

Women's Employment, Unpaid Work and Economic Wellbeing:

A Cross-National Analysis

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ABSTRACT

Most studies of the impact of increases in women's employment on earnings inequality ignore associated declines in the amount of time women devote to unpaid work. In this paper, we link estimates of time devoted to unpaid work among partnered couples ages 25-59 from the Harmonized European Time Use Survey and the American Time Use Survey to estimates of household earnings for similar couples for whom we have microdata in the LIS database. Our results demonstrate the equalizing impact of unpaid work hours in nine countries, as well as the equalizing impact of the imputed value of unpaid work based on replacement cost estimates using national minimum wages as a lower bound and median wages for men and women as an upper bound.

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How does the level of women's labor force participation affect economic well-being? Most explorations of this question focus on the distribution of market earnings, ignoring the possible impact of changes in the value of women's non-market work. Yet recent calculations of the market value of unpaid non-market work based on data collected from time use surveys reveal its significant magnitude--between about 30% and 50% of conventionally measured Gross Domestic Product (Landefeld and McCulla, 2000). Further, many studies show that increases in the time women devote to paid work are associated with declines in overall household time devoted to unpaid work. Thus, a full assessment of the impact of women's labor force participation on inequality requires attention to the possible countervailing effects of declines in the value of home-produced goods and services.

In this paper, we move toward such an assessment, comparing estimates of the level and inequality of household earnings among married couples in eight European countries and the U.S. with estimates of "extended earnings"—market earnings plus estimates of the value of non-market work. We estimate the value of non-market work by applying estimates of average time devoted to household work and child care based on the Harmonized European Time Use Survey and the American Time Use Survey to married couples whose microdata are included in the Luxembourg Income Study database. We provide both lower- and upper-bound replacement-cost estimates of the market value of this work, and examine implications for several different measures of inequality.

Hours of non-market work are more evenly distributed across households than hours of market work, vary relatively little in terms of market value, and are negatively correlated with hours of market work. Therefore, higher levels of non-market work in a country have an equalizing effect, with important implications for inter-country rankings of equality that vary according to methods of valuation. Our estimates illustrate a range of possible magnitudes of this equalizing effect. They suggest that failure to take the value of unpaid work into account confounds conventional market-income-based estimates of the effect of changes in women's employment on economic inequality.

We begin with a discussion of economic well-being that clarifies our definition of extended income and our choice of replacement-cost estimates for the value of non-market work. We then review the two different lines of empirical research alluded to above: studies of the impact of increases in women's employment on the level and inequality of household earnings and studies of the impact of non-market work on household's extended income. In the second section, we move to consideration of important methodological issues, such as the measurement and valuation of non-market work, and the possible implications of differing economies of scale for consumption based on market income versus household production. In the third section, we discuss our empirical results. In the conclusion, we explain why our estimates are relevant to broader discussions of the impact of changes in women's roles on inequality in economic well-being.

Definition and Measurement of Differences in Economic Well-being

Defining Extended Income

Economic well-being can be defined and measured in a bewildering variety of ways. Economists have traditionally relied on measures of market income (money that comes into a

household) or consumption (money that goes out of a household) but a growing body of research emphasizes what happens within the household itself (Folbre, 2009). The value of household production can be seen as a form of implicit income, or as contribution to household consumption. “Work” can be defined as an activity that, in principle, someone else could be paid to perform. By this definition, the overall amount of time devoted to household work in most developed countries approximates the overall amount of time devoted to market work. Further, investments in household capital (housing and consumer durables) are substantial. In principle, most economists agree that household production makes significant contributions to household consumption of goods and services and therefore enhances living standards.

Economists disagree, however, on both theoretical and methodological issues concerning the measurement and valuation of household production. Neoclassical models of household production based on Becker (1965) typically begin with the assumption of household utility maximization, and apply that logic to valuation. This approach has two important implications for measurement. First, since time devoted to leisure yields direct utility to households, many neoclassical models assign a value to leisure as well as to household production, providing an estimate of what is often termed “full income.” Second, since households presumably compare the utility they gain from both leisure and household production to the utility it would gain from its next best alternative, both leisure and household production are often valued according to the opportunity cost of the individuals engaging in them—typically, estimated wage in market employment. This approach emphasizes the subjective value that households place on their own activities, yielding a measure of utility that is interesting to compare with direct reports of happiness or satisfaction yielded by new survey methodologies (Kahneman et al. 2004).

This subjective emphasis on utility or psychological well-being can be contrasted with the emphasis on material living standards characteristic of classical political economy, rooted in consideration of physiological and social needs (for more discussion see Folbre 2008). National income accounts—and related measures such as market income and consumption expenditures—are purely descriptive categories that are not based on any assumptions regarding utility maximization. The same is true of survey measures of household earnings or consumption. These measures are based on market prices, and do not include any consideration of individual utility in the form of consumer surplus. For this reason, an important study published by the National Academy of Science (Abraham and Mackie, 2004) recommends that valuation of non-market activities for national income accounting purposes should not include the valuation of leisure time, and should be based on the logic of replacement cost, rather than opportunity cost. That is, if the household did produce its own goods and services, what would it cost to replace these with purchases of comparable goods and services?

As we shall see, a precise answer to this question is difficult to come by, especially since the value of household production is affected by not only by inputs of unpaid work, but also by household technology and productivity. Furthermore, the challenge of accurately measuring income available for the consumption of goods and services is not limited to the valuation of household production alone. In principle a measure of extended income should be based on the sum of after-tax earnings, other after-tax income (including government transfers) and the value of in-kind services provided by the government, including health care, child care, and elder care as well as the value of home production. Indeed, omission of the value of government-provided services directly parallels omission of the value of unpaid work—most obviously in the case of child care and elder care (Esping Anderson 2009a). Any empirical venture into measurement of

extended income requires considerable methodological humility. On the other hand, conventional estimates based on market income alone are seriously misleading.

The Impact of Women's Employment on Household Income

Focus on market earnings is a prominent feature of most research on the impact of women's employment on the level and distribution of economic well-being. Measurement of increases in family income is straightforward for married couples since it simply involves addition of married women's earnings to those of their husbands (the implications are less straightforward for families or couples who are less likely to pool their income). Increases in both women's labor force participation and their earnings have contributed to substantial increases in family income since the 1960s in most developed countries, though assessment of this trend is complicated by countervailing trends in household structure, such as increases the percentage of families maintained by mothers alone.

A focus on the market earnings of married couples clarifies the issue at hand: as married women have entered paid employment, they have reduced the amount of time they devote to non-market work. The historical record is particularly clear for the U.S. (Bianchi et al., 2006). Thus, it entirely possible that declines in the value of unpaid work have partially countervailed increases in market income—requiring married couple families to spend more money on substitutes for previously home-produced services, such as convenience foods, restaurant meals, and child care services. Likewise, differences in the value of unpaid work could confound comparisons of income between dual-earner married couples and those including a full-time homemaker who devotes more time than her employed counterpart to services such as meal preparation and child care.

In principle, the methodology applied to analysis of the impact of married women's employment on family market income can be extended to analysis of its impact on household extended income. As a result, a review of this literature yields important insights, particularly for analysis of effects on inequality. First (and most intuitively) this literature sometimes deploys counterfactuals: What would the distribution of family income among married couple households look like if a) women had no earnings or b) if women's earnings were higher (all else equal). Second, this literature often compares the variance of overall earnings with the variance of men's earnings, or decomposes a measure of inequality, such as the squared coefficient of variation, into its component parts, making it possible to compare the impact of changes in the level of different income sources, the inequality of different income sources, and the correlation among different income sources.

For instance, in their analysis of changes in family income inequality among married couples in the U.S., Cancian et al. (1993) find that increases in women's employment and earnings lowered market income inequality overall, with considerable variation among racial/ethnic groups. Their decomposition of the squared coefficient of variation in earnings showed that greater female labor force participation reduced the overall inequality in women's earnings (since fewer women had zero earnings), an effect that outweighed the effect of increased correlation between the earnings of wives and husbands (a result of assortative mating, especially more highly educated women married more highly educated men).

Similarly, Cancian and Schoeni (1992), examining differences in married couple incomes across 11 countries (including changes over time in four countries) based on LIS data, found that wives' earnings reduced overall income inequality, though in varying degrees. They conclude

that correlation between the earnings of married husbands and wives would need to be considerably higher (at least double) to counter the equalizing effect.

In a more recent LIS paper that includes a comprehensive review of the literature, Harkness (2010) investigates this relationship between female earnings and household income inequality using micro-data for seventeen OECD countries. Employing both the counterfactuals described above, as well as a decomposition of the squared coefficient of variation and the coefficient of variation, she finds that, in all countries, female earnings exert an equalising force—though of quite different magnitudes.

However, Harkness also acknowledges important differences across studies based on differences in measures used. For instance, Esping-Anderson (2008), comparing the variance of total earnings with that of husband's earnings across several countries in 1993 and 2001, concludes that wives' earnings increased inequality among couples in France, Germany, Italy, Spain and the U.K. but decreased inequality for the U.S., Sweden and, in 2001 only, in Denmark. Both the cross-country differences in magnitudes and the sensitivity to different measures of inequality suggest that effects of increased female employment on extended income could be quite different from effects on market income.

The Impact of Valuation of Unpaid Work on Income and Income Inequality.

Estimates of the value of unpaid work generally find that it increases family incomes fairly uniformly, but more in countries with lower levels of female labor force participation. For instance, Freeman and Schettkatt (2002) find that the value of extended income relative to market income is significantly greater in Germany than in the U.S. On the other hand, time devoted to non-market work does not decline proportionately with time devoted to market

employment, and remains relatively high even in highly developed economies (Folbre and Yoon, 2008a).

Efforts to value unpaid work generally find that imputations of its market value have an equalizing effect on the distribution of family “full income,” defined as the sum of market income and the imputed value of non-market work (Aslaksen and Koren, 1996; Gottschalk and Mayer, 2002; Frazis and Stewart, 2006; Frick et al. 2009). Somewhat surprisingly, however, low-income households do not seem to devote significantly more time to household production (including childcare) than high income households, and unemployed men don’t perform significantly more housework than those who are employed (Frazis and Stewart, 2006). The equalizing effect of valuing household production results primarily from addition of a relatively large constant value to most household incomes.

The size of this equalizing effect, however, varies considerably. Some evidence suggests that the distribution of unpaid work in U.S. households has become slightly more unequal over time in the U.S. (Zick and Bryant, 2007). Furthermore, the size of the equalizing effect depends heavily on assumptions used in valuing non-market work time, ranging from valuation methods to considerations of joint production and possible diminishing productivity (Frick et al. 2009).

Changes in the size of married couple households may also have implications for economies of scale in household production. While economists know little about the extent of economies of scale in household production, assumptions regarding their impact are built into standard equivalence scales, which assume that many can live more cheaply than one. There are almost certainly greater economies of scale in household production than in market purchases: the marginal cost of adding another person to the home dinner table is much smaller than that of adding them to a restaurant tab. In meal preparation, economies of scale in time far exceed

economies of scale from consumption alone (Vernon 2005).

Likewise, in countries where child care imposes costs on parents, the marginal cash expenditure cost of putting a small child into paid childcare is often greater than the time cost of adding another child to the household. Hence, a shift away from household production towards market production almost certainly reduces overall household economies of scale in consumption. As a result, large families—such as those with more than two children—that rely more heavily on market income may be worse off in terms of extended income than large families with higher levels of household-produced services.

Constructing Measures of Extended Income

In order to focus on the issue of unpaid work, which varies most for working-age women in married couple households, we focus on partnered couples ages 25-59 living in households with no other adults. We generate estimates of the amount of unpaid work per adult from the Harmonized European Time Use Survey (HETUS) and the American Time Use Survey (ATUS), and link these to estimates of the earnings of married couples in Luxembourg Income Study (LIS) surveys.¹ We chose the following countries based largely on the temporal proximity of the HETUS/ATUS and LIS surveys (typically no more than one year apart): Finland, France, Germany, Poland, Italy, Spain, Sweden, the U.K., and the U.S. These nine countries vary considerably in their levels of female labor force participation and non-market work.

The HETUS asked a representative sample of respondents to describe their activities on a randomly chosen day, which could fall during the week or on the weekend. This survey offers consistent harmonized measures of time use, but its interface does not allow analysis of the micro data. We use the ATUS to provide comparable estimates of time use for the U.S. It is important to note that time designed as “child care” is limited to actual activities such as feeding,

cleaning, bathing, talking to or transporting a child. Supervisory or “on-call” responsibilities are not included. Also, housework conducted on behalf of a child—such as meal preparation, laundry, or picking up toys, is coded as housework, not as child care.

We estimated mean time devoted to unpaid work activities for individuals based on their employment characteristics, the presence of children, and the age of the youngest, distinguishing between two types of unpaid work, housework and childcare. We then applied these mean time use estimates to the records of married couples within the LIS, based on their individual employment and child-related characteristics. The sum of average unpaid work hours by husbands and wives with given employment and family size characteristics provides an estimate of the household’s total unpaid work hours. Since we cannot clearly identify other adults living with married couples in the HETUS in order to measure their distinctive pattern of unpaid work, we excluded all married couple households in which another adult was coresident. This exclusion leads to an underestimate of the total quantity of unpaid work in countries where extended families are common, such as Poland (where more than 45% of men and women living in a household with a child live in a household with more than 2 adults).

