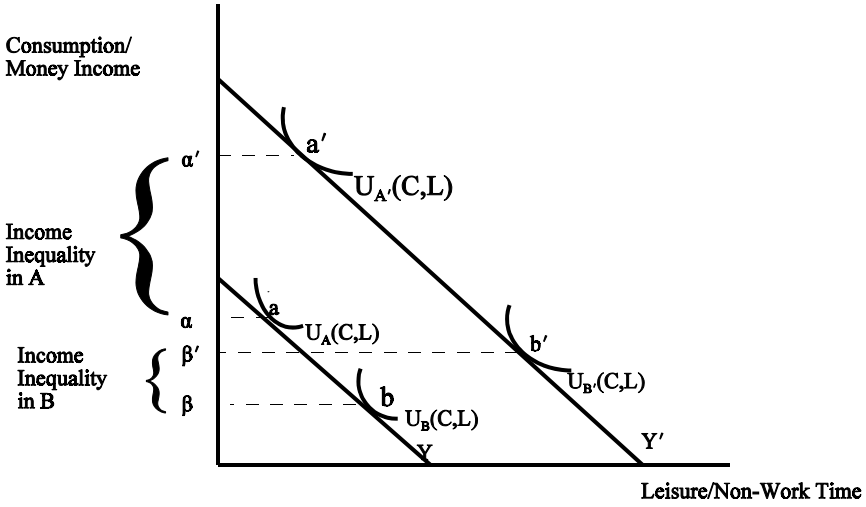
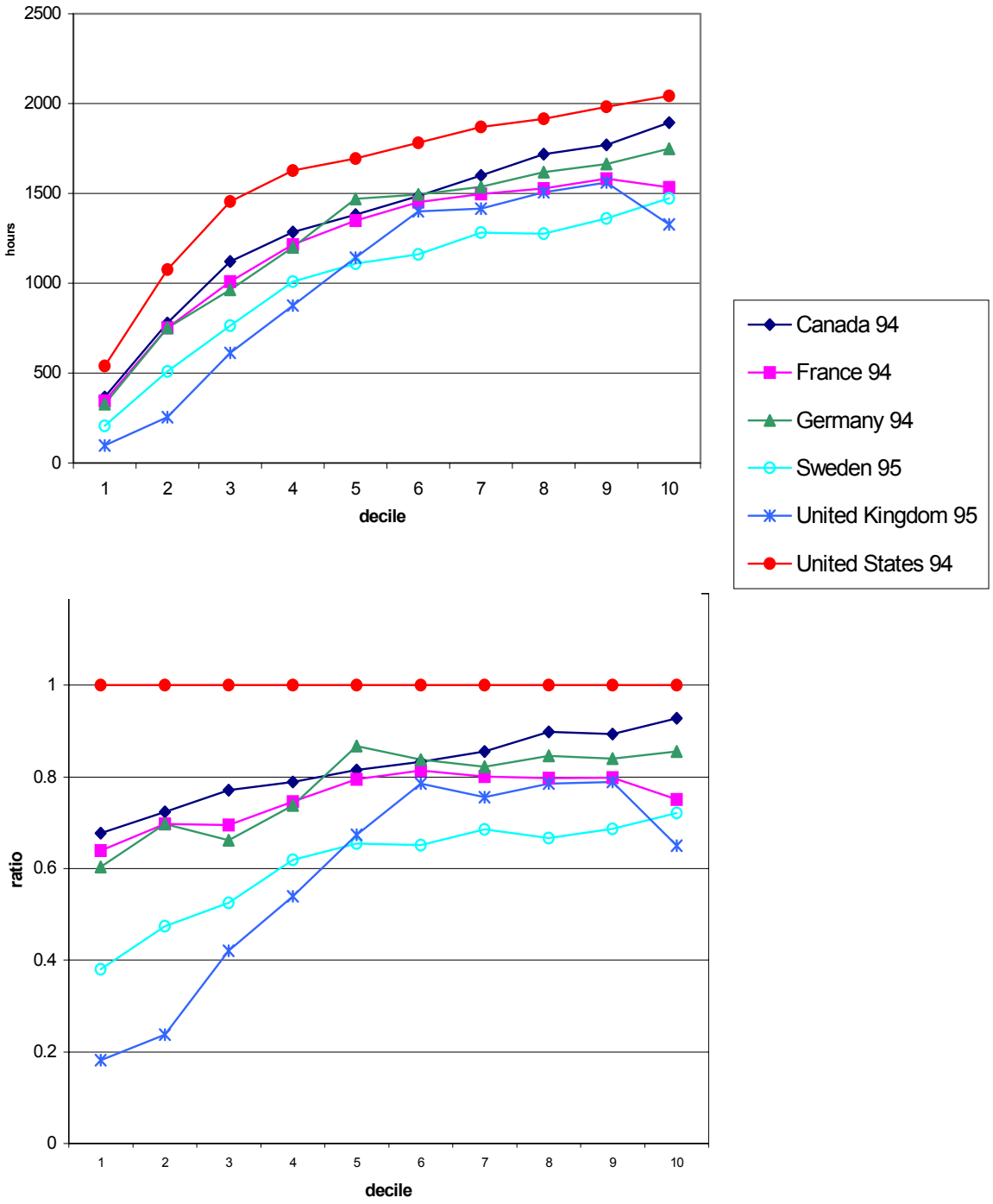


Figure 3
Average Working Hours per Household Adult (Head Aged 18-64*)
and Mean Ratios to the US by Decile 1994/95



note: Deciles by after-tax equivalent household income where the equivalence scale is the square root of the total number in the household.
Source: Author's calculations using the Luxembourg Income Study

