

A Service of



Leibniz-Informationszentrum Wirtschaft Leibniz Information Centre

Fang, Lei; McDaniel, Cara

## **Working Paper**

Home hours in the United States and Europe

Working Paper, No. 2014-5

### **Provided in Cooperation with:**

Federal Reserve Bank of Atlanta

Suggested Citation: Fang, Lei; McDaniel, Cara (2014): Home hours in the United States and Europe, Working Paper, No. 2014-5, Federal Reserve Bank of Atlanta, Atlanta, GA

This Version is available at: https://hdl.handle.net/10419/101043

### Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

#### Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



# Home Hours in the United States and Europe

Lei Fang and Cara McDaniel

Working Paper 2014-5 June 2014

**Abstract:** Using data from the Multinational Time Use Study, this paper documents the trends and levels of time allocation, with a focus on home hours, for a relatively large set of industrialized countries during the past 50 years. Three patterns emerge. First, home hours have decreased in both the United States and European countries. Second, female time allocation contributes more to the cross-country difference in both the trends and the levels of market hours and home hours per person. Third, time allocations between the United States and Europe are more similar for the prime-age group than for the young and old groups.

JEL classification: J22, D13

Key words: time use, home hours, sex, age

The authors thank Russel Cooper, Daniel Hamermesh, and Richard Rogerson for their insightful comments. They also thank seminar participants at the University of Texas, Shanghai Jiaotong University, and the 2012 Midwest Macro Meeting. They thank Mark Aguiar and Erik Hurst for their Stata programs that make time-use data much easier to work with. The views expressed here are the authors' and not necessarily those of the Federal Reserve Bank of Atlanta or the Federal Reserve System. Any remaining errors are the authors' responsibility.

Please address questions regarding content to Lei Fang, Research Department, Federal Reserve Bank of Atlanta, 1000 Peachtree Street NE, Atlanta, GA 30309-4470, 404-498-8057, lei.fang@atl.frb.org; or Cara McDaniel, Department of Applied Economics, Guanghua School of Management, Peking University, gzhu@gsm.pku.edu.cn.

Federal Reserve Bank of Atlanta working papers, including revised versions, are available on the Atlanta Fed's website at frbatlanta.org/pubs/WP/. Use the WebScriber Service at frbatlanta.org to receive e-mail notifications about new papers.

## 1 Introduction

Time allocation for different activities is an important decision. As a subcategory of time allocation, market work has been studied extensively in the literature. In contrast, studies on home work are limited due to a lack of data availability until recently. Because of the natural 24-hour constraint, the time allocations for market and home activities are jointly determined. Hence, the allocation of time for home activities not only is interesting in itself but also may be important for facilitating our understanding of the market labor supply. In fact, one set of the literature has demonstrated that the inclusion of home production improves the performance of standard models in accounting for the business cycle fluctuation. Another set of the literature finds that home production is important for accounting for the market labor supply difference between the U.S. and Europe. In light of the importance of home work, this paper examines the similarity and differences in the trends and levels of home hours between the U.S. and European countries and furthermore identifies the demographic groups that drive the aggregate data.

We construct measures of home work, market work, and the combination of the two for each decade between the 1960s and the 2000s from the Multinational Time Use Study (MTUS). We find that the core home hours (i.e., household work, such as cooking, cleaning, and laundry) have declined in both the U.S. and European countries since the 1960s. Although the time spent on shopping and child care has generally increased for the countries studied, the increase is not sufficiently large, and home hours with shopping and child care

<sup>&</sup>lt;sup>1</sup>Recent papers that examine home hours include Aguiar and Hurst (2007), Ramey and Francis (2009), Ramey (2009), Freeman et al. (2005), Burda, Hamermesh and Weil (2008), Ragan (2013), Ngai and Pissarides (2011), and Gimenez-Nadal and Sevilla (2012).

<sup>&</sup>lt;sup>2</sup>For examples, see Greenwood and Hercowitz (1991), Benhabib, Rogerson and Wright (1991), McGrattan, Rogerson and Wright (1997), and Campbell and Ludvigson (2001).