We matched estimates of individual time use from the HETUS/ATUS to individuals included in LIS surveys. The time-use and income surveys were typically conducted no more than one year apart. We multiplied the number of unpaid work hours per household times several different estimates of replacement cost, aiming for both a lower-bound and an upper-bound estimate. The lower-bound estimate is based on the national minimum wage; the upper bound is based on median wages for men and women (we also explore some occupation-specific wages, but these are available for only two countries). Both replacement cost estimates are well below the actual cost of hiring a replacement worker because they ignore the value of employer

contributions other than wages. We add the estimated value of unpaid work to net earnings (earnings less taxes and social contributions) to arrive at an estimate of “extended earnings” per household. We examine the possible impact of greater economies of scale in household production than in consumption of market goods by applying a different scale parameter. Finally, we compare measures of the level and distribution of extended income for partnered couples with measures based only on market income.

Results

We discuss three sets of results in sequence. First, we provide an overview of our estimates of time use based on the HETUS and ATUS. Second, we examine the impact of different assumptions regarding both valuation and equivalence scales on measures of the level of extended income across countries. Third, we examine differences in the distribution of market income and extended income across countries, seeking to clarify the possibly equalizing effect of unpaid work on households in different ranges of the income distribution in different countries.

Time Use

The basic distribution of average work time across the nine countries reveals a familiar pattern (See Table 1). Men devote more time, on average, to paid work, women to unpaid work. However, in every country men devote an average of at least 2 hours a day, or 14 hours per week, to unpaid work. In every country (results not shown in table), the likelihood of performing some unpaid work on the time diary day was far higher than the likelihood of paid work. In these demographic categories (which exclude single parent households), men work slightly more hours total per day than women in every country except France, Italy, and Spain.

The final column of Table 1, with estimates of unpaid work as a percentage of total work by gender provides the best summary comparison of differences across countries: Finland, Sweden, and the U.S. represent the most “marketized” countries for women, with women devoting less than 60% of their work time to unpaid work. At the other end of the spectrum lie Germany, Italy and Spain, where women devote more than 70% of their time to unpaid work.

These differences among men are more muted, and follow a less distinct pattern. Men’s time devoted to unpaid work is smallest in percentage terms (below 30%) in Italy and Spain (perhaps because women do so much more in those countries), but is over 35% in Poland and Germany as well as Sweden. Interestingly, a low percentage for women is counterbalanced by a high percentage for men in the two Nordic countries, but in Poland and Germany both men’s and women’s participation in unpaid work is relatively high.

In all these countries, time devoted to housework and childcare varies inversely with time devoted to paid work and increases with the presence of young children. These patterns are clearly revealed in Table 2, where the categories within each country with the highest levels of unpaid work are highlighted. With few exceptions, both women and men who are not employed and are living with a child under 7 devote the highest amount of time to unpaid work. Conversely, individuals working full-time and the self-employed with no children devote the highest amount of time to paid work (See Table 2). We included the self-employed as a separate category in this table because we could not distinguish between those working full-time and part-time. The results presented here suggest that the self-employed—both men and women—typically put in long hours in paid work, and more closely resemble full-time than part-time employees. While German women represents an important exception here (with surprisingly low paid work hours), relatively few are engaged in self-employment.

Another way of describing the trade-off between hours of paid and unpaid work central to our concern in this paper lies in the correlation between paid and unpaid work hours across the employment/family structure categories within countries. This correlation is negative and greater than $-.70$ for women and men in every country except Sweden (where it is only $-.36$ for women). In countries where the level of unpaid work is high in absolute and relative terms, such as Italy, Germany, and Spain the negative correlation for women exceeds $.8$. In other words, the higher the level of unpaid work, the more it is reduced when paid work increases. In Sweden women who engage in an additional hour of paid work reduce their unpaid work by only about half an hour—perhaps because they are not doing much to begin with. In Italy, Germany, and Spain, an hour of paid work seems to have a stronger negative effect on unpaid work. This relationship deserves further scrutiny using micro-level data.

The powerful equalizing effect that non-market work has on women's total hours of work is illustrated in Figures 1a-1c, which graph the relationship between paid and unpaid work hours across three employment statuses for women in three very different countries, Finland, Spain, and the U.S. Notice that women with no paid work hours work almost as long, overall, as those who combine paid and unpaid work. Further, those who work part-time for pay typically put in more hours of unpaid work than those who work full-time, but more hours of total work than those who are not employed—with the exception of the U.S., where they work slightly less. The pattern is similar for women across other countries.

Men's non-market work also has an equalizing effect, but one that is considerably smaller (See Figures 2a-2c). In Finland, Spain, and the U.S., men who are not employed do more unpaid work than those who are employed but not that much more—their total hours of work remain way below those of employed men (we restrict our comparison for men to the not-

employed/employed distinction, because there is less variation among them). Patterns are similar across all countries, not just those depicted in the graphs. Also, it is important to note that many fewer men than women fall into the “not employed” category.

These graphs alone demonstrate the potentially significant equalizing effect of any positive valuation of women’s unpaid work on the level of extended earnings. To move toward an analysis of impact on household income in the absence of detailed micro-data linking earnings with unpaid work we create “synthetic” couples by combining estimates of individual work hours based on employment status and number of children. As can be seen from Figure 3, variation among countries in the average level of total work hours per married couple are not very different from variation in hours of paid work. Total work hours are highest in Italy and Poland—reflecting high levels of self employment as well as high levels of unpaid work in those countries. But remember that, by virtually any replacement cost valuation, there is much less inequality in the value of unpaid than paid work hours. The time use picture leads us to expect considerable equalization both within and across countries when we shift from market income to extended income.

All these estimates of time use are based on the HETUS or the ATUS. As aforementioned, to construct estimates of extended income we link estimates of average time devoted to housework and childcare for married couples with no other adult present to households with similar employment and family size characteristics in LIS surveys. The average amount of weekly paid work hours is included in LIS surveys for all but three of the countries in our sample (See Appendix Table A). Among these, estimates of paid work hours vary less than 10% for men and women in most countries, with the salient exception of Germany, where HETUS results record paid work hours about 20% lower than the LIS survey for both men and

women. As a result, estimates of unpaid work hours—and the value of extended income—may be inflated for Germany relative to other countries.

Estimates of Extended Income

Given estimates of unpaid work hours, the next step in constructing an estimate of extended income is choice of a set of replacement cost wages. In an ideal world, we would utilize quality-adjusted measures of wages for both housework and childcare. In this world, we make the best of what we can find, providing both a lower-bound and an upper-bound estimate and conducting sensitivity analysis. The wage rates we utilize, presented in Table 3, are all converted to purchasing power parity (PPP) adjusted 2005 U.S. dollars.

For the lower-bound estimate, we constructed a measure of the national minimum wage in each of these nine countries, converted to hourly amounts. Using this indicator, the hourly minimum wage ranges from \$2.43 in Poland and \$4.19 in Spain, on the low end, to \$8.82 in Germany and \$9.07 in France, on the high end. The U.S. ranks 7th at \$5.98. The simple cross-country average is \$6.64.²

For the upper-bound estimate, we constructed a measure of median hourly earnings for all workers; this measure is based on reported earnings, available in the LIS microdata³ Among all female workers, median hourly earnings range from \$2.81 in Poland to \$11.37 in the U.S.; the simple average across these 9 countries is \$7.67. Among male workers, the range is considerably greater, from \$3.24 in Poland to \$14.17 in the U.S.; the simple average across the nine countries is \$8.99. We also estimated median hourly earnings among personal service workers (PSWs) for the countries for which this estimate was feasible. Among women, PSW earnings in seven countries range from \$2.22 in Poland to \$6.92 in the U.S. and \$6.93 in the U.K. Among men,

PSW earnings in six countries range from \$2.97 in Poland to \$8.01 in the U.S. and \$8.06 in the U.K. (See Table 3, Panel A).

Among women, minimum wages tend to be high relative to median female earnings. In seven of the nine countries, the minimum equals at least 80% of the median; in three countries, the minimum wage exceeds median female earnings – although by small margins (1% in Germany, 7% in the U.K., and 9% in France.) In two countries, Spain and the U.S., the minimum wage is substantially lower relative to the median; the ratio is lowest in the U.S. at .53. Among men the minimum wage ranges from .42 of median male earnings in the U.S. to .96 in France. In every country for which we could estimate the median earnings of personal service workers these were lower than median earnings, though with considerable variation across countries (See Table 3, Panel A).

For Germany and the U.S. we were able to estimate more specific wages for housework and child care (See Table 3, Panel B). In Germany, female housekeepers earn \$6.69, whereas female child care workers earn slightly less: \$6.58. (Small cells sizes prevent us from reporting these values for men.) These female workers earn about three-quarters of what all women workers earn: .77 for housekeepers and .75 for child care workers. In the U.S., female housekeepers earn \$6.97/hour, whereas female child care workers earn slightly less: \$6.46/hour. The results among men are somewhat different in that the male housekeepers earn substantially more than the male child care workers – although the cell sizes are relatively small. As in Germany, female child care workers earn about three-quarters of what all U.S. women earn; housekeepers fare slightly better, earning .80 of what all women workers earn. The PSW-to-all ratios for men are substantially lower (See Table 3, Panel B).

Since these occupational wages are available for only two countries and do not differ greatly, we focus our attention on comparisons of household extended earnings based on minimum and median wages. The most important distinction between these replacement wages, apart from their differing levels, is that the minimum wage used is applied to both men and women, while the median wage valuation is based on gender-specific wages, and therefore differs between men and women. There is a cruel irony to use of this median earnings measure: it embodies a wage difference that is itself largely the result of the gender division of labor. That is, women earn lower median wages than men in large part because of the time they devote to unpaid work—which is in turn “devalued” by this method. On the other hand, this replacement cost logic reiterates the significant reduction in household bargaining power created by the larger gender division of labor.

We define an individual’s annual net extended earnings as the sum of their after-tax earnings from paid work and one of two replacement cost estimates of unpaid work (See Table 4). Considering only positive earnings (excluding zeros), women’s mean annual earnings from paid work range from \$6,875 in Poland to \$26,302 in the U.S.; the cross-country average is \$15,628. Including zero values, earnings range from \$3,483 in Poland to \$19,440 in the U.S.; the cross-country average is \$11,429. Men’s average net earnings are substantially higher. The cross-country average is \$25,338 (when limited to those with positive earnings) and \$22,700 (with zeros included) (See Table 4).

However, the average value of women’s unpaid work is considerably higher than men’s, even using the lower-bound minimum wages estimate. On an annual basis, it ranges from a low of \$5,086 in Poland, to almost exactly \$15,000 in France, Italy, and the U.K., to a high of \$16,774 in Germany. When valued at median earnings for all workers, the mean value of unpaid

work ranges from a low of \$5,881 in Poland to a high of \$19,720 in the U.S. Shifting from the minimum wage to the median-earnings measure substantially increases the value of women's unpaid work in the U.S., in absolute and comparative terms (See Table 4).

The best indicator of the relative contribution of actual and imputed earnings of individuals is the ratio between the two. Across the countries in this study, adding the value of women's unpaid work to their earnings has the effect, on average, of at least doubling the estimate of their contribution, regardless of the replacement wage used (See Table 4). The average ratio of women's extended earnings to their market earnings is 2.17 using the minimum wage valuation and 2.35 using the median earnings valuation. While the effect on men's contribution is smaller, it remains substantial. Across all countries, the average value of men's extended earnings is 30-40% higher than the value of their market earnings—1.31 using the minimum wage, and 1.40 using median earnings (See Table 4).

The impact of valuing unpaid work on the earnings of partnered couple households is intermediate between the impact on the earnings of women and the impact on those of men (See Table 5).⁴ As expected, the lowest market earnings are reported by couples in which neither are employed at the time of the survey, and the most by those in which men are employed and their female partners employed full-time. Conversely, the value of unpaid work is highest in couples in which neither is employed, second-highest where men are employed and their female partners are not, and third-highest where men are employed and their female partners are employed part-time. The ratio of extended earnings to market earnings is highest for couples where neither individual is employed and second-highest where a woman is employed only part-time. However, these results are sensitive to differences in the reference period in the labor force survey, which influence the amount of market earnings reported. More interesting is the high

ratio of extended to market earnings in partnered households where a man is not employed and a woman is employed only part-time (See Appendix Figure 1), a result driven by the combination of a relatively high numerator (their unpaid work) and a low denominator (the value of their market earnings).⁵

The impact of valuation assumptions on differences in the absolute value of unpaid work in partnered households across countries is dramatized in Figure 4, which shows that choice of wage rates matters greatly for the U.S.—and, to a lesser extent for Spain. Valued at the minimum wage, extended earnings among U.S. couples are third-lowest among all countries. Valued at the median wage, however, they are highest among all countries. On the one hand, one might argue that minimum wage rates are unrealistically low in the U.S. and should not be applied; on the other hand, the relatively low minimum wage does lower the replacement cost of housework and childcare. Valued at the minimum wage, the extended earnings of Spanish couples are not dramatically different in value from those of Polish couples; valued at the median wage, they are much higher. Wage inequality reflected by a big difference between minimum and median wages (as in the U.S. and Spain) makes it cheaper for households to purchase market substitutes for home-produced services and may encourage the employment of middle-class women. Low wages at the bottom also reduce the lower-bound replacement cost valuation of unpaid work.