Table 1

Decomposing International Differences in Average Usual Hours of Work per Adult

Ages 15-64, All Countries 1994

	Average Difference			Males		Females	
	Males and Females	Males	Females	employment rate effect	hours effect	employment rate effect	hours effect
USA -Can	188	237	161	93.6	143.5	50.4	110.3
USA -UK	230	224	237	125.5	98.6	104.2	132.3
USA - Ger	355	394	321	140.4	254.0	225.9	95.3
USA -Fra	382	467	303	274.3	192.3	245.0	58.5
USA -Swe	164	334	11	199.9	134.5	17.4	-6.2

Δ hours = $(h_{1*}E_1) - (h_{0*}E_0)$

$= [h_1 * (E_1 - E_0)] + [E_0 * (h_{1i} - h_0)]$

=employment rate effect + hours per employee effect

E_i =% of adults with any employment during the year (males /females) h_i = average usual hours of work of all persons with any employment (males/females)

Note:

In the Canadian data, 13.5% of respondents 15-64 had positive weeks worked in the past year but 0 hours recorded;"usual hours" were asked only with reference to the previous four weeks. OLS regressions were run to predict weekly hours for these individuals.

In the Survey of Consumer Finances, weekly hours are capped at 65 hours per week; for comparability, the US weekly hours are capped at 65 as well.

Sources: Author's calculations using the Survey of Consumer Finance (Canada), the Current Population Survey (United States) and Key Indicators of the Labour Market 2001-2002 (Germany, France, Sweden, UK)

Table 2

Attitudes towards Traditional Gender Roles Across Countries

Males and Females, All Ages and Those < 35 Years

	International Social Survey Program: Religion II, 1998				World Values Survey 1990-91	
	V12 - How much do you agree, disagree ... A husband's job is to earn the money, a wife's job is to look after the home and family.		V 13 - How much do you agree, disagree ... All and all, family life suffers when the woman has a full-time job.		V 98 Do you agree strongly, agree, disagree, or disagree strongly .. A working mother can establish just as warm and secure a relationship with her children as a mother who does not work	
	% disagree[1]		% disagree[1]		% agree[2]	
	m	f	m	f	m	f
	All ages		All ages		All ages	
US	56.0	56.7	43.0	51.3	65.6	79.9
Canada	56.6	68.9	43.0	56.6	63.8	75.4
UK	50.6	61.5	43.3	48.4	66.5	72.8
Germany	35.2	41.6	34.4	40.0	41.8	50.0
France	39.4	59.8	23.6	34.0	73.0	73.4
Sweden	57.6	74.6	48.1	57.3	64.6	81.7
	< 35 years of age		< 35 years of age		< 35 years of age	
US	66.9	66.2	52.5	56.0	73.6	83.3
Canada	66.6	72.9	53.3	62.9	71.3	83.3
UK	71.4	77.1	65.4	61.5	78.5	78.3
Germany	40.0	50.7	39.5	47.1	48.1	58.6
France	60.8	73.4	36.2	44.7	81.8	72.4
Sweden	65.3	84.3	54.6	67.7	62.2	80.9

[1] includes "strongly disagree" and "disagree"; [2] includes "strongly agree" and "agree"

source: International Social Survey Program: Religion II, 1998 Koeln, Germany. Inter-University Consortium for Political and Social; Research version, Ann Arbor, 2001.

Inglehart, Ronald et al. "World Values Surveys and European Values Surveys 1981-84, 1990-93, 1995-97. Inter-University Consortium for Political and Social; Research version, Ann Arbor, 2000.

Table 3A

Income Distribution in USA, UK, Canada, Germany, France and Sweden - Working Age Households

Actual + Simulated at US levels of Workforce Participation

	median (US 2000 $)	mean (US 2000 $)	Gini	Theil	% < .5 * median	% > 1.5 * median	90/10 ratio	90/50 ratio	50/10 ratio	Poverty Intensity*
US 97 - actual	22,886	27,588	0.371	0.252	16.9	24.5	13.5	3.6	3.7	11.0
UK 95 - actual	14,938	17,608	0.344	0.212	15.6	23.8	10.1	3.3	3.1	8.4
- female simulation	15,656	17,927	0.321	0.185	12.8	21.4	8.3	3.0	2.7	6.4
- female+male sim.	16,822	18,928	0.290	0.152	9.8	18.5	6.2	2.8	2.2	3.2
Canada 97 - actual	21,301	23,305	0.293	0.144	13.5	20.0	8.0	2.5	3.2	8.2
- female simulation	21,310	23,348	0.291	0143	12.9	20.0	7.8	2.5	3.1	7.9
- female+male sim.	21,415	23,476	0.287	0.138	12.1	19.7	7.5	2.5	3.0	7.4
Germany 94 - actual	15,812	17,514	0.269	0.139	8.4	17.3	6.3	2.6	2.5	4.7
- female simulation	16,368	17,748	0.256	0.128	7.9	15.0	5.8	2.4	2.4	4.3
- female+male sim.	16,682	18,007	0.248	0.121	6.9	14.0	5.4	2.4	2.3	3.7
Sweden 95 - actual	13,745	14,349	0.223	0.093	7.6	11.5	5.7	2.0	2.8	6.6
- female simulation	13,860	14,404	0.218	0.089	7.3	10.8	5.4	2.0	2.7	6.1
- female+male sim.	13,743	14,247	0.208	0.080	6.5	10.0	4.8	1.9	2.4	4.8
France 94 - actual	14,678	16,981	0.289	0.154	7.9	19.7	6.6	2.9	2.3	3.6
- female simulation	15,147	17,164	0.272	0.137	7.0	18.3	5.9	2.7	2.2	3.0
- female+male sim.	15,302	17,249	0.263	0.128	6.0	17.7	5.4	2.6	2.1	2.4

Note: After-tax equivalent household disposable income per person - population is all persons in households with working age head (18-64), equivalence scale is square root of number in household. *SST Index - Poverty line = ½ median equivalent disposable income, calculated separately for actual & simulated income distributions.