<sup>&</sup>lt;sup>3</sup>Unfortunately, the frequency for which the data are available does not allow us to study the changes in home hours over the business cycle.

<sup>&</sup>lt;sup>4</sup>For examples, see Ragan (2013), Rogerson (2008), Ngai and Pissarides (2008), Ngai and Pissarides (2011), and McDaniel (2011).

included thus still exhibit declining trends in both the U.S. and European countries. We also find that Americans spent the least amount of time in core home work<sup>5</sup> but spent more time on shopping than other nationals in all five decades.

Cross-country differences in time allocation are driven largely by the time-allocation decision of females. This is established from the following observations. First, we observe that the cross-country dispersion in female market hours is much larger than the dispersion in male market hours in each decade. Second, the declining trend in home hours is driven entirely by the female series because the home hours for males have increased in all countries. Third, the countries with larger declines in home hours have a larger decline in female home hours, but there is no clear cross-country correlation between the decline in home hours per person and home hours per male. Fourth, the cross-country differences in home hours are larger for women than for men in the 2000s.

We also examine the time allocations by age group. Home hours per person have declined across all age groups in almost all countries. Men of all age groups have increased their home hours, and women of all age groups have decreased their home hours. Hence, the female series also drives the aggregate decline for each age group. Furthermore, we find that the time allocation of all three categories, namely home work, market work, and combined work, are more similar for the prime-age group than for the young and old groups between the U.S. and Europe. We also find that across countries, decades, and sexes, the young spent less time and the old spent more time at home than prime-age individuals. Lastly, combined work has declined for all age groups of both sexes, although the lowest and highest decreases were found for the prime-age group and the young group, respectively.

This paper is related to the literature on the documentation of time allocations. Ramey and Francis (2009) study time allocation in the United States over the period 1900-2000 and find that leisure has increased for individuals aged 14 and up. Ramey (2009) constructs

 $<sup>^5</sup>$ The Netherlands in the 1970s is an exception.

measures of home hours in the United States and finds that the total home hours declined slightly over the period of 1900 to 2000 with the greatest decline occurring from 1965 onward. Aguiar and Hurst (2007) construct measures of time allocation over the period 1965-2000 for the United States and focus on how leisure has changed within the demographic groups. These three papers focus on time allocations for the U.S. Several other studies examine time allocation in multiple countries. Freeman et al. (2005) study time allocation for the U.S. and a few European countries in the early 1990s. Ragan (2013) and Ngai and Pissarides (2011) study more countries, but their analysis is only for the 2000s. Burda, Hamermesh and Weil (2008) examines the combination of home and market work by males and females for a few countries in the 2000s. These four papers, which study time allocation in both the U.S. and Europe, focus on recent periods and not a longer horizon and therefore have no trend implications.

Following Aguiar and Hurst (2007), Gimenez-Nadal and Sevilla (2012) recently constructs data for several industrialized countries other than the United States, but their focus is primarily on how leisure changes for different demographic groups and what types of leisure activities have changed across the demographic groups. In contrast, we focus on documenting the similarity and differences in the trends and levels of home production hours between the U.S. and European countries. We also find that the time allocation of females and the non-prime age group are important drivers of the time allocation per person. A comparison of our estimates and methodology with those constructed by Aguiar and Hurst (2007) and Gimenez-Nadal and Sevilla (2012) can be viewed in the web appendix.

This paper is also related to the literature that attempts to account for the difference in market hours between the U.S. and Europe using models with home production (Ragan (2013), Rogerson (2008), Ngai and Pissarides (2008), Ngai and Pissarides (2011), and McDaniel (2011)). In principle, a successful model should generate predictions for both market and home hours consistent with the data. Our constructed home hours are useful in this re-

gard because they provide the empirical counterparts that can be used to build and evaluate the theoretical models.

The rest of the paper is organized as follows. Section 2 presents the data. Section 3 discusses the constructed market hours, home hours, and combined hours. Section 4 concludes.