Figure 4 also demonstrates the countervailing effects of wage rates on differences in the value of couples' extended earnings across countries. Although unpaid work hours are higher in Poland, Spain, and Italy than in other countries, minimum and median wage rates are lower than in other countries, depressing the overall value of unpaid work. Germany stands out because it is characterized both by relatively high levels of unpaid work and high wage rates. As aforementioned, HETUS estimates of hours of unpaid work may be on the high side for

Germany. Nonetheless, other studies have also found that the value of extended income is high there (Freeman and Schettkatt, 2002). The ratio of extended earnings to market earnings is 1.75 in Germany, almost as high as Poland's 1.82 (See Table 5). Similarly, the ratio of extended earnings to market earnings in Sweden—a country we think of as highly “marketized”—is 1.67, almost identical with Italy's 1.66 (See Table 5).

Consideration of unpaid work substantially modifies both estimates of women's contribution to household economic well-being and the relative ranking of countries on this measure. As can be seen from Table 6, women contribute less than 45% of market earnings—on the high side in Finland and France (40-42%); followed by Sweden and Poland (38-39%); Germany, the U.K., and the U.S. (30-32%); and Spain and Italy (26-29%). Using a minimum wage valuation, women's contribution to extended earnings is highest in Poland (54%); followed by Finland, France, and Italy (51%); Germany, Spain, Sweden, and the U.K. (46-48%); and followed by 41% in the U.S. Using a median wage valuation alters this ranking: Women's contribution to couples' extended earnings is greatest in Italy and Poland (53%); followed by Spain, France, and Finland (50%); Sweden and the U.K. (45-47%); and followed by 43-44% in the U.S. and Germany.

Both estimates bring women's relative economic contributions to couples close to 50% in most countries, consistent with the idea of “partnership.” Note that among households in which men are not employed, women's relative contribution to extended earnings is greater than 50% using both valuation rates, even if they are not themselves employed. Unpaid work may play an important role in buffering the impact of unemployment or loss of market income, although it obviously does not represent a perfect substitute, as it relies heavily on inputs purchased with market earnings (e.g., you can't prepare a meal if you can't buy food) (Folbre, 2009).

None of the estimates of market or extended earnings discussed above have been adjusted for household size, despite considerable variation across partnered households in number of children. A standard equivalence adjustment, often used in analysis of LIS data, divides household income by the square root of the number of household members. This adjustment implies considerable economies of scale in household consumption. For instance, it assumes that the earnings of a household with four people should be divided by 2 (the square root of 4). In other words, this household is assumed to require only twice as much money to live as well as a one-person household.⁶ Such assumptions are difficult to test empirically, in part because money and time are substitutes.

Indeed, the relatively generous economies of scale assumed by this standard equivalence scale, which has been widely applied for more than forty years, may reflect a world in which most married women stayed home and specialized in household production. In general, meal preparation, shopping, and child care enjoy significant economies of scale—the marginal cost of adding another household member is typically far lower than the average cost. As women have entered paid employment, however, households have become more likely to purchase meals away from home and to purchase substitutes for family care. Market purchases of meals and other services do not typically afford a “discount” for larger households, and may therefore reduce household economies of scale—a trend consistent with the decrease in household size that typically accompanies economic development and increases in women’s labor force participation.

In order to illustrate the possible impact of differing economies of scale for market purchases financed by market earnings and the home-produced services yielded by unpaid work, we compare the equivalized income of partnered couples using a standard equivalence scale

(household size with an exponent of .5) and an equivalence scale that applies a higher scaling factor to the value of unpaid work (See Table 7). Specifically, we apply an equivalence scale that uses a .7 exponent on market earnings (closer to a simple per capita adjustment) and a .3 exponent on the value of unpaid work. This scale essentially weights unpaid work more heavily than paid earnings as a contributor to household economic well-being, a weight that could also be construed as a reflection of its personal, emotional, and social significance.

Adjustments for household size reduce the value of both paid and unpaid work to the household. With market earnings, the second scale brings a *greater* reduction than does the first scale; with unpaid work, the second scale brings a *smaller* reduction than the first scale. In most countries, the effects of these two equivalence scales on extended earnings differ relatively little, but the U.S. and Spain represent important exceptions. The ratio of extended to market earnings is about the same in every country, whether not equivalized or equivalized using the standard scale. However (by construction) application of the modified scale increases the relative size of extended earnings relative to market earnings. In Spain, for instance, this ratio increases from 1.39 to 1.41 (based on non-equivalized or standard equivalence scaling) to 1.61 applying the second scale. As we will see, this increased weighting of the value of unpaid work on the household well-being has implications for the effects of valuation on household economic well-being. However, we want to emphasize that these results based on a modified equivalence scale are speculative, primarily intended to encourage further research on this topic.

We rely on results using the standard square-root equivalence scale to examine the relative inequality of market earnings and extended earnings. Our preliminary analysis here relies on three measures: the variance of earnings, the ratio of earnings in the 90th to earnings in the 50th percentile (P90/P50), and the Gini index. As can be seen from Table 8, which relies on

valuation at minimum wages, extended earnings are distributed more equally than market earnings for every country using every measure. However, the extent of equalization differs considerably by measure. For instance, the ratio of the variance of market earnings to extended earnings is highest in Finland, at 1.12. In contrast, this ratio is highest in Poland, using either the P90/P50 measure or the Gini index. Results are similar using a median wage valuation (See Table 9).

A useful summary of the effect of valuing extended earnings in two different ways on the three different equality measures is presented in Table 10, which shows how relative inequality rankings change. Using the variance of earnings as a measure, the choice of valuation method for unpaid work does not affect the country rankings. Using the P90/P50 measure, the valuation method has only small effects on country rankings. Using the Gini, however, rankings are significantly affected. Germany goes from second most unequal to 5th most unequal using a minimum wage valuation; Italy from 4th to 6th. Spain, on the other hand, goes up in the inequality rankings using a minimum wage valuation of unpaid work.

Measured in terms of the variance of earnings, the U.S. is the most unequal country regardless of definition of earnings or valuation method. Measured in terms of the ratio of earnings at the top to earnings at the middle (P90/P50), the U.S. is in the middle of the inequality range in market earnings, but at or near the top in extended earnings. Similarly, the U.S. Gini is mid-range for market earnings, but at the top for extended earnings. Highly educated men and women with high earnings in the U.S. devote more time to active child care than their less educated counterparts, which could help explain this result. In general, the equalizing effect of valuing unpaid work is small relative to other countries. At the other end of the spectrum,

Sweden ranks consistently low in inequality regardless of definition of earnings or method of valuation.

The next step in our research will extend this analysis to consider the squared coefficient of variation, which can facilitate a clear decomposition of factors contributing to inequality. We will also experiment with several different counterfactuals, such as the following: What is the impact on market earnings and extended earnings of setting women's market earnings to zero, and assuming that all currently employed women provide the same hours of unpaid work as those currently not employed? This counterfactual, we believe, would neatly summarize the implications of valuing unpaid work for analysis of the impact of women's employment on earnings inequality.

Conclusion

Our analysis clearly demonstrates the significant equalizing effect of unpaid work on economic well-being within nine countries. It also demonstrates the limitations of any measure of the impact of women's employment and earnings on inequality that fails to take into account related changes in the amount of unpaid work. Obviously, much depends on the method of valuation used. A high share of unpaid work hours compared to paid work hours, as in Germany, Italy, or Spain, does not necessarily lead to the highest equalizing effect. The shape of inequality in market earnings also exerts a strong influence, since these market earnings provide the basis for replacement-cost valuation of unpaid work (and would come into play even more strongly with an opportunity-cost based approach). Yet our primary conclusion is supported by a simple analysis of the distribution of total work hours across couples; total hours vary considerably less than do paid work hours. There is something fundamentally misleading about measuring the

gains to family income provided by increases in women's employment but not subtracting any reduction in living standards resulting from declines in time devoted to unpaid work.

In closing, we reiterate the many limitations of our analysis. We do not include any measure of government services (including child care) that provide a valuable substitute for unpaid work. We do not consider differences in household capital or technology, which affect the productivity of unpaid work in the home. Our measures of time devoted to unpaid work per household are approximate, as are our calculations of household market earnings. We were unable to utilize disaggregated measures of replacement cost based on specific occupational wages. We hope that the very preliminary results presented here will motivate researchers to develop a stronger methodological consensus regarding both measurement and valuation of unpaid work.

Table 1. Composition of Hours Per Day Total Work Time for Women and Men Ages 25-59 based on the Harmonized European Time Use Survey (HETUS) and American Time Use Survey (ATUS) (married/cohabiting adults, no other adults in household)

	Paid Work Hours		Unpaid Work Hours		Total Work Hours		Unpaid as % of Total	
	Women	Men	Women	Men	Women	Men	Women	Men
Finland 1999-2000	3.4	5.6	4.7	3.0	8.1	8.5	58.5%	34.7%
France 1998-1999	3.0	5.6	5.1	2.5	8.1	8.1	62.8%	30.4%
Germany 2001-2002	2.1	5.0	5.6	3.0	7.7	8.0	72.2%	37.2%
Italy 2002-2003	2.4	6.3	6.8	2.1	9.2	8.4	73.7%	24.9%
Poland 2003-2004	2.8	5.7	5.8	3.2	8.6	8.8	67.9%	36.1%
Spain 2002-2003	2.4	6.0	6.2	2.3	8.7	8.3	71.7%	28.0%
Sweden 2000-2001	3.3	5.3	4.7	3.2	8.0	8.5	58.4%	37.7%
UK 2000-2001	3.0	5.7	5.2	2.9	8.2	8.6	63.3%	34.2%
US 2003	3.4	5.8	5.0	2.9	8.4	8.7	59.1%	33.5%

Internal Source: table shells 29 May_nfadditions

Table 2.
Hours Devoted to Different Types of Work by Gender, Employment Status,
and Number of Children, Based on HETUS and ATUS
(Partnered adults, no other adults in household)
highest values in each column for each country are shaded

Women age 25-59	Paid Work Hours	House Work Hours	Child Care Hours	Total Unpaid Hours	Total Work Hours	Unpaid as % of Total
Finland 1999-2000						
Not employed, no children	0.3	4.9	0.0	4.9	5.2	94.5%
Not employed, children<7	0.0	4.5	3.7	8.2	8.2	99.8%
Not employed, children 7-17	0.1	5.3	0.6	5.9	6.0	98.1%
Employed part-time, no children	4.0	4.5	0.0	4.5	8.5	53.4%
Employed part-time, children<7	2.7	3.7	2.3	5.9	8.6	69.0%
Employed part-time, children 7-17	2.7	4.1	0.4	4.4	7.2	61.9%
Employed full-time, no children	5.2	2.9	0.0	2.9	8.1	35.9%
Employed full-time, children<7	5.0	3.1	1.7	4.8	9.7	49.1%
Employed full-time, children 7-17	5.1	3.4	0.4	3.8	8.9	42.4%
Self-employed, no children	5.5	2.7	0.0	2.7	8.1	32.6%
Self-employed, children<7	4.5	3.9	1.9	5.8	10.3	56.7%
Self-employed, children 7-17	4.9	3.5	0.8	4.3	9.2	47.0%
France 1998-1999						
Not employed, no children	0.3	5.5	0.2	5.7	6.0	94.7%
Not employed, children<7	0.1	4.8	2.7	7.6	7.7	98.3%
Not employed, children 7-17	0.1	6.0	1.1	7.1	7.2	98.4%
Employed part-time, no children	3.4	4.4	0.1	4.5	7.8	57.1%
Employed part-time, children<7	3.7	3.4	1.9	5.3	8.9	58.9%
Employed part-time, children 7-17	3.6	4.0	0.8	4.8	8.4	57.3%
Employed full-time, no children	5.1	3.2	0.0	3.2	8.2	38.3%
Employed full-time, children<7	4.2	3.0	1.9	4.9	9.1	54.0%
Employed full-time, children 7-17	4.8	3.4	0.5	3.9	8.7	44.6%
Self-employed, no children	5.5	3.4	0.1	3.5	9.0	38.4%
Self-employed, children<7	5.0	2.7	1.5	4.2	9.2	45.5%
Self-employed, children 7-17	5.6	3.7	0.6	4.3	10.0	43.6%