Table 3B

Income Distribution in Germany, UK, Canada, USA, France and Sweden - Working Age Households

Actual + Simulated at German levels of Workforce Participation

	median (US 2000 $)	mean (US 2000 $)	Gini	Theil	% < .5 * median	% > 1.5 * median	90/10 ratio	90/50 ratio	50/10 ratio	Poverty Intensity*
Germany 94 - actual	15,812	17,514	0.269	0.139	8.4	17.3	6.3	2.6	2.5	4.7
UK 95 - actual	14,938	17,608	0.344	0.212	15.6	23.8	10.1	3.3	3.1	8.4
- female simulation	15,054	17,718	0.339	0.206	14.8	23.6	9.7	3.2	3.0	7.9
- female+male sim.	15,879	18,560	0.315	0.178	11.1	21.6	7.7	3.1	2.5	4.9
Canada 97 - actual	21,301	23,305	0.293	0.144	13.5	20.0	8.0	2.5	3.2	8.2
- female simulation	21,118	23,130	0.292	0.142	13.4	20.1	7.7	2.5	3.0	7.7
- female+male sim.	19,930	22,203	0.301	0.151	13.2	22.2	7.9	2.7	3.0	7.6
US 97 - actual	22,886	27,588	0.371	0.252	16.9	24.5	13.5	3.6	3.7	11.0
- female simulation	22,069	26,697	0.381	0.263	18.6	25.5	14.9	3.7	4.0	12.7
- female+male sim.	21,197	25,938	0.392	0.277	19.9	26.6	15.4	3.9	4.0	13.1
Sweden 95 - actual	13,745	14,349	0.223	0.093	7.6	11.5	5.7	2.0	2.8	6.6
- female simulation	13,747	14,348	0.224	0.094	7.6	11.5	5.7	2..0	2.8	6.6
- female+male sim.	13,749	14,240	0.214	0.086	7.1	10.3	5.3	2.0	2.7	6.2
France 94 - actual	14,678	16,981	0.289	0.154	7.9	19.7	6.6	2.9	2.3	3.6
- female simulation	14,730	17,026	0.287	0.152	7.7	19.6	6.5	2.9	2.3	3.4
- female+male sim.	14,783	16,985	0.281	0.146	7.2	19.2	6.2	2.8	2.2	3.3

Note: After-tax equivalent household disposable income per person - population is all persons in households with working age head (18-64), equivalence scale is square root of number in household. *SST Index - Poverty line = ½ median equivalent disposable income, calculated separately for actual & simulated income distributions.

Table 4

Employment Rates*

18-64 Year Olds - All and Females Only

	Males and Females	Females
US 1997	83.4	76.2
UK 1995	67.1	59.7
Canada 1997	81.7	75.0
Germany 1994	74.7	64.9
Sweden 1995	66.2	65.1
France 1994	72.6	63.1

* note: Defined as those who had positive employee hours or weeks in the past twelve months or who were defined as being self employed.

Bibliography

Bell, Linda and Richard Freeman (1994) "Why Do Americans and Germans Work Different Hours?" Working Paper No. 4808, NBER Working Paper Series, National Bureau of Economic Research, Cambridge, MA, July 1994.

Bell, Linda and Richard Freeman (2000) "The Incentive for Working Hard: Explaining Hours Worked Differences in the U.S. and Germany," NBER Working Paper No. 8051, National Bureau of Economic Research, Cambridge, MA, December 2000.

Bell, Linda and Richard Freeman (2001)"The incentive for working hard: explaining hours worked differences in the US and Germany", Labour Economics (8)2 (2001) pp. 181-202

Burtless G. (1993) "The contribution of employment and hours changes to family income inequality" American Economic Review, May 1993, Vol.83, No.2, p.131

Doiron_D and J, Barrett (1996) "Inequality in male and female earnings: the role of hours and wages" Review of Economics and Statistics, Aug 1996, Vol.LXXVIII, No.3, pp.410-420

Freeman, R.B. and R. Schettkat (2002) "Marketization of Production and the US-Europe Employment Gap" National Bureau of Economic Research Working Paper 8797 Cambridge, Mass. February 2002

Gershuny, J. (2000) Changing Times: Work and Leisure in Post Industrial Society Oxford University Press, Oxford, 2000

Gregg, P., K. Hansen and J. Wadsworth (1999) "The rise of the workless household" in *The State of Working Britain"* P. Gregg and J. Wadsworth (editors) Manchester University Press, Manchester, 1999

Hakim, C. (2000) Work-Lifestyle Choices in the 21st Century: Preference Theory Oxford University Press, Oxford, 2000

Jahoda, M. (1979) " The Psychological Meanings of Unemployment" New Society Sept. 6, 1979, Pp. 422-425

Jenkins, S.P. and N.C. O'Leary (1996) "Household Income plus household production: the distribution of extended income in the UK" Review of Income and Wealth Vol. 42, No.4, 401-419

Jenkins, S.P. and L. Osberg (2002) "Nobody to play with? The implications of leisure coordination" mimeo University of Essex, May, 2002

Merz, J. and M. Ehling (1999) Time Use – Research, Data and Policy Edited by Joachim Merz and Manfred Ehling (1999) Nomos Verlaggesellschaft, Baden-Baden

Lee C. (2001) "Changes in employment and hours, and family income inequality in the United States, 1969-1989" International Economic Journal, Summer 2001, Vol.15, No.2, pp.27-50