### 2 Data

## 2.1 Data and Methodology

Our source for the time-use data is the Multinational Time Use Study (MTUS) provided by the Centre for Time Use Research Gershuny et al. (2010). The MTUS is an ongoing project with the intent of harmonizing the time-use datasets collected by different statistical agencies in different countries. Because the project is ongoing, there are different releases of the time-use data. When possible, we use the most recent release.<sup>6</sup> Table 1 presents the countries and years studied with the number of observations. More details are available for each survey in the web appendix.

The MTUS dataset contains diary entries in which the respondents report the time spent in standard activity categories. Each entry also contains information on the date, day of the week, and demographic characteristics of the respondent. For surveys in which the diarist records activities on multiple days, each diary entry is treated as unique. We divide the data by age group (15-19, 20-24, 25-34, 35-44, 45-54, 55-59, and 60-64), sex, and employment status (active/inactive). We then calculate the average hours per week spent in each activity for each demographic group.

<sup>&</sup>lt;sup>6</sup>Estimates in this paper come from the W5.0, W55.2, W55.3, and W5.8 releases.

<sup>&</sup>lt;sup>7</sup>The United States 1975 study surveyed individuals in multiple periods. Because the response rate of the individuals in follow-up periods was low, we include only the first entry of each individual in our estimates. This is consistent with Aguiar and Hurst's treatment of the 1975 survey.

<sup>&</sup>lt;sup>8</sup> For some years, the data are only available in the release 5.0 format. This release includes only individu-

Because the surveyed population may not reflect the composition of the actual population, we construct the demographic weights and calculate a weighted average of the time spent in each activity for the population aged 15-64 years. We construct the demographic weights from *OECD Labor Force Statistics* (when available, see country notes). We also weight the diary observations such that the days of the week are equally represented across the survey.

# 2.2 Activity Categories

To harmonize the time-use surveys, the activities included in each individual survey are grouped into standard categories common to all countries and years. Table 2 reports the activity classifications available in the 41 activity topology. We construct the measures of market work and home work from the available activity categories. We follow the classification by Aguiar and Hurst (2007) as closely as possible. We separate the market work into "core" and "total" categories. Core market hours includes work for pay at a primary job with paid meals and breaks included, work for pay at a second job, and work for pay at home. The total market hours are the sum of core market hours and time spent commuting to and from work.

We define four measures for home work. The narrowest definition of home work is the als aged 20-59 years. For the results reported in the main text, we assume that the members of the 15-19 age group spend the same number of weekly hours engaged in each activity as their demographic counterparts in the 20-24 age group. We use the same procedure for those individuals aged 60-64 but use the 55-59 as the reference age group. We make a similar assumption if only part of an age group is available. In the web appendix, we examine two alternative scenarios to construct the estimates. The results are close to the reported ones.

<sup>&</sup>lt;sup>9</sup>Although it may be ideal to construct more detailed demographic groups, a consistent data source for constructing weights is not available. Each survey includes a suggested survey weight, but we choose not to use these weights because some surveys provide weights only for age groups and others for finer categories.

<sup>&</sup>lt;sup>10</sup>MTUS release 5.8 contains two sets of activity categories: a set of 41 activities and a set of 69 more narrowly defined activities. Earlier versions of the MTUS datasets include only the 41 activity version; thus, we must use the less fine, and therefore less desirable, set of 41 activity codes in our study. However, we are able to use the 69 activity topology when comparing our results for the United States with those of Aguiar and Hurst. We then demonstrate how the estimates change for the United States when we switch to using the 41 activity topology.