Germany 2001-2002						
Not employed, no children	0.1	5.2	0.4	5.6	5.7	98.8%
Not employed, children<7	0.1	4.8	3.3	8.0	8.1	99.4%
Not employed, children 7-17	0.1	5.9	1.1	6.9	7.1	98.1%
Employed part-time, no children	2.4	4.1	0.1	4.2	6.6	64.3%
Employed part-time, children<7	1.8	4.3	2.1	6.4	8.1	78.4%
Employed part-time, children 7-17	2.5	4.6	0.8	5.4	7.9	68.8%
Employed full-time, no children	4.9	3.0	0.0	3.0	7.9	38.1%
Employed full-time, children<7	4.1	2.8	2.1	4.9	9.0	54.2%
Employed full-time, children 7-17	4.3	3.4	0.4	3.7	8.1	46.4%
Self-employed, no children	3.1	3.3	0.0	3.4	6.4	52.3%
Self-employed, children<7	1.9	4.8	2.2	7.0	8.9	78.3%
Self-employed, children 7-17	3.2	4.5	0.8	5.3	8.6	62.4%
Italy 2002-2003						
Not employed, no children	0.3	6.5	0.0	6.5	6.8	95.1%
Not employed, children<7	0.2	6.0	3.3	9.3	9.5	97.9%
Not employed, children 7-17	0.2	7.6	1.2	8.8	9.0	97.8%
Employed part-time, no children	4.4	4.3	0.0	4.3	8.7	49.7%
Employed part-time, children<7	2.9	4.2	2.6	6.8	9.7	70.3%
Employed part-time, children 7-17	3.6	4.9	1.1	6.0	9.6	62.4%
Employed full-time, no children	5.2	3.4	0.0	3.4	8.6	40.0%
Employed full-time, children<7	4.6	3.4	2.2	5.6	10.2	54.9%
Employed full-time, children 7-17	5.1	4.2	0.8	5.0	10.1	49.3%
Self-employed, no children	5.2	3.4	0.0	3.4	8.6	39.8%
Self-employed, children<7	4.5	3.8	2.2	6.0	10.5	56.9%
Self-employed, children 7-17	5.0	4.3	0.7	5.0	10.0	50.2%
Poland 2003-2004						
Not employed, no children	0.2	5.8	0.1	5.9	6.0	97.5%
Not employed, children<7	0.1	5.2	3.8	9.0	9.0	99.4%
Not employed, children 7-17	0.2	6.2	0.9	7.1	7.3	97.7%
Employed part-time, no children	4.2	3.8	0.2	4.0	8.2	48.5%
Employed part-time, children<7	3.7	4.1	2.0	6.0	9.7	62.1%
Employed part-time, children 7-17	4.0	4.2	0.5	4.6	8.6	53.9%
Employed full-time, no children	5.0	3.3	0.0	3.3	8.4	39.8%
Employed full-time, children<7	4.6	3.3	2.2	5.5	10.1	54.3%
Employed full-time, children 7-17	5.2	3.7	0.6	4.3	9.5	45.6%
Self-employed, no children	4.5	4.0	0.0	4.0	8.5	46.9%
Self-employed, children<7	3.4	4.3	2.6	6.9	10.2	67.0%
Self-employed, children 7-17	4.7	4.4	0.6	5.0	9.6	51.6%

Spain 2002-2003						
Not employed, no children	0.1	5.6	0.2	5.8	5.9	98.3%
Not employed, children<7	0.0	5.2	3.7	8.9	8.9	99.6%
Not employed, children 7-17	0.1	6.5	1.3	7.8	7.9	98.3%
Employed part-time, no children	2.5	3.7	0.1	3.8	6.4	60.2%
Employed part-time, children<7	3.3	3.6	2.5	6.1	9.4	65.1%
Employed part-time, children 7-17	3.4	4.7	0.8	5.5	8.8	62.1%
Employed full-time, no children	5.8	2.8	0.1	2.9	8.7	33.1%
Employed full-time, children<7	4.4	3.2	2.5	5.6	10.0	56.3%
Employed full-time, children 7-17	4.7	3.9	0.7	4.7	9.4	49.6%
Self-employed, no children	5.7	3.2	0.0	3.2	8.9	36.1%
Self-employed, children<7	4.1	3.4	2.4	5.8	9.9	59.0%
Self-employed, children 7-17	4.9	3.6	0.9	4.5	9.5	48.0%
Sweden 2000-2001						
Not employed, no children	0.6	4.0	0.1	4.1	4.6	87.7%
Not employed, children<7	0.5	4.2	2.8	7.0	7.5	93.3%
Not employed, children 7-17	0.6	3.7	0.9	4.6	5.2	89.1%
Employed part-time, no children	3.6	3.7	0.0	3.7	7.3	50.6%
Employed part-time, children<7	3.0	3.8	2.2	6.0	9.0	66.5%
Employed part-time, children 7-17	3.7	4.0	1.1	5.1	8.8	57.6%
Employed full-time, no children	4.7	3.1	0.0	3.1	7.8	39.4%
Employed full-time, children<7	2.9	3.2	2.4	5.6	8.4	65.8%
Employed full-time, children 7-17	4.7	3.5	0.7	4.2	8.9	47.1%
Self-employed, no children	5.0	3.3	0.0	3.3	8.3	39.4%
Self-employed, children<7	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Self-employed, children 7-17	4.6	3.6	1.3	4.8	9.4	51.1%
UK 2000-2001						
Not employed, no children	0.9	4.8	0.2	5.0	5.8	85.4%
Not employed, children<7	0.3	5.0	3.5	8.5	8.8	96.6%
Not employed, children 7-17	0.8	5.2	1.2	6.4	7.2	89.3%
Employed part-time, no children	3.1	4.1	0.2	4.3	7.4	58.0%
Employed part-time, children<7	3.1	3.9	2.5	6.3	9.5	66.9%
Employed part-time, children 7-17	3.3	4.3	0.9	5.2	8.5	61.1%
Employed full-time, no children	5.2	3.0	0.0	3.1	8.2	37.2%
Employed full-time, children<7	4.6	3.2	1.9	5.1	9.7	52.5%
Employed full-time, children 7-17	5.0	3.3	0.4	3.7	8.6	42.7%
Self-employed, no children	5.1	2.8	0.1	2.9	8.0	36.0%
Self-employed, children<7	3.2	3.5	2.5	6.0	9.2	65.2%
Self-employed, children 7-17	3.4	4.2	1.1	5.3	8.7	60.6%

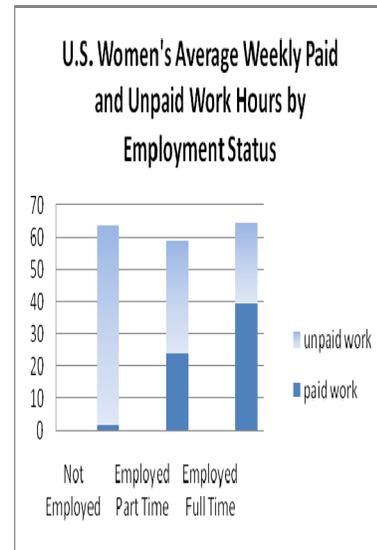
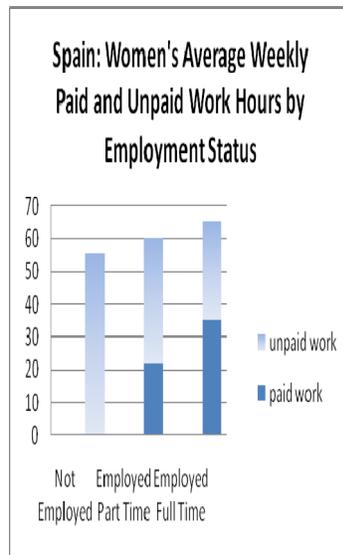
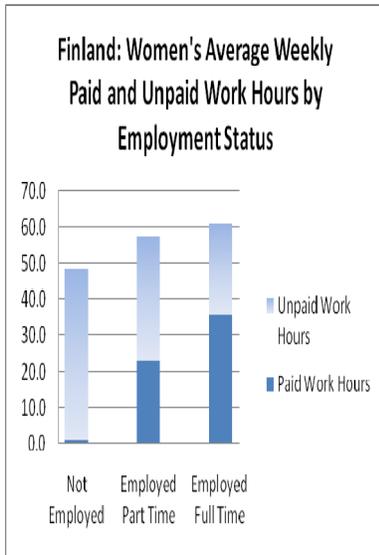
US 2003						
Not employed, no children	0.4	4.3	0.0	4.3	4.7	91.5%
Not employed, children<7	0.1	4.5	3.5	8.0	8.1	99.4%
Not employed, children 7-17	0.2	5.1	1.6	6.7	6.9	97.1%
Employed part-time, no children	3.7	3.3	0.0	3.3	7.0	47.1%
Employed part-time, children<7	3.2	3.1	3.1	6.2	9.4	66.0%
Employed part-time, children 7-17	3.5	3.5	1.4	4.9	8.4	58.3%
Employed full-time, no children	5.8	2.6	0.0	2.6	8.4	31.0%
Employed full-time, children<7	5.5	2.9	1.9	4.8	10.3	46.6%
Employed full-time, children 7-17	5.5	3.0	1.0	4.0	9.5	42.1%
Self-employed, no children	5.5	2.9	0.0	2.9	8.4	34.5%
Self-employed, children<7	3.1	3.2	3.0	6.2	9.3	66.7%
Self-employed, children 7-17	4.2	4.3	1.1	5.4	9.6	56.3%
Men age 25-59	Paid Work Hours	House Work Hours	Child Care Hours	Total Unpaid Hours	Total Work Hours	Unpaid as % of Total
Finland (2000)						
Not employed, no children	0.4	3.3	0.0	3.4	3.7	90.5%
Not employed, children <7	0.8	2.9	1.2	4.2	4.9	84.5%
Not employed, children 7-17	0.2	4.1	0.2	4.3	4.5	95.2%
Employed, no children	6.1	1.9	0.0	1.9	8.1	24.0%
Employed, children <7	5.7	2.0	1.2	3.2	8.9	36.2%
Employed, children 7-17	6.2	2.3	0.2	2.6	8.7	29.2%
Self-employed, no children	6.9	1.4	0.0	1.4	8.3	17.0%
Self-employed, children<7	7.7	1.6	0.9	2.5	10.2	24.1%
Self-employed, children 7-17	7.1	1.8	0.3	2.1	9.2	22.9%
France (2000)						
Not employed, no children	0.4	3.6	0.0	3.6	4.0	89.7%
Not employed, children <7	0.8	2.7	1.2	3.9	4.7	83.5%
Not employed, children 7-17	1.0	4.1	0.4	4.5	5.5	81.6%
Employed, no children	6.0	1.8	0.0	1.8	7.7	22.9%
Employed, children <7	5.3	1.9	0.8	2.6	8.0	33.1%
Employed, children 7-17	5.5	2.0	0.3	2.3	7.8	29.5%
Self-employed, no children	8.1	1.1	0.0	1.1	9.2	12.3%
Self-employed, children<7	7.2	1.0	0.6	1.6	8.8	17.8%
Self-employed, children 7-17	7.7	1.1	0.2	1.3	8.9	14.4%

Germany (2000)						
Not employed, no children	0.1	4.8	0.1	4.8	4.9	97.6%
Not employed, children <7	0.1	3.8	1.6	5.4	5.5	99.1%
Not employed, children 7-17	0.1	3.5	0.3	3.9	4.0	97.1%
Employed, no children	4.8	2.4	0.1	2.5	7.3	34.3%
Employed, children <7	4.9	2.4	1.1	3.4	8.3	41.2%
Employed, children 7-17	5.3	2.3	0.4	2.7	7.9	33.4%
Self-employed, no children	6.6	1.7	0.0	1.7	8.2	20.1%
Self-employed, children<7	6.7	1.6	1.0	2.6	9.2	28.0%
Self-employed, children 7-17	6.9	1.5	0.3	1.8	8.7	20.6%
Italy (2004)						
Not employed, no children	1.2	3.3	0.0	3.3	4.5	72.6%
Not employed, children <7	3.0	1.5	1.6	3.1	6.1	50.3%
Not employed, children 7-17	2.0	2.5	0.5	3.0	5.0	60.6%
Employed, no children	6.2	1.5	0.0	1.5	7.6	19.4%
Employed, children <7	6.4	1.1	1.1	2.2	8.6	26.0%
Employed, children 7-17	6.1	1.4	0.5	1.9	8.0	23.4%
Self-employed, no children	7.2	1.1	0.0	1.1	8.3	12.9%
Self-employed, children<7	7.4	0.8	0.8	1.6	9.0	17.8%
Self-employed, children 7-17	7.2	0.9	0.4	1.2	8.4	14.4%
Poland (2004)						
Not employed, no children	0.5	3.9	0.0	3.9	4.4	89.4%
Not employed, children <7	0.6	3.2	2.3	5.5	6.1	90.4%
Not employed, children 7-17	0.4	4.2	0.5	4.7	5.1	92.1%
Employed, no children	6.1	2.0	0.0	2.1	8.1	25.5%
Employed, children <7	6.1	1.8	1.3	3.0	9.2	33.1%
Employed, children 7-17	5.9	2.2	0.3	2.5	8.4	29.6%
Self-employed, no children	7.0	1.9	0.0	1.9	8.9	21.3%
Self-employed, children<7	6.9	1.3	1.0	2.3	9.2	25.4%
Self-employed, children 7-17	6.8	1.6	0.2	1.9	8.6	21.5%
Spain (2004)						
Not employed, no children	0.5	3.3	0.1	3.4	3.9	87.6%
Not employed, children <7	0.5	2.7	1.9	4.6	5.1	89.8%
Not employed, children 7-17	0.9	2.9	0.7	3.6	4.4	80.8%
Employed, no children	6.2	1.6	0.1	1.7	7.9	21.6%
Employed, children <7	6.0	1.4	1.3	2.6	8.7	30.4%
Employed, children 7-17	6.0	1.6	0.4	2.0	8.0	24.4%
Self-employed, no children	7.2	1.2	0.1	1.3	8.5	15.3%
Self-employed, children<7	7.1	1.0	0.9	1.9	9.0	20.9%
Self-employed, children 7-17	7.1	0.9	0.3	1.2	8.3	14.5%