OECD - Organization for Economic Cooperation and Development (2001) "Activities of the Working Party on Employment and Unemployment Statistics - Estimates of Hours Actually Worked in OECD Countries" Working Party on Statistics, DSTI/EAS/IND/SWP(2001)16, OECD, 28 November 2001, Paris

Osberg, L. (2002a) "Understanding Growth and Inequality Trends: The Role of Labour Supply in the U.S.A. and Germany" forthcoming in Canadian Public Policy

Osberg, L. (2002b) "Time, Money and Inequality in International Perspective" Paper presented at "Income Distribution and Welfare" - International Workshop organized for the Bocconi University Centennial, May 30th, 31st, and June 1st, 2002, Milan

Osberg, L. (2002c) 'Trends in Poverty: The UK in International Perspective - How Rates Mislead and Intensity Matters", *Working Papers of the Institute for Social and Economic Research*, paper 2002-10. Colchester: University of Essex.

Osberg, L. and S. Phipps (1993) "Labour Supply with Quantity Constraints: Results from a Large Sample of Canadian Workers" Oxford Economic Papers, Volume 45, April, 1993, pp. 269-291.

Osberg, L., and K. Xu (2000) 'International Comparisons of Poverty Intensity: Index Decomposition and Bootstrap Inference,' *Journal of Human Resources* 35:1, 51-81

Phipps, Shelley (1994) "Maternity and Parental Leaves and Allowances: An International Comparison," report to Human Resources Development Canada, Department of Economics, Dalhousie University, December, 1994.

Phipps, Shelley (1998) "Maternity and Parental Benefits: An International Comparison" (update), mimeo, Department of Economics, Dalhousie University, May 1998.

Scott, J., D.F. Alwin and M. Braun (1996) "Generational Changes in Gender-Role Attitudes:

Britain in a Cross-National Perspective" Sociology Vol. 30, No. 3, August 1996, Pp. 471-492

Appendix Table A1
Probit Regression - The Probability of Employment[1] in the Past Twelve Months
United States1997
Single Males and Females 18-64 Head or Spouse

	Males	Females
Intercept	-0.863* (0.281)	-1.434* (0.198)
Age	0.144* (0.014)	0.143* (0.010)
Age squared	-0.002* (0.0002)	-0.0019* (0.0007)
Relative education[2]	0.006* (0.0009)	0.012* (0.0007)
Dummy=1 if children < 18 in household	-0.268*** (0.152)	-0.078 (0.058)
Number of children	0.121 (0.089)	-0.199* (0.022)
Dummy=1 if immigrant	-0.122 (0.085)	-0.262* (0.056)
Dummy=1 if disabled	-1.881* (0.060)	-1.611* (0.045)
observations	6304	9120
-2 Log Likelihood	2859.8	9194.3

* significant with 99% confidence;** significant with 95% confidence;*** significant with 90% confidence

[1] Employed is defined as those who had positive employee hours or weeks in the past twelve months or who were described as being self employed.

[2]Since education is reported differently across countries (e.g. the US reports highest level attained and the UK reports years of education), a relative measure of education is used. The population is divided into five age groups 18-24, 25-34, 35-44, 45-54, and 55-64 and ordered by education within each age cohort. Individuals are put into percentiles based on education level within each age cohort. Each individual is then assigned the average percentile for his/her education level.

Appendix Table A2
Multinomial Logit[1] - Probability of Employment[2] in the Past Twelve Months
United States 1997-Married Males and Females

	both not working vs both working	wife working, husband not working vs both working	husband working, wife not working vs both working
Intercept	4.394* (0.783)	1.703* (0.612)	1.284* (0.277)
Age of the wife	-0.193* (0.054)	0.0002 (0.043)	-0.196* (0.020)
Age of the wife squared	0.003* (0.0006)	0.00004 (0.0005)	0.003* (0.0002)
Relative education[3] of wife	-0.014* (0.002)	0.001 (0.002)	-0.015* (0.0008)
Wife is an immigrant	0.551* (0.210)	0.182 (0.175)	0.526* (0.073)
Wife is disabled	2.065* (0.124)	-0.538* (0.197)	1.743* (0.071)
Age of the husband	-0.326* (0.055)	-0.309* (0.043)	0.018 (0.021)
Age of the husband squared	0.004* (0.0006)	0.004* (0.0005)	-0.00009 (0.0002)
Relative education[3] of husband	-0.002 (0.002)	-0.011* (0.002)	0.006* (0.0008)
Husband is an immigrant	0.106 (0.222)	0.269 (0.178)	0.257* (0.074)
Husband is disabled	3.187* (0.111)	3.451* (0.091)	-0.259** (0.116)
Dummy=1 if children < 18	-0.356** (0.171)	-0.091 (0.142)	0.140** (0.061)
Number of children	0.479* (0.063)	0.132** (0.061)	0.321* (0.022)
observations	22,271		
Likelihood Ratio	25,157		

* significant with 99% confidence;** significant with 95% confidence;*** significant with 90% confidence
[1] There are four categories: 1. husband and wife have no employment; 2. the wife has employment but the husband has no employment; 3. the husband has employment but the wife does not 4. both employed
[2] Employed = employee hours >0 or weeks in past 12 months > 0 or self employed.
[3] See Note to Table 1

Appendix Table B1
Probit Regression - The Probability of Employment[1] in the Past Twelve Months
Germany1995
Single Males and Females 18-64 Head or Spouse

	Males	Females
Intercept	-3.008* (0.783)	-4.100* (0.645)
Age	0.202* (0.040)	0.275* (0.033)
Age squared	-0.003* (0.0005)	-0.004* (0.0004)
Relative education[2]	0.008* (0.002)	0.007* (0.002)
Dummy=1 if children < 18 in household	2.146*** (1.213)	-0.421*** (0.223)
Number of children	-1.380 (0.887)	-0.205 (0.127)
Dummy=1 if immigrant	0.337 (0.270)	-0.220 (0.201)
Dummy=1 if disabled	-0.964* (0.212)	-0.431** (0.179)
observations	481	682
-2 Log Likelihood	98.254	195.74

* significant with 99% confidence;** significant with 95% confidence;*** significant with 90% confidence

[1] Employed is defined as those who had positive employee hours or weeks in the past twelve months or who were described as being self employed.