<sup>&</sup>lt;sup>11</sup>The MTUS includes the time spent engaged in a job search at home in the work-from-home category. The entire work-from-home category represents a negligible share of the core market work.

core home hours, which includes cooking and preparing meals for consumption at home, doing dishes, cleaning, laundry, and mending. The second category for home work is "core home+shopping." In addition to core home hours, this category includes the time spent on purchasing market-produced goods and services as well as the time spent on running errands (e.g., going to the post office, picking up the dry cleaning, etc.) and the time spent on traveling to and from child care-related activities. This type of traveling is separated from leisure-related travel. The third category is the total home hours, which includes core home hours, shopping, gardening, and "odd jobs." Odd jobs includes activities such as home and vehicle repair and pet care. The fourth category is "total+childcare," which includes the total home hours and child care. Child care is the time spent on the care of children and infants and the time spent obtaining their medical care. 13

Based on the measures for the market and home hours, we also report four categories of combined work, which is defined as the sum of the market and home hours. The core combined hours are the sum of the core market hours and the core home hours. "Core combined hours+shopping" includes shopping in addition to the core combined hours. The total combined hours are the sum of the total market hours and the total home hours. "Total combined hours+childcare" includes child care in addition to the total combined hours. The residual of "total combined hours+childcare" is considered leisure. Aguiar and Hurst (2007) focus on the evolution of leisure over time in the United States, and Gimenez-Nadal and Sevilla (2012) focus on the evolution of leisure across countries; thus, we do not analyze leisure or how leisure time is spent in this paper.

<sup>&</sup>lt;sup>12</sup>We exclude the "odd jobs" category from the core home work for two reasons: We follow Aguiar and Hurst's time allocation definitions as closely as possible, and "odd jobs" includes activities such as pet care that may or may not be considered leisure and have market-produced substitutes. Gardening is excluded from core home work for the same reasons.

<sup>&</sup>lt;sup>13</sup>Time spent preparing meals for children and taking care of their clothing is included in core home work.

## 3 Time Allocation

This section discusses the constructed data. For most countries, there is only one survey (if any) in a given decade. If there is more than one survey in a decade (e.g., the Netherlands 1980 and 1985), the results are reported as the average of the two. The latest date that the surveys are available for France is 1998. The 1998 averages are reported under "2000" in the tables. We also report the changes in hours since the 1960s and 1970s.

### 3.1 Market Hours

### 3.1.1 Market Hours per Person

The cross-country differences in market hours per adult have been well documented using aggregate data.<sup>14</sup>. Table 3 and Table 4 display our constructed data for the core and total market hours per person. These observations are broadly consistent with the observations from the aggregate data. Specifically, the market hours in France and Germany were larger than those for the U.S. in the 1960s and have decreased sharply since then. In contrast, the market hours in the U.S. have not changed much. Because of the different trend movement, the 2000s market hours per adult in Europe are lower than those in the U.S.

The cross-country differences in market hours are smaller when using the MTUS estimates compared with those constructed from the GGDC data. The GGDC estimates are adjusted for paid vacations, holidays, and sick time, whereas the time-use data are not adjusted. Because Europeans enjoy more paid time off, our data necessarily underestimate the differences in market hours between the U.S. and Europe. In the web appendix, we provide comparisons between our estimates and the estimates from the GGDC data.

<sup>&</sup>lt;sup>14</sup>One common source for the aggregate hours worked is the Groningen Growth and Development Center (GGDC) *Total Economy Database*. See, for example, Ohanian, Raffo and Rogerson (2008)

### 3.1.2 Market Hours by Sex

Tables 3 and 4 also report market hours by sex. Consistent with the studies for the U.S. by McGrattan and Rogerson (2004), Ramey and Francis (2009), and Aguiar and Hurst (2007) and studies for other countries by Gimenez-Nadal and Sevilla (2012), the market hours per male have fallen and the market hours per female have risen in most of the countries in our sample with the exception of the male series in the Netherlands and the female series in Germany.

In the 1960s, both men and women in France and Germany worked no less in the market than their counterparts in the U.S. In contrast, in the 2000s, both men and women worked more in the U.S. than in European countries. This observation holds for both of the measures of market hours. More importantly, the cross-country differences in both core and total market hours are smaller for men than for women. Specifically, the cross-country dispersion, measured by the coefficient of variation, <sup>15</sup> is larger for female market hours than for male market hours in every decade. The average for the core (total) market hours over the five decades is 0.09 (0.07) for men and 0.2 (0.19) for women. <sup>16</sup> The larger cross-country difference in market hours per female implies that the female series contributes more to the cross-country variations in market hours per person.