Sweden (2000)						
Not employed, no children	0.3	3.5	0.0	3.5	3.7	92.8%
Not employed, children <7	1.0	3.4	1.1	4.5	5.5	82.7%
Not employed, children 7-17	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Employed, no children	5.6	2.4	0.0	2.4	8.0	29.9%
Employed, children <7	5.0	2.7	1.3	4.0	9.0	44.3%
Employed, children 7-17	5.1	2.5	0.6	3.1	8.2	38.1%
Self-employed, no children	7.1	1.7	0.0	1.8	8.9	19.7%
Self-employed, children<7	7.1	1.8	1.0	2.8	9.8	28.2%
Self-employed, children 7-17	6.4	2.4	0.6	3.0	9.4	32.0%
UK (1999)						
Not employed, no children	1.1	3.6	0.1	3.6	4.7	77.0%
Not employed, children <7	2.2	3.2	1.8	5.0	7.2	69.7%
Not employed, children 7-17	1.1	3.2	0.6	3.9	5.0	77.8%
Employed, no children	5.7	2.1	0.1	2.1	7.9	27.1%
Employed, children <7	5.9	2.0	1.1	3.2	9.1	34.8%
Employed, children 7-17	5.8	2.2	0.4	2.6	8.3	31.0%
Self-employed, no children	7.0	1.7	0.1	1.7	8.7	19.7%
Self-employed, children<7	6.6	1.5	1.0	2.4	9.0	26.9%
Self-employed, children 7-17	6.1	2.1	0.4	2.5	8.6	28.8%
US (2004)						
Not employed, no children	0.5	3.1	0.0	3.1	3.6	86.1%
Not employed, children <7	0.7	2.4	2.2	4.6	5.3	86.8%
Not employed, children 7-17	0.3	2.9	1.0	3.9	4.2	92.9%
Employed, no children	6.0	2.0	0.0	2.0	8.0	25.0%
Employed, children <7	6.2	1.8	1.2	3.0	9.2	32.6%
Employed, children 7-17	6.3	2.0	0.7	2.7	9.0	30.0%
Self-employed, no children	7.0	1.8	0.0	1.8	8.8	20.5%
Self-employed, children<7	6.1	1.7	1.4	3.1	9.2	33.7%
Self-employed, children 7-17	6.4	1.8	0.7	2.5	8.9	28.1%

Internal Source: table shells 29 May_nfadditions and time use by employment and kids

Figures 1a-1c. Effect of Employment Status on Level and Composition of Total Hours Worked for Women



Figures 2a-2c Effect of Employment Status on Level and Composition of Total Hours Worked for Men

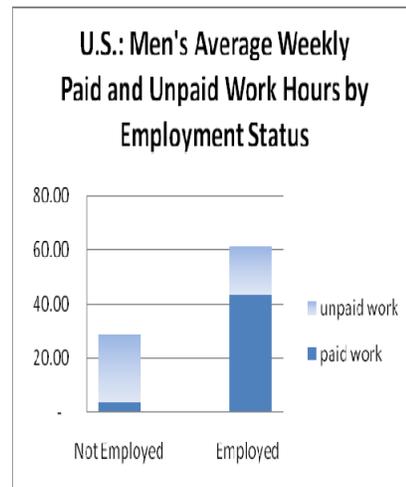
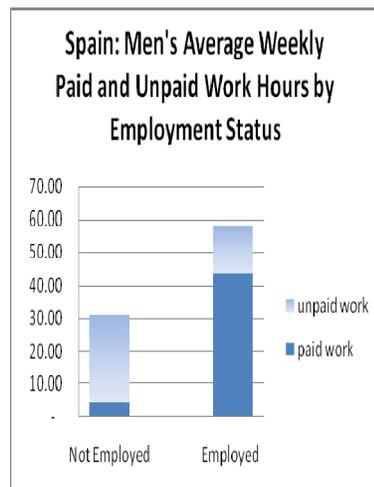
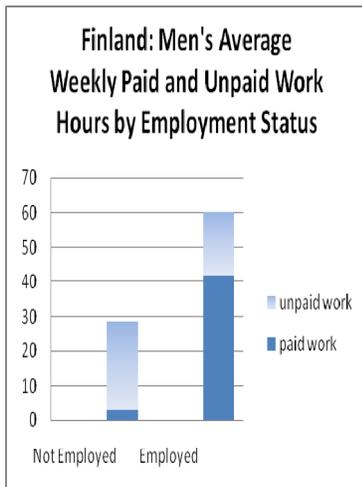
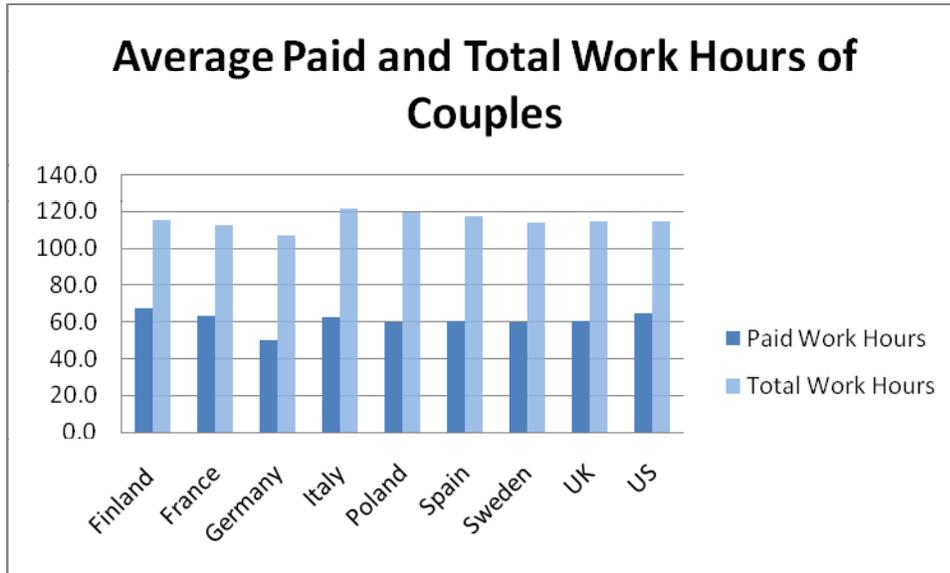


Figure 3. Average Weekly Hours of Work by Partnered Households
(no other adults in household)



Internal Source for Figures 1-3: Table shells 4 June

**TABLE 3. Replacement Cost Estimates of the Hourly Value of Unpaid Work
(PPP-adjusted 2005 U.S. dollars)**

	National Minimum Wage ^[1]	Female		Male		Ratios			
		ALL ^[2]	PSWs ^{[2][3]}	ALL ^[2]	PSWs ^{[2][3]}	MW to ALL (female)	MW to ALL (male)	PSW to ALL (female)	PSW to ALL (male)
Finland 2000	\$6.93	\$7.32	\$6.85	\$8.75	\$8.06	0.95	0.79	0.94	0.92
France 2000	\$9.07	\$8.31	\$5.96	\$9.47	\$5.79	1.09	0.96	0.72	0.61
Germany 2000	\$8.82	\$8.74	\$6.93	\$11.10	*	1.01	0.79	0.79	*
Italy 2004	\$6.39	\$7.73	**	\$8.03	**	0.83	0.80	**	**
Poland 2004	\$2.43	\$2.81	\$2.22	\$3.24	\$2.97	0.86	0.75	0.79	0.92
Spain 2004	\$4.19	\$7.13	\$6.06	\$7.96	\$7.91	0.59	0.53	0.85	0.99
Sweden 2000	\$7.73	\$7.95	**	\$9.00	**	0.97	0.86	**	**
UK 1999	\$8.20	\$7.64	\$6.39	\$9.21	\$7.66	1.07	0.89	0.84	0.83
US 2004	\$5.98	\$11.37	\$6.92	\$14.17	\$8.01	0.53	0.42	0.61	0.57
average	\$6.64	\$7.67	\$5.90	\$8.99	\$6.73	0.88	0.75	0.79	0.81

**PANEL B:
Median Hourly Earnings of Housework (HW) and Child Care (CC) Occupations:
Germany and US^{[2][4]}**

		Female			Male	
		HW ^{[2][4]}	CC ^{[2][4]}		HW ^{[2][4]}	CC ^{[2][4]}
Germany 2000		\$6.69	\$6.58		*	*
US 2004		\$6.97	\$6.46		8.32	5.45
		ratio: HW/all	ratio: CC/all		ratio: HW/all	ratio: CC/all
Germany 2000		0.77	0.75		*	*
US 2004		0.80	0.74		0.59	0.38

Internal Source: Table 5P, Tables 12 June Active5678

NOTES:

[1] SOURCE: ILO Minimum Wage Data Base (<http://www.ilo.org/travaildatabase/servlet/minimumwages>); FI, DE and IT are based on collective agreements of unskilled labour in the metalworking sector.

[2] SOURCE: Authors' calculations using LIS data.

[3] "Personal service workers" defined as:

ISCO-88 code 5100 ("Personal & Protective Services", including subcategories) in Finland, Germany, Poland, Spain, and the UK

Occupation code 56 ("Personal Service Workers") in France

Occupation codes 4230 ("maids and housekeeping cleaners"), 4600 ("child care workers"), 4610 ("personal and home care aides"), and 4650 ("personal care and service workers, all other") in the US

[4] Specific occupation categories consist of:

Germany

housework 5121 ("housekeepers etc workers")

child care 5131 ("child-care workers")

US

housework 4230 ("maids and housekeeping cleaners")

child care 4600 ("child care workers")

OTHER

shaded cell size is more than 10 but less than 30

* no cases or too few cases to report

** data not available

NOTES:

[1] SOURCE: ILO Minimum Wage Data Base (<http://www.ilo.org/travaildatabase/servlet/minimumwages>); FI, DE and IT are based on collective agreements of unskilled labour in the metalworking sector.

[2] SOURCE: Authors' calculations using LIS data.

[3] Broad occupation categories consist of :

ISCO-88 code 5100 ("Personal & Protective Services", including subcategories) in Finland, Germany, Poland, Spain, and the UK

Occupation code 56 ("Personal Service Workers") in France

Occupation codes 4230 ("maids and housekeeping cleaners"), 4600 ("child care workers"), 4610 ("personal and home care aides"), and 4650 ("personal care and service workers, all other") in the US

[4] Specific occupation categories consist of :

	<i>DE</i>	<i>US</i>
<i>housework</i>	5121 ("housekeepers etc workers")	4230 ("maids and housekeeping cleaners")
<i>child care</i>	5131 ("child-care workers")	4600 ("child care workers")
<i>personal & home-based care workers</i>	5130 ("personal care etc work") 5133 ("home based personal care workers")	4610 ("personal and home care aides")
<i>other personal care workers</i>	5139 ("personal care etc workers nec")	4650 ("personal care and service workers, all other")

Table 4. Estimates of Average Net Earnings and Extended Annual Earnings for Individuals
(adults 25-59 in partnered couples with no other coresident adults; PPP-adjusted 2005 US dollars)