[2]Since education is reported differently across countries (e.g. the US reports highest level attained and the UK reports years of education), a relative measure of education is used. The population is divided into five age groups 18-24, 25-34, 35-44, 45-54, and 55-64 and ordered by education within each age cohort. Individuals are put into percentiles based on education level within each age cohort. Each individual is then assigned the average percentile for his/her education level.

Appendix Table B2
Multinomial Logit[1] - Probability of Employment[2] in the Past Twelve Months
Germany 1995-Married Males and Females

	both not working vs both working	wife working, husband not working vs both working	husband working, wife not working vs both working
Intercept	12.293* (1.786)	8.419* (1.534)	4.187* (0.870)
Age of the wife	-0.353* (0.870)	0.087 (0.119)	-0.271* (0.059)
Age of the wife squared	0.005* (0.001)	-0.0006 (0.001)	0.004* (0.0007)
Relative education[3] of wife	-0.006 (0.004)	-0.002 (0.004)	-0.011* (0.002)
Wife is an immigrant	0.918 (1.192	0.084 (0.953)	-0.508 (0.543)
Wife is disabled	0.184 (0.321)	0.263 (0.313)	1.046* (0.205)
Age of the husband	-0.581* (0.146)	-0.693* (0.118)	-0.053 (0.065)
Age of the husband squared	0.008* (0.001)	0.008* (0.001)	0.0004 (0.0007)
Relative education[3] of husband	-0.011* (0.004)	0.0007 (0.002)	0.158 (1.191)
Husband is an immigrant	0.158 (1.191)	0.293 (0.947)	0.577 (0.538)
Husband is disabled	0.940* (0.251)	1.281* (0.235)	0.103 (0.184)
Dummy=1 if children < 18 in the house	0.472 (0.468)	-0.293 (0.411)	0.081 (0.177)
Number of children	0.504** (0.242)	0.406*** (0.209)	0.746* (0.077)
observations	3539		
Likelihood Ratio	4332.1		

* significant with 99% confidence;** significant with 95% confidence;*** significant with 90% confidence
[1] There are four categories: 1. husband and wife have no employment; 2. the wife has employment but the husband has no employment; 3. the husband has employment but the wife does not 4. both employed
[2] Employed is defined as those who had positive employee hours or weeks in the past twelve months or who were described as being self employed.
[3] Since education is reported differently across countries (e.g. the US reports highest level attained and the UK reports years of education), a relative measure of education is used. The population is divided into five age groups 18-24, 25-34, 35-44, 45-54, and 55-64 and ordered by education within each age cohort. Individuals are put into percentiles based on education level within each age cohort. Each individual is then assigned the average percentile for his/her education level.

Appendix Table C
Ordinary Least Squares Regressions Disposable Household Income, Logged (US 2000 $) - Coefficients Used to Estimate Equivalent Household Income for Those Who Moved into Employment- Single Households 18-64, Males and Females (standard errors in parentheses)

	Canada 1997		UK 1995		Germany 1994		France 1994		Sweden 1995	
	m	f	m	f	m	f	m	f	m	f
Intercept	8.877* (0.346)	8.460* (0.200)	9.929* (0.464)	9.329* (0.254)	7.282* (0.569)	7.439* (0.499)	5.903* (0.468)	7.104* (0.276)	5.535* (0.161)	5.580* (0.145)
Dummy=1 if employed[1] in past 12 months	0.136 (0.382)	-0.556** (0.240)	-0.802 (0.630)	-0.979** (0.403)	0.410 (0.676)	0.489 (0.615)	1.600* (0.570)	0.051 (0.341)	1.050* (0.228)	0.682* (0.202)
Age	0.016 (0.017)	0.035* (0.010)	-0.062** (0.024)	-0.006 (0.013)	0.057** (0.028)	0.063** (0.025)	0.104* (0.023)	0.066* (0.014)	0.171* (0.009)	0.159* (0.008)
Age squared	0.0002 (0.0002)	-0.0003* (0.0001)	0.0008* (0.0003)	0.0001 (0.0002)	-0.001*** (0.0003)	-0.0006** (0.0003)	-0.0009* (0.0003)	-0.0005* (0.0002)	-0.002* (0.0001)	-0.002* (0.0001)
Relative education[2]	-0.001 (0.001)	0.002* (0.0007)	0.0008 (0.002)	0.0004 (0.001)	0.009* (0.002)	0.003** (0.002)	0.009* (0.002)	0.003* (0.0009)	0.003* (0.0006)	0.004* (0.0006)
Dummy=1 if children < 18 present	0.064 (0.107)	-0.065 (0.041)	-0.194 (0.234)	-0.170* (0.061)	0.046 (0.393)	-0.271* (0.104)	0.374 (0.249)	0.021 (0.062)	0.102 (0.187)	0.195* (0.057)
Number of children < 18	0.137** (0.064)	0.090* (0.022)	0.303** (0.127)	0.130* (0.027)	0.261 (0.324)	0.188* (0.061)	0.044 (0.162)	0.167* (0.035)	0.136 (0.122)	0.165* (0.030)
Dummy=1 if disabled	0.072 (0.064)	-0.120* (0.046)	0.219** (0.101)	0.154** (0.063)	-0.021 (0.090)	0.134 (0.082)	-0.032 (0.090)	0.029 (0.069)	0.141 (0.159)	0.368* (0.120)
Dummy=1 if immigrant	-0.089* (0.033)	-0.022 (0.027)	na	na	-0.130 (0.096)	0.106 (0.091)	-0.019 (0.074)	-0.138* (0.053)	-0.212* (0.057)	-0.130* (0.0493)
Employed in past 12 months * age	0.045** (0.019)	0.051* (0.012)	0.093 (0.033)	0.053* (0.020)	0.023 (0.034)	-0.015 (0.031)	-0.026 (0.028)	0.023 (0.017)	-0.046* (0.013)	-0.020*** (0.011)
Employed in past 12 months * age squared	-0.0007* (0.0002)	-0.0006* (0.0001)	-0.001* (0.0004)	-0.001** (0.0002)	-0.0002 (0.0004)	0.0002 (0.0004)	0.00003 (0.0003)	-0.0004** (0.0002)	0.0005* (0.0002)	0.0002 (0.0001)
Employed in past 12 months * education	0.004* (0.001)	0.003* (0.0008)	0.002 (0.002)	0.006* (0.001)	-0.006* (0.002)	0.002 (0.002)	-0.0001 (0.002)	0.004* (0.001)	0.001 (0.001)	-0.0001 (0.0009)
Observations	4002	5242	599	1044	481	682	945	1497	2436	2039
Adjusted R^2	0.184	0.197	0.310	0.236	.0.363	0.241	0.323	0.363	0.333	0.522