#### 3.1.3 Market Hours by Age

We next study the market hours across age groups. Tables 5 and 6 display the changes in market hours per person by age and sex. Both the core and total market hours per person have declined for both the young and old groups in all countries except the Netherlands. Men of all ages have generally decreased their market hours. Although women of prime age

<sup>&</sup>lt;sup>15</sup>The coefficient of variation is defined as the standard deviation normalized by the mean.

 $<sup>^{16}</sup>$ The coefficient of variation for the core (total) market hours is 0.04, 0.11, 0.11, 0.10, 0.07 (0.03, 0.09, 0.09, 0.08, 0.07) for men and 0.06, 0.22, 0.30, 0.27, 0.17 (0.06, 0.21, 0.30, 0.24, 0.14) for women from the 1960s to the 2000s.

have increased their market hours in all countries, the young and old women have increased their market hours in some countries but decreased their market hours in others.

Tables 7 and 8 report the levels of market hours by age. Although prime-age men work the highest number of hours in the market in all of the countries in all five decades, prime-age women work the highest number of hours in all of the countries in the 2000s but fewer hours than the young group in Europe in earlier periods. More importantly, the market hours for both the U.S. and Europe are more alike for the prime-age individuals than for the young and old individuals in every decade. In particular, the low market hours worked by the old Europeans contributes a great deal to the low market hours per person in the European countries in the 2000s. Relative to the United States, the old work approximately 90% as much (2.2 hours less) in Norway, 71% (6.5 hours less) as much in the United Kingdom, 55% (10.2 hours less) as much in Italy and the Netherlands, and 45% as much (12.1 hours less) in Germany and France as measured by the core market hours. In contrast, the difference is smaller for prime-age individuals. Relative to the United States, prime-age individuals work approximately 93% as much (2.2 hours less) in the U.K. and France, 89% (3.4 hours less) as much in Norway and Italy, 86% (4.2 hours less) as much in the Netherlands, and 79% (6.5 hours less) as much in Germany. Young Europeans work less than young Americans in some counties but more in others.

### 3.2 Home Hours

#### 3.2.1 Home Hours per Person

This section examines the estimated home hours per person. Table 9 displays the estimates for core home hours per adult. We start the analysis with the observation that core home hours have declined in all countries over this period of time. The core home hours per person

in the United States decreased by 5.3 hours between the 1960s and the 2000s.<sup>17</sup> Core home hours also declined in Europe. The average European decline is 4 hours from the 1960s and 2.8 hours from the 1970s. In particular, the decline from the 1970s onward is larger in Norway and France than in the United States.

It is also worth noting the differences in the level of core home hours across countries. Over the period studied, Americans generally spend less time in core home activities than Europeans. This is consistent with the studies by Freeman et al. (2005), Ragan (2013), and Ngai and Pissarides (2011). The former study finds that home hours are higher in Germany than in the U.S. in the early 1990s. The latter two find that home hours are greater in the European countries than in the U.S. in the 2000s. All of the European countries in our dataset have higher core home hours than the United States in the 2000s. Core home hours are 72% (5.9 hours) higher in Italy, 27% (2.2 hours) higher in Germany, 12% (1 hour) higher in the Netherlands, and approximately 40% (3 hours) higher in other countries. The core market hours are lower in Europe in the same period. This implies a negative cross-country correlation between market hours and home hours in the 2000s, and this negative correlation persists in every other decade except the 1960s.

Table 10 presents the estimates for the weekly shopping hours. The shopping time has increased in most of the countries over the sample period (Italy and France are exceptions.). Americans spend more time on shopping than other nationals in every decade, and this partially offsets the low core home hours in the United States. In fact, shopping time is negatively correlated with core home hours in every decade, and the correlation coefficients are -0.46, -0.43, -0.86, -0.90, and -0.72 for each decade from the 1960s to the 2000s, respectively. As a result, the home hours are not always the lowest in the United States for all three other measures.