	<i>PAID WORK</i> ^[1]		<i>UNPAID WORK</i> ^[2]		<i>EXTENDED EARNINGS</i>		<i>RATIO: EXTENDED TO PAID</i>	
	average annual earnings (net of taxes and social contributions)		replacement cost estimate of average value of unpaid work		average sum of annual earnings (including zeros) and replacement cost estimate of value of unpaid work			
	<i>zeros excluded</i>	<i>zeros included</i>	unpaid work valued at MW	unpaid work valued at median earnings, all workers	unpaid work valued at MW	unpaid work valued at median earnings, all workers	unpaid work valued at MW	unpaid work valued at median earnings, all workers
WOMEN								
Finland 2000	\$14,294	\$12,264	\$10,954	\$11,582	\$23,217	\$23,845	1.89	1.94
France 2000	\$17,054	\$15,093	\$15,210	\$13,936	\$30,303	\$29,029	2.01	1.92
Germany 2000	\$15,783	\$9,593	\$16,774	\$16,621	\$26,367	\$26,213	2.75	2.73
Italy 2004	\$15,297	\$8,765	\$15,112	\$18,283	\$23,877	\$27,048	2.72	3.09
Poland 2004	\$6,875	\$3,483	\$5,086	\$5,881	\$8,569	\$9,364	2.46	2.69
Spain 2004	\$15,146	\$9,902	\$8,948	\$15,239	\$18,851	\$25,141	1.90	2.54
Sweden 2000	\$13,784	\$12,474	\$12,904	\$13,274	\$25,378	\$25,748	2.03	2.06
UK 1999	\$16,116	\$11,851	\$15,018	\$13,992	\$26,874	\$25,847	2.27	2.18
US 2004	\$26,302	\$19,440	\$10,374	\$19,720	\$29,814	\$39,159	1.53	2.01
<i>average</i>	\$15,628	\$11,429	\$12,264	\$14,281	\$23,694	\$25,711	2.17	2.35
MEN								
Finland 2000	\$19,156	\$17,614	\$6,281	\$7,937	\$23,896	\$25,552	1.36	1.45
France 2000	\$25,004	\$23,194	\$7,748	\$8,092	\$30,943	\$31,287	1.33	1.35
Germany 2000	\$31,951	\$25,439	\$9,524	\$11,986	\$34,963	\$37,425	1.37	1.47
Italy 2004	\$21,991	\$20,781	\$4,337	\$5,449	\$25,118	\$26,230	1.21	1.26
Poland 2004	\$8,894	\$5,860	\$2,574	\$3,434	\$8,435	\$9,294	1.44	1.59
Spain 2004	\$21,910	\$20,403	\$3,400	\$6,460	\$23,804	\$26,863	1.17	1.32
Sweden 2000	\$21,115	\$19,936	\$8,870	\$10,332	\$28,806	\$30,268	1.44	1.52
UK 1999	\$30,319	\$26,724	\$8,079	\$9,075	\$34,808	\$35,806	1.30	1.34
US 2004	\$47,705	\$44,344	\$5,790	\$13,719	\$50,134	\$58,063	1.13	1.31
<i>average</i>	\$25,338	\$22,700	\$6,289	\$8,498	\$28,990	\$31,199	1.31	1.40

Table 5. Estimates of Average Net Earnings and Extended Annual Earnings for Households (adults 25-59 in partnered couples with no other co-resident adults; PPP-adjusted 2005 U.S. dollars)

	<i>PAID WORK</i> [1]	<i>UNPAID WORK</i>		<i>EXTENDED EARNINGS</i>		<i>RATIO OF EXTENDED TO PAID</i>	
		replacement cost estimate of value of unpaid work		sum of annual earnings and replacement cost estimate of value of unpaid work			
	annual earnings (zeros included)	unpaid work valued at MW	unpaid work valued at median earnings	unpaid work valued at MW	unpaid work valued at median earnings	unpaid work valued at MW	unpaid work valued at median earnings
Finland 2000							
neither employed	\$1,955	\$24,393	\$27,706	\$26,348	\$29,661	13.48	15.17
man employed, women not employed	\$19,026	\$24,243	\$27,005	\$43,269	\$46,031	2.27	2.42
man employed, woman employed PT	\$29,312	\$18,416	\$20,696	\$47,728	\$50,008	1.63	1.71
man employed, woman employed FT	\$35,146	\$15,088	\$17,149	\$50,234	\$52,295	1.43	1.49
man not employed, woman employed PT	\$10,422	\$21,223	\$24,367	\$31,646	\$34,789	3.04	3.34
man not employed, woman employed FT	\$16,868	\$17,550	\$20,450	\$34,418	\$37,318	2.04	2.21
all couples	\$29,878	\$17,235	\$19,519	\$47,113	\$49,397	1.58	1.65
France 2000							
neither employed	\$5,770	\$33,199	\$32,033	\$38,970	\$37,803	6.75	6.55
man employed, women not employed	\$25,167	\$29,188	\$27,654	\$54,355	\$52,822	2.16	2.10
man employed, woman employed PT	\$36,861	\$23,785	\$22,745	\$60,646	\$59,606	1.65	1.62
man employed, woman employed FT	\$45,511	\$20,388	\$19,595	\$65,899	\$65,107	1.45	1.43
man not employed, woman employed PT	\$13,820	\$28,722	\$27,975	\$42,542	\$41,795	3.08	3.02
man not employed, woman employed FT	\$24,975	\$24,310	\$23,889	\$49,285	\$48,864	1.97	1.96
all couples	\$38,287	\$22,959	\$22,029	\$61,246	\$60,316	1.60	1.58

Germany 2000							
neither employed	\$736	\$36,403	\$40,213	\$37,139	\$40,949	50.47	55.65
man employed, women not employed	\$31,043	\$33,240	\$35,524	\$64,283	\$66,567	2.07	2.14
man employed, woman employed PT	\$37,596	\$25,989	\$28,130	\$63,586	\$65,726	1.69	1.75
man employed, woman employed FT	\$44,219	\$19,770	\$21,784	\$63,989	\$66,002	1.45	1.49
man not employed, woman employed PT	\$5,579	\$31,433	\$35,181	\$37,012	\$40,760	6.63	7.31
man not employed, woman employed FT	\$16,919	\$26,118	\$29,924	\$43,037	\$46,843	2.54	2.77
all couples	\$35,031	\$26,298	\$28,607	\$61,329	\$63,638	1.75	1.82
Italy 2004							
neither employed	\$728	\$25,233	\$30,872	\$25,961	\$31,599	35.67	43.42
man employed, women not employed	\$19,133	\$24,223	\$29,501	\$43,345	\$48,620	2.27	2.54
man employed, woman employed PT	\$28,534	\$18,173	\$22,187	\$46,707	\$50,721	1.64	1.78
man employed, woman employed FT	\$42,976	\$14,990	\$18,322	\$57,965	\$61,298	1.35	1.43
man not employed, woman employed PT	\$10,449	\$20,117	\$24,684	\$30,566	\$35,132	2.93	3.36
man not employed, woman employed FT	\$11,930	\$17,913	\$22,011	\$29,843	\$33,941	2.50	2.85
all couples	\$29,522	\$19,449	\$23,732	\$48,967	\$53,249	1.66	1.80
Poland 2004							
neither employed	\$84	\$9,769	\$11,980	\$9,853	\$12,064	117.16	143.44
man employed, women not employed	\$6,993	\$9,026	\$10,838	\$16,019	\$17,831	2.29	2.55
man employed, woman employed PT	\$10,704	\$6,827	\$8,299	\$17,531	\$19,003	1.64	1.78
man employed, woman employed FT	\$13,744	\$6,304	\$7,681	\$20,048	\$21,425	1.46	1.56
man not employed, woman employed PT	\$3,030	\$7,976	\$9,918	\$11,006	\$12,948	3.63	4.27
man not employed, woman employed FT	\$6,167	\$7,699	\$9,610	\$13,866	\$15,777	2.25	2.56
all couples	\$9,343	\$7,660	\$9,315	\$17,004	\$18,658	1.82	2.00

Spain 2004							
neither employed	\$6,324	\$16,692	\$29,562	\$23,017	\$35,887	3.64	5.67
man employed, women not employed	\$22,588	\$15,360	\$26,802	\$37,948	\$49,391	1.68	2.19
man employed, woman employed PT	\$30,386	\$11,710	\$20,604	\$42,096	\$50,990	1.39	1.68
man employed, woman employed FT	\$39,139	\$9,728	\$17,177	\$48,867	\$56,316	1.25	1.44
man not employed, woman employed PT	\$16,042	\$13,632	\$24,355	\$29,674	\$40,397	1.85	2.52
man not employed, woman employed FT	\$21,709	\$12,610	\$22,641	\$34,319	\$44,350	1.58	2.04
all couples	\$30,306	\$12,349	\$21,699	\$42,654	\$52,005	1.41	1.72
Sweden 2000							
neither employed	\$425	\$26,094	\$28,344	\$26,518	\$28,768	62.47	67.77
man employed, women not employed	\$20,592	\$23,878	\$25,754	\$44,470	\$46,346	2.16	2.25
man employed, woman employed PT	\$30,431	\$23,514	\$25,436	\$53,945	\$55,867	1.77	1.84
man employed, woman employed FT	\$37,878	\$20,465	\$22,217	\$58,343	\$60,095	1.54	1.59
man not employed, woman employed PT	\$8,657	\$24,461	\$26,644	\$33,119	\$35,301	3.83	4.08
man not employed, woman employed FT	\$15,883	\$22,234	\$24,331	\$38,117	\$40,215	2.40	2.53
all couples	\$32,410	\$21,774	\$23,606	\$54,184	\$56,016	1.67	1.73
UK 1999							
neither employed	\$0	\$30,966	\$31,184	\$30,966	\$31,184	--	--
man employed, women not employed	\$33,080	\$29,083	\$28,621	\$62,146	\$61,682	1.88	1.86
man employed, woman employed PT	\$38,327	\$24,202	\$24,065	\$62,508	\$62,368	1.63	1.63
man employed, woman employed FT	\$50,322	\$18,014	\$18,151	\$68,256	\$68,393	1.36	1.36
man not employed, woman employed PT	\$7,864	\$27,169	\$27,614	\$35,033	\$35,478	4.45	4.51
man not employed, woman employed FT	\$19,627	\$22,100	\$22,827	\$41,644	\$42,376	2.12	2.16
all couples	\$38,461	\$23,097	\$23,067	\$61,514	\$61,483	1.60	1.60

US 2004							
neither employed	\$13,285	\$20,044	\$41,771	\$33,329	\$55,056	2.51	4.14
man employed, women not employed	\$57,195	\$20,293	\$41,275	\$77,488	\$98,470	1.35	1.72
man employed, woman employed PT	\$67,891	\$16,796	\$34,629	\$84,687	\$102,520	1.25	1.51
man employed, woman employed FT	\$73,600	\$13,570	\$28,314	\$87,171	\$101,915	1.18	1.38
man not employed, woman employed PT	\$23,622	\$17,638	\$37,278	\$41,260	\$60,899	1.75	2.58
man not employed, woman employed FT	\$40,070	\$15,665	\$33,510	\$55,735	\$73,580	1.39	1.84
all couples	\$63,784	\$16,164	\$33,438	\$79,947	\$97,222	1.25	1.52

Internal Source: Tables12JuneActive5678_nfchanges

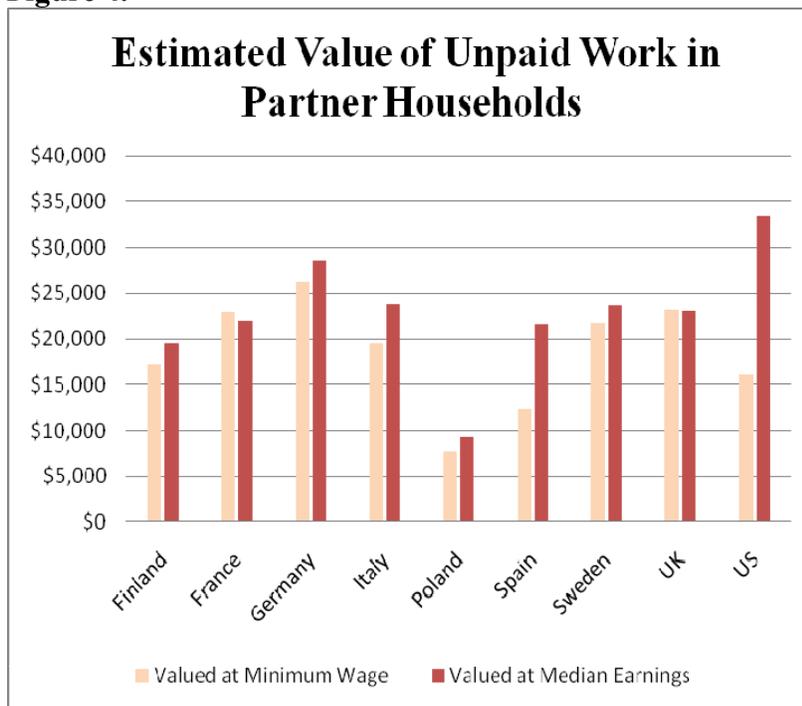
Notes:

Shaded cells show positive earnings because of mismatch between reference periods. See Endnote 4.

PT= Part-time employed women, defined as women working less than 30 hours in paid employment

FT= Full-time employed women are defined as women working at least 30 hours in paid employment, or any number of hours in self-employment

Figure 4.