[1] See footnote 1 in table 1; [2] See footnote 2 in table 1.

Appendix Table C1
Ordinary Least Squares Regressions Disposable Household Income, Logged (US 2000 $) - Coefficients Used to Estimate Equivalent Household Income for Those Who Moved into Employment
Males and Females 18-64,Married Couple Households
Canada, 1997

	both working	male employed, female not employed	female employed, male not employed	both not employed
Intercept	8.522* (0.077)	8.588* (0.203)	7.539* (0.384)	8.063* (0.506)
Husband's age	0.045* (0.006)	0.044* (0.015)	0.030 (0.025)	-0.060*** (0.034)
Husband's age squared	-0.0005* (0.0001)	-0.0004** (0.0002)	-0.0001 (0.0003)	0.0007** (0.0003)
Wife's age	0.042* (0.006)	0.016 (0.013)	0.067* (0.026)	0.098* (0.029)
Wife's age squared	-0.0004* (0.0001)	-0.0001 (0.0002)	-0.0008* (0.0003)	-0.0008* (0.0003)
Relative education[2] of husband	0.003* (0.0002)	0.001* (0.0004)	0.001 (0.0008)	0.0001 (0.001)
Relative education[2] of wife	0.002* (0.0002)	0.0006 (0.0005)	0.003* (0.0008)	0.002*** (0.001)
Dummy=1 if children < 18 present	-0.021 (0.016)	0.008 (0.046)	0.046 (0.087)	-0.055 (0.128)
Number of children < 18	0.004 (0.007)	0.066* (0.016)	0.047 (0.042)	0.194* (0.056)
Dummy=1 if husband disabled	-0.019 (0.086)	-0.799* (0.221)	-0.039 (0.045)	-0.003 (0.068)
Dummy=1 if wife disabled	-0.051 (0.097)	0.003 (0.055)	0.277 (0.478)	0.088 (0.094)
Dummy=1 if husband is an immigrant	-0.016 (0.015)	-0.052 (0.044)	0.013 (0.078)	-0.106 (0.150)
Dummy=1 if wife is an immigrant	-0.006 (0.015)	-0.163* (0.044)	-0.055 (0.079)	-0.027 (0.150)
Observations	12,464	2970	694	946
Adjusted R^2	0.122	0.077	0.154	0.100

*significant with 99% confidence; **significant with 95% confidence; ***significant with 90% confidence
[1] see footnote 1 in table 1;[2] see footnote 2 in table 1

Appendix Table C2
Ordinary Least Squares Regressions Disposable Household Income, Logged (US 2000 $) - Coefficients Used to Estimate Equivalent Household Income for Those Who Moved into Employment
Males and Females 18-64,Married Couple Households
United Kingdom, 1995

	both working	male employed, female not employed	female employed, male not employed	both not employed
Intercept	8.070* (0.172)	7.609* (0.340)	8.468* (0.598)	9.139* (0.726)
Husband's age	0.039* (0.012)	0.068* (0.026)	-0.053 (0.048)	-0.003 (0.044)
Husband's age squared	-0.0004* (0.0001)	-0.001** (0.0003)	0.0007 (0.0005)	0.0003 (0.0005)
Wife's age	0.065* (0.013)	0.038 (0.025)	0.084*** (0.047)	-0.023 (0.039)
Wife's age squared	-0.001* (0.0002)	-0.0004 (0.0003)	-0.001*** (0.0005)	0.0003 (0.0004)
Relative education[2] of husband	0.004* (0.0004)	0.005* (0.0009)	0.001 (0.002)	0.003 (0.002)
Relative education[2] of wife	0.004* (0.0004)	0.003* (0.001)	0.005* (0.002)	-0.0007 (0.002)
Dummy=1 if children < 18 present	-0.038 (0.038)	-0.126 (0.084)	0.045 (0.158)	-0.427** (0.171)
Number of children < 18	-0.028 (0.018)	0.032 (0.028)	-0.047 (0.074)	0.202* (0.052)
Dummy=1 if husband disabled	0.433* (0.152)	-0.067 (0.359)	0.512* (0.087)	0.361* (0.103)
Dummy=1 if wife disabled	-0.001 (0.168)	0.161** (0.077)	0.820 (0.610)	0.356* (0.129)
Observations	1856	760	263	427
Adjusted R^2	0.189	0.129	0.217	0.144