The estimates for "core home+shopping" are reported in Table 11. Consistent with the

 $<sup>^{17}</sup>$ Ramey and Francis (2009) and Aguiar and Hurst (2007) also find a decrease in home hours for the U.S.

core home hours, this measure also delivers a decline in the home hours in all countries except the UK. Because "odd jobs" is a small category, the estimates for total home hours preserve the properties of "core home+shopping", as displayed in Table 12. Table 13 reports the average hours per week of child care-related activities. Table 14 displays the sum of child care hours and the total home hours. The time spent on child care has increased by a small amount over the sample period, and the decreasing trends in total home hours persist when child care is included.

### 3.2.2 Home Hours by Sex

Table 9 also reports the core home hours per male and per female. The table reveals that women in all countries reduced their core home hours, and men in almost all of the countries increased their core home hours.<sup>18</sup> Hence, the gap between male and female home hours has narrowed from an average of 23 hours in the 1960s to an average of 11 hours in the 2000s, with women working more at home in all countries and all years. Although shopping (Table 10) and child care (Table 13) have increased in almost all of the countries for both sexes, the increase for women is smaller than the reduction in core home hours. Hence, the increasing trend for men and the decreasing trend for women persist for the other three measures of home hours. Thus, the decline in home hours per adult, as indicated by all four measures, is driven entirely by the female series in all of the countries studied.

There is no clear cross-country correlation between the changes in the core home hours per male and the core home hours per person. In contrast, the countries with a larger decline in core home hours generally display a larger decline in core home hours per female. Specifically, in the countries with a more-than-3-hour decline in core home hours per adult (France, Norway, and U.S.) between the 1970s and 2000s, the average decline in core female home hours is 10 hours compared to the average decline in female home hours of 5.2 hours

<sup>&</sup>lt;sup>18</sup>Aguiar and Hurst (2007) and Ramey and Francis (2009) find the same pattern for the U.S. and Gimenez-Nadal and Sevilla (2012) find the same pattern for several European countries.

in the other countries. This observation also holds for the other three measures of home hours. The observation thus suggests that the trend difference in home hours per female has a larger impact on the trend difference in home hours per adult.

We next explore the level differences in home hours. Although the core home hours per male in the U.S. is in the middle among the other countries for all years, the core home hours per female in the U.S. are always the lowest. As illustrated in Table 10, American men and women spent more time shopping in every decade than their European counterparts, which leads to higher shopping hours per person in the U.S. As a result, American women do not always work at home the least for all three other measures.

With respect to the magnitude in the 2000s, men in Italy and France work less at home than men in the U.S. and men in other European countries all work more at home than American men. The core home hours per male range from 73% of the U.S. level (1.2 hours less) in Italy to 168% (3 hours more) in Norway, and the European average is 16% (0.7 hours) greater than the U.S level. The cross-country difference in core home hours per female is more pronounced than the difference in the male series. The core home hours per female range from 113% of the U.S. level (1.6 hours more) in the Netherlands to 210% (13.1 hours more) in Italy, and the European average is 46% (5.5 hours) greater than the U.S. level. This finding, together with the higher core home hours per adult in European countries, demonstrates that the difference in home hours per female also contributes more to the difference in home hours per adult in the 2000s.

#### 3.2.3 Home Hours by Age

Table 15 displays the change in core home hours by age group. The core home hours per adult decline across all age groups for almost all of the countries. Men of all age groups increase their core home hours (France is an exception), and the largest and smallest increases were generally obtained for older and young men, respectively. In contrast, women of all age

groups have decreased their core home hours, with the largest decrease for prime-age women in most of the countries. The uniform increasing trend for men and the uniform decreasing trend for women in home hours across age groups also persist for all three other measures. Hence, the female series also drives the aggregate decline for each age group.