Internal Source: Tables12JuneActive5678_nfchanges

Table 6. Women's Relative Contributions to Household Market Earnings and Extended Earnings (adults 25-59 in partnered couples with no other coresident adults)

	<i>WOMEN'S CONTRIBUTION TO MARKET EARNINGS</i>	<i>WOMEN'S CONTRIBUTION TO EXTENDED EARNINGS</i>	
	<i>zeros included</i>	unpaid work valued at MW	unpaid work valued at median earnings
Finland 2000			
neither employed	47%	60%	56%
man employed, women not employed	6%	45%	45%
man employed, woman employed PT	38%	49%	48%
man employed, woman employed FT	46%	51%	49%
man not employed, woman employed PT	91%	66%	62%
man not employed, woman employed FT	92%	67%	63%
all couples	42%	51%	50%
France 2000			
neither employed	48%	60%	57%
man employed, women not employed	8%	47%	45%
man employed, woman employed PT	31%	47%	46%
man employed, woman employed FT	44%	51%	50%
man not employed, woman employed PT	88%	62%	60%
man not employed, woman employed FT	83%	62%	61%
all couples	40%	51%	50%
Germany 2000			
neither employed	0%	57%	51%
man employed, women not employed	0%	41%	39%
man employed, woman employed PT	26%	43%	41%
man employed, woman employed FT	44%	49%	47%
man not employed, woman employed PT	100%	59%	53%
man not employed, woman employed FT	99%	61%	55%
all couples	30%	46%	44%

Italy 2004			
neither employed	0%	69%	68%
man employed, women not employed	0%	48%	52%
man employed, woman employed PT	32%	50%	52%
man employed, woman employed FT	43%	52%	53%
man not employed, woman employed PT	99%	75%	73%
man not employed, woman employed FT	95%	71%	69%
all couples	26%	51%	53%
Poland 2004			
neither employed	26%	60%	57%
man employed, women not employed	0%	48%	49%
man employed, woman employed PT	38%	49%	48%
man employed, woman employed FT	47%	54%	53%
man not employed, woman employed PT	94%	61%	57%
man not employed, woman employed FT	99%	68%	64%
all couples	38%	54%	53%
Spain 2004			
neither employed	20%	56%	56%
man employed, women not employed	6%	39%	47%
man employed, woman employed PT	29%	42%	46%
man employed, woman employed FT	45%	50%	52%
man not employed, woman employed PT	65%	58%	56%
man not employed, woman employed FT	72%	62%	58%
all couples	29%	46%	50%
Sweden 2000			
neither employed	30%	57%	54%
man employed, women not employed	4%	38%	38%
man employed, woman employed PT	34%	46%	45%
man employed, woman employed FT	43%	49%	48%
man not employed, woman employed PT	92%	64%	61%
man not employed, woman employed FT	95%	69%	67%
all couples	39%	48%	47%
UK 1999			
neither employed	0%	60%	56%
man employed, women not employed	0%	39%	36%
man employed, woman employed PT	27%	43%	42%
man employed, woman employed FT	43%	48%	47%
man not employed, woman employed PT	100%	65%	61%
man not employed, woman employed FT	100%	71%	68%
all couples	32%	47%	45%

US 2004			
neither employed	26%	53%	50%
man employed, women not employed	5%	28%	36%
man employed, woman employed PT	25%	34%	38%
man employed, woman employed FT	42%	45%	46%
man not employed, woman employed PT	69%	57%	52%
man not employed, woman employed FT	78%	67%	59%
all couples	32%	41%	43%

Internal Source:
Tables12JuneActive5678_nfchanges

PT= Part-time employed women, defined as women working less than 30 hours in paid employment
FT= Full-time employed women are defined as women working at least 30 hours in paid employment, or any number of hours in self-employment

Table 7. Equivalized Annual Market Earnings and Annual Extended Earnings
(adults 25-59 in partnered couples with no other coresident adults; non-equivalized earnings based on Table 5).

	<i>PAID WORK</i>	<i>UNPAID WORK</i>		<i>EXTENDED EARNINGS</i>		<i>RATIO</i>	
	annual earnings	replacement cost estimate of value of unpaid work		sum of annual earnings and replacement cost estimate of value of unpaid work		extended earnings/market earning	
	<i>zeros included</i>	unpaid work valued at MW	unpaid work valued at median earnings, all workers	unpaid work valued at MW	unpaid work estimated at median earnings	unpaid work valued at MW	unpaid work valued at median earnings
Finland 2000 -- all couples							
not equivalized	\$29,878	\$17,235	\$19,519	\$47,113	\$49,397	1.58	1.65
equivalence scale 1	\$17,783	\$9,908	\$11,227	\$27,691	\$29,010	1.56	1.63
equivalence scale 2	\$14,577	\$12,314	\$13,951	\$26,892	\$28,528	1.84	1.96
ratio scale 1 to not equivalized	0.60	0.57	0.58	0.59	0.59	0.99	0.99
ratio scale 2 to not equivalized	0.49	0.71	0.71	0.57	0.58	1.17	1.18
France 2000 -- all couples							
not equivalized	\$38,287	\$22,959	\$22,029	\$61,246	\$60,316	1.60	1.58
equivalence scale 1	\$22,384	\$13,301	\$12,763	\$35,685	\$35,147	1.59	1.57
equivalence scale 2	\$18,196	\$16,494	\$15,827	\$34,690	\$34,023	1.91	1.87
ratio scale 1 to not equivalized	0.58	0.58	0.58	0.58	0.58	1.00	1.00
ratio scale 2 to not equivalized	0.48	0.72	0.72	0.57	0.56	1.19	1.19
Germany 2000 -- all couples							
not equivalized	\$35,031	\$26,298	\$28,607	\$61,329	\$63,638	1.75	1.82
equivalence scale 1	\$21,001	\$15,318	\$16,692	\$36,319	\$37,693	1.73	1.79
equivalence scale 2	\$17,240	\$18,952	\$20,637	\$36,193	\$37,878	2.10	2.20
ratio scale 1 to not equivalized	0.60	0.58	0.58	0.59	0.59	0.99	0.99
ratio scale 2 to not equivalized	0.49	0.72	0.72	0.59	0.60	1.20	1.21
Italy 2004 -- all couples							
not equivalized	\$29,522	\$19,449	\$23,732	\$48,967	\$53,249	1.66	1.80
equivalence scale 1	\$17,142	\$10,956	\$13,370	\$28,096	\$30,509	1.64	1.78
equivalence scale 2	\$13,881	\$13,748	\$16,777	\$27,630	\$30,658	1.99	2.21
ratio scale 1 to not equivalized	0.58	0.56	0.56	0.57	0.57	0.99	0.99
ratio scale 2 to not equivalized	0.47	0.71	0.71	0.56	0.58	1.20	1.22
Poland 2004 -- all couples							
not equivalized	\$9,343	\$7,660	\$9,315	\$17,004	\$18,658	1.82	2.00
equivalence scale 1	\$5,309	\$4,301	\$5,232	\$9,609	\$10,541	1.81	1.99
equivalence scale 2	\$4,263	\$5,400	\$6,568	\$9,663	\$10,831	2.27	2.54

ratio scale 1 to not equivalized	0.57	0.56	0.56	0.57	0.56	0.99	0.99
ratio scale 2 to not equivalized	0.46	0.70	0.71	0.57	0.58	1.25	1.27
Spain 2004 -- all couples							
not equivalized	\$30,306	\$12,349	\$21,699	\$42,654	\$52,005	1.41	1.72
equivalence scale 1	\$17,788	\$7,001	\$12,306	\$24,788	\$30,094	1.39	1.69
equivalence scale 2	\$14,473	\$8,761	\$15,398	\$23,235	\$29,872	1.61	2.06
ratio scale 1 to not equivalized	0.59	0.57	0.57	0.58	0.58	0.99	0.99
ratio scale 2 to not equivalized	0.48	0.71	0.71	0.54	0.57	1.14	1.20
Sweden 2000 -- all couples							
not equivalized	\$32,410	\$21,774	\$23,606	\$54,184	\$56,016	1.67	1.73
equivalence scale 1	\$18,971	\$12,319	\$13,358	\$31,290	\$32,329	1.65	1.70
equivalence scale 2	\$15,444	\$15,416	\$16,715	\$30,860	\$32,159	2.00	2.08
ratio scale 1 to not equivalized	0.59	0.57	0.57	0.58	0.58	0.99	0.99
ratio scale 2 to not equivalized	0.48	0.71	0.71	0.57	0.57	1.20	1.20
UK 1999 -- all couples							
not equivalized	\$38,461	\$23,097	\$23,067	\$61,514	\$61,483	1.60	1.60
equivalence scale 1	\$22,963	\$13,257	\$13,253	\$36,194	\$36,189	1.58	1.58
equivalence scale 2	\$18,842	\$16,489	\$16,477	\$35,330	\$35,319	1.88	1.87
ratio scale 1 to not equivalized	0.60	0.57	0.57	0.59	0.59	0.99	0.99
ratio scale 2 to not equivalized	0.49	0.71	0.71	0.57	0.57	1.17	1.17
US 2004 -- all couples							
not equivalized	\$63,784	\$16,164	\$33,438	\$79,947	\$97,222	1.25	1.52
equivalence scale 1	\$37,014	\$9,044	\$18,731	\$46,058	\$55,745	1.24	1.51
equivalence scale 2	\$30,038	\$11,365	\$23,528	\$41,403	\$53,566	1.38	1.78
ratio scale 1 to not equivalized	0.58	0.56	0.56	0.58	0.57	0.99	0.99
ratio scale 2 to not equivalized	0.47	0.70	0.70	0.52	0.55	1.10	1.17

Internal source: Internal Source:
Tables12JuneActive5678_nfchanges

EQUIVALENCE SCALE 1:
all earnings divided by HH size raised to .5
EQUIVALENCE SCALE 2:
market earnings divided by HH size raised to .7;
value of unpaid work divided by HH size raised to .3.

Table 8. Inequality of Market Earnings Compared to Inequality of Extended Earnings, Based on Valuation at Minimum Wage

	Variance			P90/P50			GINI		
	Market Earnings	Extended Earnings	Ratio (Market / Extended)	Market Earnings	Extended Earnings	Ratio (Market / Extended)	Market Earnings	Extended Earnings	Ratio (Market / Extended)
Finland 2000	147,422,822	131,181,746	1.12	1.66	1.41	1.18	29.76	17.20	1.73
France 2000	189,891,432	170,452,086	1.11	1.99	1.57	1.27	31.91	18.71	1.71
Germany 2000	311,465,670	282,012,910	1.10	2.04	1.54	1.32	40.15	21.61	1.86
Italy 2004	337,956,014	309,982,152	1.09	2.05	1.52	1.35	38.25	20.71	1.85
Poland 2004	30,627,325	27,645,523	1.11	2.66	1.77	1.51	49.59	25.36	1.96
Spain 2004	136,011,341	122,483,359	1.11	2.07	1.71	1.22	34.57	23.32	1.48
Sweden 2000	125,461,729	115,946,378	1.08	1.76	1.41	1.24	29.50	16.95	1.74
UK 1999	523,410,663	494,174,678	1.06	2.07	1.60	1.29	39.40	23.42	1.68
US 2004	1,059,118,445	1,038,411,955	1.02	2.03	1.80	1.13	38.16	30.02	1.27

Internal Source: Tables 10 June_nfchanges

Table 9. Inequality of Market Earnings Compared to Inequality of Extended Earnings, Based on Valuation at Median Wages

	Variance			P90/P50			GINI		
	Market Earnings	Extended Earnings	Ratio (Market / Extended)	Market Earnings	Extended Earnings	Ratio (Market / Extended)	Market Earnings	Extended Earnings	Ratio (Market / Extended)
Finland 2000	147,422,822	129,893,205	1.13	1.66	1.39	1.20	29.76	16.28	1.83
France 2000	189,891,432	170,865,158	1.11	1.99	1.58	1.26	31.91	19.02	1.68
Germany 2000	311,465,670	279,360,470	1.11	2.04	1.51	1.34	40.15	20.69	1.94
Italy 2004	337,956,014	305,549,701	1.11	2.05	1.46	1.41	38.25	18.70	2.05
Poland 2004	30,627,325	27,299,622	1.12	2.66	1.68	1.58	49.59	22.91	2.16
Spain 2004	136,011,341	116,498,995	1.17	2.07	1.54	1.34	34.57	18.69	1.85
Sweden 2000	125,461,729	115,664,863	1.08	1.76	1.40	1.25	29.50	16.38	1.80
UK 1999	523,410,663	494,283,167	1.06	2.07	1.60	1.29	39.40	23.43	1.68
US 2004	1,059,118,445	1,023,768,973	1.03	2.03	1.63	1.24	38.16	24.43	1.56

Internal Source: Tables 10 June_nfchanges

Table 10. Country Inequality Rankings by Inequality Measures
(from most to least unequal)

	Variance			P90/P50			Gini		
	Market	Extended valued at minimum wage	Extended valued at median wages	Market	Extended valued at minimum wage	Extended valued at median wages	Market	Extended valued at minimum wage	Extended valued at median wages
Finland 2000	6	6	6	9	9	9	8	8	9
France 2000	5	5	5	7	5	4	7	7	5
Germany 2000	4	4	4	5	6	6	2	5	4
Italy 2004	3	3	3	4	7	7	4	6	6
Poland 2004	9	9	9	1	2	1	1	2	3
Spain 2004	7	7	7	2	3	5	6	4	7
Sweden 2000	8	8	8	8	8	8	9	9	8
UK 1999	2	2	2	3	4	3	3	3	2
US 2004	1	1	1	6	1	2	5	1	1