*significant with 99% confidence; **significant with 95% confidence; ***significant with 90% confidence
[1] see footnote 1 in table 1; [2] see footnote 2 in table 1

Appendix Table C3
Ordinary Least Squares Regressions Disposable Household Income, Logged (US 2000 $) - Coefficients Used to Estimate Equivalent Household Income for Those Who Moved into Employment
Males and Females 18-64,Married Couple Households
Germany 1994

	both working	male employed, female not employed	female employed, male not employed	both not employed
Intercept	8.269* (0.151)	7.829* (0.245)	8.767* (0.429)	7.871* (0.699)
Husband's age	0.061* (0.011)	0.057* (0.018)	-0.038 (0.032)	0.019 (0.043)
Husband's age squared	-0.001* (0.0001)	-0.0005** (0.0002)	0.0005 (0.0003)	-0.0002 (0.0004)
Wife's age	0.031* (0.011)	0.027*** (0.016)	0.080* (0.030)	0.044 (0.039)
Wife's age squared	-0.0004* (0.0001)	-0.0004** (0.0002)	-0.0009* (0.0003)	-0.0004 (0.0003)
Relative education[2] of husband	0.003* (0.0003)	0.005* (0.0006)	0.003** (0.001)	0.014 (0.001)
Relative education[2] of wife	0.001*** (0.0003)	0.001*** (0.0006)	0.002** (0.001)	-0.002 (0.002)
Dummy=1 if children < 18 present	-0.027 (0.030)	-0.036 (0.051)	0.002 (0.119)	-0.406** (0.161)
Number of children < 18	-0.024 (0.016)	0.060* (0.017)	0.063 (0.063)	0.248* (0.078)
Dummy=1 if husband disabled	-0.046 (0.034)	-0.028 (0.049)	0.198* (0.057)	-0.068 (0.074)
Dummy=1 if wife disabled	0.016 (0.046)	0.057 (0.046)	0.017 (0.073)	0.349* (0.098)
Dummy=1 if husband is an immigrant	-0.020 (0.083)	0.042 (0.161)	-0.023 (0.402)	0.117 (0.873)
Dummy=1 if wife is an immigrant	-0.050 (0.083)	-0.007 (0.163)	-0.035 (0.410)	-0.398 (0.873)
Observations	2129	969	208	232
Adjusted R^2	0.183	0.240	0.205	0.221

*significant with 99% confidence; **significant with 95% confidence; ***significant with 90% confidence
[1] see footnote 1 in table 1;[2] see footnote 2 in table 1

Appendix Table C4
Ordinary Least Squares Regressions Disposable Household Income, Logged (US 2000 $) - Coefficients Used to Estimate Equivalent Household Income for Those Who Moved into Employment
Males and Females 18-64,Married Couple Households
France 1994

	both working	male employed, female not employed	female employed, male not employed	both not employed
Intercept	8.115* (0.109)	7.766* (0.199)	7.528* (0.404)	6.348* (0.398)
Husband's age	0.047* (0.008)	0.047* (0.015)	0.026 (0.027)	0.059** (0.025)
Husband's age squared	-0.0006* (0.0001)	-0.0005* (0.0002)	-0.0003 (0.0003)	-0.0006** (0.0003)
Wife's age	0.036* (0.008)	0.027** (0.013)	0.058** (0.027)	0.063* (0.023)
Wife's age squared	-0.0003* (0.0001)	-0.0002 (0.0002)	-0.0006*** (0.0003)	-0.0006** (0.0002)
Relative education[2] of husband	0.005* (0.0003)	0.006* (0.0005)	0.005* (0.001)	0.004* (0.0009)
Relative education[2] of wife	0.004* (0.0003)	0.003* (0.0005)	0.005* (0.001)	0.007* (0.001)
Dummy=1 if children < 18 present	-0.038*** (0.022)	0.034 (0.041)	-0.034 (0.106)	0.151*** (0.092)
Number of children < 18	0.055* (0.011)	0.098* (0.014)	0.121** (0.049)	0.077** (0.031)
Dummy=1 if husband disabled	0.023 (0.037)	-0.021 (0.063)	-0.090 (0.081)	0.045 (0.061)
Dummy=1 if wife disabled	0.054 (0.079)	0.010 (0.077)	-0.113 (0.159)	0.076 (0.084)
Dummy=1 if husband is an immigrant	-0.029 (0.028)	0.087*** (0.051)	-0.153 (0.096)	-0.038 (0.097)
Dummy=1 if wife is an immigrant	-0.014 (0.029)	-0.160* (0.049)	0.074 (0.097)	-0.026 (0.097)
Observations	3544	1668	342	542
Adjusted R^2	0.337	0.277	0.345	0.310

*significant with 99% confidence; **significant with 95% confidence; ***significant with 90% confidence
[1] see footnote 1 in table 1;[2] see footnote 2 in table 1