Tables 19 through 22 report the average number of hours per week in home production by the 15-24, 25-54, and 55-64 age groups. Across the countries, decades, and sexes, the young spend less time and the old generally spend more time in home production than the prime-age individuals. More importantly, the differences in the home hours between the U.S. and Europe are higher for the old than for other age groups. For example, as measured by the core home hours in the 2000s, average Europeans aged 15-24 work 14% (0.4 hours) more at home, average Europeans aged 25-54 work 38% (3.5 hours) more at home, and average Europeans aged 55-64 work 64% (6.2 hours) more at home than the corresponding age groups in the U.S. The larger difference in the home hours for the old group between the U.S. and Europe also holds for all of the other three measures.

In summary, this section establishes the common decreasing trend in home hours for the countries studied. We demonstrate that the cross-country difference in the female market and home hours contributes more to the differences in both trends and levels of time allocation per person.<sup>19</sup> We also find that the differences in the time allocations are more pronounced between the U.S. and Europe for the old-age groups than for the prime-age group.

<sup>&</sup>lt;sup>19</sup>Freeman et al. (2005) find that there is more variation in the cross-country female time allocation using data for the 1990s.

### 3.3 Combined Work

### 3.3.1 Combined Work per Person

Tables 23, 24, 25, and 26 report four measures of combined work. All four measures have generally declined across countries.<sup>20</sup> Because the time spent on shopping and child care has generally increased, the declines in the last three measures are less pronounced than the declines in the core combined work.

The data in the tables for the market and home hours provide insights into the sources of the change in combined work. As indicated, there is much cross-country variation in the contribution of the trend in the market and home work to the trend in the combined work. As is true for all four measures in Germany and Italy, the decline in combined work is driven largely by the decline in market work; in France, although the decline in combined work relative to the 1960s is roughly split half and half, the decline relative to the 1970s is largely driven by the decline in home work; in the United States, Norway, and the United Kingdom, the changes in the combined work are driven primarily by the change in home work; and in the Netherlands, the increase in combined work is driven by the increase in market work, whereas a decline in home work is observed.

# 3.4 Combined Work by Sex

In general, the increase in male home hours does not fully compensate for the decline in male market hours, and the increase in the female market hours does not fully compensate for the decline in female home hours. As a result, both the male and female combined work hours decline generally for all four measures. This suggests that, although both men and women reallocate their time from market to home and vice versa, they are also allocating more time to other activities, mainly leisure.

 $<sup>^{20}</sup>$ The Netherlands is an exception for all four measures, and the U.K is an exception for the last three measures.

The U.S. ranks in the middle of European countries in terms of core combined hours per person in the 2000s but ranks the highest for all other three measures. This is because both American men and women spend more time on shopping and child care than their European counterparts. Despite the large difference in market hours and home hours between the two sexes, the men and women in each country have a similar number of hours of combined work for most of the available surveys. This is consistent with the finding by Burda, Hamermesh and Weil (2008) for the 2000s.

## 3.5 Combined Work by Age

Tables 27 through 30 report the changes in the combined work by age. Combined work has declined for all age groups of both sexes for all four measures. Prime-age individuals of both sexes have the least decline in all countries, and young individuals have the largest decline in most of the cases.

Tables 31 through 26 report the levels of combined work by age. Prime-age men and women work the most, and young men and women work the least for all four measures in all countries and all decades. There is also less cross-country variation in the combined work for the prime-age group and more cross-country variation for the young-age group.

# 4 Conclusion

This paper constructed the market hours, home hours, and combined hours for a relatively large set of industrialized countries over the past fifty years. Two findings emerge from the data. First, the home hours of the various measures have decreased in both the United States and European countries over the past fifty years. Second, the time allocations of the female and non-prime age groups contribute more to the cross-country differences in all three categories of time allocation.

The existing theoretical works on the difference in time allocation between the U.S. and Europe have focused on the time allocation per person and the time allocation by sectors. This paper suggests that it is also of interest to include gender and/or age in the model and then use the model to explore the factors that can account for the cross-country differences in time allocation by demographic groups. We leave these questions for future research.