Internal Source: Tables 10 June_nfchanges

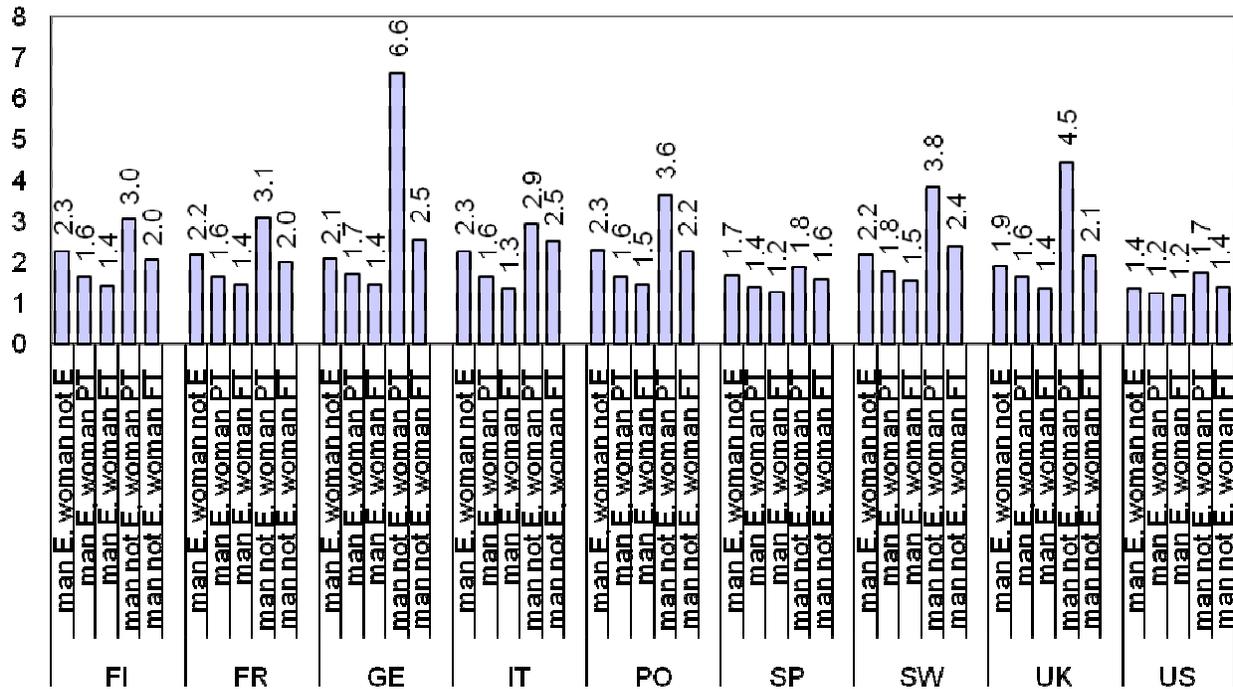
Appendix A.

Table A-1 Comparison of Average Reported Hours of Paid Work in LIS surveys and HETUS/ATUS (daily average times 7), including zero values

	Women		Men	
	Paid Hours in LIS	Paid Hours in HETUS/ATUS	Paid Hours in LIS	Paid Hours in HETUS/ATUS
Finland	-	28.2	-	39.6
France	28.5	26.5	36.4	37.1
Germany	22.3	17.2	40.5	32.6
Italy	19.2	19.2	39.5	43.5
Poland	-	20.3	-	34.9
Spain	21.7	19.8	41.2	40.6
Sweden	-	24.5	-	35.4
UK	23.7	22.8	41.2	37.8
US	25.5	25.1	39.6	39.3

Figure A-1

**Ratio of Extended Earnings to Market Earnings
by Employment Status
(based on minimum wage valuation)**



References

- Abraham, K. and C. Mackie. 2004. *Beyond the Market. Designing Nonmarket Accounts for the United States*. Washington, D.C.: The National Academies Press.
- Aguiar, M. and Hurst, E. 2005. "Consumption versus Expenditure," *Journal of Political Economy* 115 (5): 919-948.
- Aslaksen, I. and C. Koren. 1996. "Unpaid Household Work and the Distribution of Extended Income: The Norwegian Experience," *Feminist Economics* 2/3 (November): 65-80.
- Becker, Gary. 1965. "A Theory of the Allocation of Time," *Economic Journal* 75:493-517.
- Bianchi, S., J. P. Robinson, and M.A. Milkie. 2006. *Changing Rhythms of American Family Life*. New York: Russell Sage.
- Burtless, Gary. 2009. "Demographic Transformation and Economic Inequality," 435-454 in Wiemer Salverda, Brian Nolan, and Timothy M. Smeeding, eds., *The Oxford Handbook of Economic Inequality*. Oxford: Oxford University Press.
- Cancian, Maria, Sheldon Danziger, and Peter Gottschalk. 1993. "Working Wives and Family Income Inequality Among Married Couples," 195-221 in Peter Gottschalk and Sheldon Danziger, eds., *Uneven Tides. Rising Inequality in America*, New York: Russell Sage Foundation.
- Cancian, Maria, and Robert Schoeni. 1992. "Female Earnings and the Level and Distribution of Household Income in Developed Countries," LIS Working Paper No. 84. (September).
- Esping-Anderson, Gosta. 2009a. "Economic Inequality and the Welfare State," 639-664 in Wiemer Salverda, Brian Nolan, and Timothy M. Smeeding, eds., *The Oxford Handbook of Economic Inequality*. Oxford: Oxford University Press.
- _____. 2009b. *The Incomplete Revolution. Adapting to Women's New Roles*. Malden, MA: Polity Press.
- _____. 2008. "Sociological Explanations of Changing Income Distributions" *American Behavioural Scientist* 50(5), 639-658.
- Folbre, Nancy. 2009. "Inequality and Time Use in the Household," 342-363 in Wiemer Salverda, Brian Nolan, and Timothy M. Smeeding, eds., *The Oxford Handbook of Economic Inequality* Oxford: Oxford University Press.
- Folbre, Nancy 2008. *Valuing Children. Rethinking the Economics of the Family*. Cambridge, MA: Harvard University Press.

- Folbre, N. and J. Yoon. 2008a. "Economic Development and Time Devoted to Direct Unpaid Care Activities: An Analysis of the Harmonized European Time Use Survey (HETUS). Paper prepared for the United Nations Research Institute for Social Development (UNRISD).
- Folbre, N. and J. Yoon. 2008b. 'The Value of Unpaid Child Care in the U.S. in 2003'. forthcoming in Jean Kimmel (ed.), *How Do We Spend Our Time? Recent Evidence from the American Time-Use Survey*. Kalamazoo, Michigan: W. E. Upjohn Institute for Employment Research.
- Folbre, Nancy, Cordelia Reimers, Jayoung Yoon. 2009. "Making Do and Getting By: Non-Market Work and Elderly Women's Standards of Living in the United States," *Journal of Women, Politics, and Policy* 30:198-221.
- Frazis, Harley, and Jay Stewart, 2005. "How Does Household Production Affect Earnings Inequality? Evidence from the American Time Use Survey," Working Paper 393, U.S. Bureau of Labor Statistics, Washington, D.C
- Freeman, R. and R. Schettkat. 2002. "Marketization of Production and the U.S.-Europe Employment Gap," National Bureau of Economic Research Working Paper 8797.
- Frick, Joachim, Markus M. Grabka, and Olaf Groh-Samberg. 2009. "The Impact of Home Production on Economic Inequality in Germany," IZA Discussion Paper No. 4023.
- Furtado, Delia, and Heinrich Hock. 2010. "Low Skilled Immigration and Work-Fertility Tradeoffs Among High Skilled U.S. Natives," *American Economic Review* 100:2, 224-228.
- Gottschalk, P. and S. Mayer. 2002. "Changes in Home Production and Trends in Economic Inequality," in Daniel Cohen, Thomas Piketty, and Gilles Stain-Paul (eds.), *The New Economics of Rising Inequalities*. New York: Oxford University Press, 265-284.
- Harkness, Susan. 2010. "The Contribution of Women's Employment and Earnings to Household Income Inequality: A Cross-Country Analysis." LIS Working Paper No. 531
- Jenkins, Stephen, and Nigel O'Leary. 1996. "Household Income Plus Household Production: The Distribution of Extended Income in the United Kingdom," *Review of Income and Wealth* 42:4 (December), 401-419.
- Kahneman, D., A.B. Krueger, D.A. Schkade, N. Schwarz, and A.A. Stone. 2004. 'Toward National Well-Being Accounts,' *American Economic Review* 94(2):429-34.
- Karoly, L. and G. Burtless. 1995. "The Effects of Rising Earnings Inequality on the Distribution of U.S. Income," *Demography* 32.
- Landefeld, S. and S. McCulla. 2000. "Accounting for Nonmarket Household Production Within a National Accounts Framework," *Review of Income and Wealth*, 46/3: 289-307.

Parente, S., R. Rogerson, and R. Wright. 2000. "Homework in Development Economics: Household Production and the Wealth of Nations," *Journal of Political Economy* 108/4 (August): 680-687.

Phipps, S.A. and P.S. Burton. 2007. "Families, Time, and Money in Canada, Germany, Sweden, the United Kingdom and the United States." *Review of Income and Wealth*, 53/3 (September): 460-483.

Reed, Deborah, and Maria Cancian. 2001. "Sources of Inequality: Measuring the Contributions of Income Sources to Rising Family Income Inequality," *Review of Income and Wealth* 47:3, 321-332.

Vernon, Victoria. 2005. *Food Expenditure, Food Preparation Time, and Household Economies of Scale*. Working Paper available online.

Zick, Cathleen D., and W. Keith Bryant. 2008. "Does Housework Matter Anymore? The Shifting Impact of Housework on Economic Inequality," *Review of the Economics of the Household* 6:2-18, 1-28.

Notes

¹ For a basic description of the Harmonized European Time Use Survey (HETUS), see <https://www.h2.scb.se/tus/tus/doc/Metadata.pdf>. For a basic description of the American Time Use Survey (ATUS), see <http://www.bls.gov/tus/>. For an overview of the LIS database, see <https://www.lisproject.org>.

To carry out the analyses in this paper, we used the HETUS on-line table maker; the microdata are not distributed. To conduct analyses based on the ATUS and the LIS data, we worked directly in the microdata.

² The minimum wage data came from the ILO Minimum Wage Data Base (<http://www.ilo.org/travaildatabase/servlet/minimumwages>). These national-level indicators were originally expressed in national currency units for 2004 (Italy and Sweden), 2005 (Finland, Germany and Poland), 2006 (U.K.) and 2007 (France and U.S.); we deflated them to 2005 prices (using IMF CPI indices) and then converted them into PPP-adjusted US dollars, using 2005 consumption PPPs from the World Penn Tables. These minimum wages were originally expressed on an hourly basis in all countries except Germany, Italy, Poland and Spain; in these four cases, we converted monthly figures into an hourly standard by assuming a 40-hour work week, except in France, where we assumed a 35-hour work week. In the countries where there is no national minimum wage fixed by an authority (Finland, Germany, Italy and Sweden), we chose one of the sectoral collective agreements given by the ILO, specifically the one referring to the most unskilled workers in the metalworking industry.

³ Median hourly earnings (disaggregated by gender) were calculated from the LIS microdata, which include annual earnings in all datasets. These annual earnings are gross (pre-tax) in some LIS datasets and net (post-tax) in other datasets. In the datasets where net earnings were not directly available, we “netted down” the reported gross earnings, by subtracting estimated taxes on earnings, including both income taxes and social contributions. The LIS earnings data were originally in national currencies corresponding to the dataset year; as with the minimum wages, we deflated these earnings to 2005 prices (using IMF CPI indices) and then converted them into PPP-adjusted US dollars, using 2005 consumption PPPs from the World Penn Tables. Hourly earnings were constructed by dividing annual earnings by reported annual hours worked. Annual hours worked were available as such in Sweden; in the other countries, we constructed them as the number of weeks worked in the income reference year times multiplied by reported usual weekly hours. If neither the number of weeks worked, nor the number of weekly hours, were not available, we used median values for other countries instead.

⁴ Note that positive values for earnings for paid work are reported for couples in which neither are employed (see shaded cells in Table 5), except in the U.K. This results from reference period mismatch: the employment classification refers to a different point in and period of time than the earnings measure, except in the U.K.

⁵ One might speculate that these households, which have at least some market earnings and very high levels of unpaid work, experience less economic hardship relative to other households than comparisons based entirely on market earnings suggest, especially in Germany, Poland, Sweden and the U.K.

⁶ Use of this scale is often justified as a simpler version of an equivalence scale that puts different weights on adults and children in the household. For instance, in a four-person household, two members are likely to be children, who require less by way of consumption expenditures. For a more detailed discussion, see Folbre (2008).