Appendix Table C5
Ordinary Least Squares Regressions Disposable Household Income, Logged (US 2000 $) - Coefficients Used to Estimate Equivalent Household Income for Those Who Moved into Employment
Males and Females 18-64,Married Couple Households
Sweden 1995

	both working	male employed, female not employed	female employed, male not employed	both not employed
Intercept	8.754* (0.067)	9.320* (0.254)	0.712* (0.203)	8.460* (0.196)
Husband's age	0.027* (0.005)	-0.017 (0.019)	0.004 (0.018)	0.029** (0.014)
Husband's age squared	-0.0003* (0.00006)	0.0002 (0.0002)	-0.00002 (0.0002)	-0.0004** (0.0002)
Wife's age	0.030* (0.005)	0.037** (0.018)	0.039** (0.018)	0.038* (0.013)
Wife's age squared	-0.0003* (0.00006)	-0.0003 (0.0002)	-0.0004*** (0.0002)	-0.0003** (0.0001)
Relative education[2] of husband	0.003* (0.0002)	0.002* (0.0007)	0.002* (0.0005)	0.003* (0.0004)
Relative education[2] of wife	0.002* (0.0002)	0.0006 (0.0008)	0.001*** (0.0006)	0.001* (0.0005)
Dummy=1 if children < 18 present	0.003 (0.015)	0.059 (0.064)	0.127** (0.060)	-0.003 (0.043)
Number of children < 18	0.034* (0.007)	0.082* (0.030)	0.052** (0.026)	0.078* (0.018)
Dummy=1 if husband disabled	0.025 (0.079)	0.077 (0.240)	0.125 (0.111)	0.064 (0.177)
Dummy=1 if wife disabled	0.108 (0.117)	0.186 (0.127)	0.463*** (0.261)	0.028 (0.111)
Dummy=1 if husband is an immigrant	0.002 (0.026)	0.270* (0.082)	-0.179* (0.057)	-0.078*** (0.046)
Dummy=1 if wife is an immigrant	-0.068* (0.026)	-0.138** (0.067)	-0.009 (0.057)	-0.308* (0.044)
Observations	4944	648	360	1114
Adjusted R^2	0.205	0.112	0.331	0.217

*significant with 99% confidence; **significant with 95% confidence; ***significant with 90% confidence
[1] see footnote 1 in table 1;[2] see footnote 2 in table 1

Appendix Table C6A
Ordinary Least Squares Regressions Disposable Household Income, Logged (US 2000 $) - Coefficients Used to Estimate Equivalent Household Income for Those Who Moved into Employment
Males and Females 18-64,Married Couple Households
United States 1997 (for table 3B)

	both working	male employed, female not employed	female employed, male not employed	both not employed
Intercept	8.491* (0.062)	8.295* (0.162)	8.325* (0.361)	7.328* (0.839)
Husband's age	0.040* (0.005)	0.023*** (0.012)	0.005 (0.022)	-0.024 (0.046)
Husband's age squared	-0.0004* (0..0001)	-0.0002 (0.0001)	0.0001 (0.0002)	0.0002 (0.0005)
Wife's age	0.050* (0.005)	0.049* (0.011)	0.048** (0.021)	0.079*** (0.047)
Wife's age squared	-0.0005* (0.0001)	-0.0005* (0.0001)	-0.0005** (0.0002)	-0.0005 (0.0005)
Relative education[2] of husband	0.005* (0.0002)	0.008* (0.0005)	0.006* (0.0009)	0.007* (0.002)
Relative education[2] of wife	0.004* (0.0002)	0.004* (0.0005)	0.005* (0.001)	0.001 (0.002)
Dummy=1 if children < 18 present	0.029** (0.013)	0.102* (0.036)	0.091 (0.069)	0.081 (0.146)
Number of children < 18	-0.006 (0.006)	0.036* (0.012)	0.037 (0.027)	0.068 (0.052)
Dummy=1 if husband disabled	-0.169* (0.025)	-0.457* (0.068)	0.183* (0.044)	0.237* (0.093)
Dummy=1 if wife disabled	-0.180* (0.024)	-0.098* (0.033)	-0.213** (0.108)	-0.014 (0.096)
Dummy=1 if husband is an immigrant	-0.007 (0.017)	-0.091** (0.042)	-0.104 (0.102)	-0.068 (0.205)
Dummy=1 if wife is an immigrant	-0.079* (0.017)	-0.082** (0.041)	-0.010 (0.099)	-0.187 (0.192)
Observations	16,305	4690	962	683
Adjusted R^2	0.264	0.265	0.233	0.125

*significant with 99% confidence; **significant with 95% confidence; ***significant with 90% confidence
[1] see footnote 1 in table 1;[2] see footnote 2 in table 1

Appendix Table C6B
Ordinary Least Squares Regressions Disposable Household Income, Logged (US 2000 $) - Coefficients Used to Estimate Equivalent Household Income for Those Who Moved into Employment
Males and Females Single Households
United States 1997 (for table 3B)

	males	females
Intercept	8.320* (0.387)	8.701* (0.232)
Dummy=1 if employed[1] in past 12 months	0.447 (0.410)	-0.819* (0.258)
Age	0.017 (0.018)	0.004 (0.011)
Age squared	0.00003 (0.0002)	0.0001 (0.0001)
Relative education[2]	0.004* (0.001)	0.0007 (0.0008)
Dummy=1 if children < 18 present	0.220* (0.063)	0.017 (0.029)
Number of children < 18	0.051 (0.034)	0.061* (0.012)
Dummy=1 if disabled	-0.225* (0.043)	-0.167* (0.030)
Dummy=1 if immigrant	-0.061 (0.035)	-0.065** (0.029)
Employed in past 12 months * age	0.026 (0.020)	0.071* (0.012)
Employed in past 12 months * age squared	-0.0005** (0.0002)	-0.0009* (0.0001)
Employed in past 12 months * education	0.004* (0.001)	0.008* (0.0008)
Observations	6304	9120
Adjusted R^2	0.187	0.234

*significant with 99% confidence; **significant with 95% confidence; ***significant with 90% confidence
[1] see footnote 1 in table 1;[2] see footnote 2 in table 1