Table 1: MTUS Countries and Years

$\mathbf{Country}$	Years					
France	1966*,	1974*	1998			
N	2,898	4,633	12,388			
Germany	1965*	1991	2001			
N	2,137	21,792	27,318			
Italy	1979*,	1989	2002			
N	2,116	13,027	35,571			
Netherlands	1975	1980	1985	1990	1995	2000
N	7,803	16,350	19,462	19,997	19,740	10,346
Norway	1971	1981	1990	2000		
N	5,467	3,966	5,266	6,271		
United Kingdom	1974	1983	1987	1995	2000	
N	14,372	7,371	8,813	1,410	13,837	
United States	1965	1975	1985	1992	2003	
N	1,948	1,949	2,539	6,556	38,511	

<sup>\* 5.0</sup> release, ages 20-59 only

Table 2: MTUS Activities

$Core\ m$	arket work		continued
AV 1	Paid work, primary job	AV 19	Active sports participation
AV 2	Paid work at home	AV 20	Passive sports participation
AV 3	Paid work, second job	AV 21	Walking
Total n	$narket \ work = core +$	AV 22	Religious activities
AV 5	Travel to/from work	AV 23	Civic activities
Core no	on-market	AV 24	Cinema or theatre
AV 6	Cook, wash up	AV 25	Dances or parties
AV 7	Housework	AV 26	Social clubs
Shoppin	ng	AV 27	Pubs
AV 10	Shopping	AV 28	Restaurants
AV 12	Domestic travel	AV 29	Visit friends at their homes
Total n	on-market = core + shopping +	AV 30	Listen to radio
AV 8	Odd jobs	AV 31	Watch television or video
AV 9	Gardening	AV 32	Listen to records, tapes, cds
Child ca	re	AV 33	Study, homework
AV 11	Childcare	AV 34	Read books
Leisure		AV 35	Read papers, magazines
AV 4	School, classes	AV 36	Relax
AV 13	Dress/personal care	AV 37	Conversation
AV 14	Consume personal services	AV 38	Entertain friends at home
AV 15	Meals and snacks at home	AV 39	Knit, sew
AV 16	Sleep	AV 40	Other leisure
AV 17	Free time travel	AV 41	Unclassified time
AV 18	Excursions		

Table 3: Core Market

All persons	1960s	1970s	1980s	1990s	2000s	$\Delta$ 60s	$\Delta$ 70s
France	29.2	24.6			22.9	-6.3	-1.7
Germany	31.4			25.9	19.7	-11.7	
Italy		23.9	22.9		22.0		-1.9
Netherlands		16.9	15.5	17.2	23.3		6.4
Norway		24.2	24.9	23.7	25.1		0.9
UK		24.9	22.5	25.5	25.3		0.4
USA	28.6	26.5	26.4	27.9	27.2	-1.4	0.7
Men	1960s	1970s	1980s	1990s	2000s	$\Delta$ 60s	$\Delta$ 70s
France	40.9	34.5			28.3	-12.6	-6.2
Germany	44.4			34.1	25.6	-18.8	
Italy		34.7	32.2		30.4		-4.3
Netherlands		26.1	24.3	25.4	31.0		4.9
Norway		35.8	32.2	30.2	30.7		-5.1
UK		36.8	29.5	32.0	32.1		-4.7
USA	41.8	36.6	33.1	33.4	32.6	-9.2	-4.0
Women	1960s	1970s	1980s	1990s	2000s	$\Delta$ 60s	$\Delta$ 70s
France	17.6	14.9			17.6	0.0	2.7
Germany	18.7			17.5	13.7	-5.0	
Italy		13.5	13.8		13.6		0.1
Netherlands		7.5	6.9	8.8	15.4		7.9
Norway		12.3	17.6	17.1	19.3		7.0
UK		13.2	15.7	19.2	18.6		5.4
USA	16.3	17.0	20.1	22.4	21.9	5.6	4.9

Table 4: Total Market

All persons	1960s	1970s	1980s	1990s	2000s	$\Delta$ 60s	$\Delta$ 70s
France	31.9	27.8			25.7	-6.2	-2.1
Germany	33.8			28.9	22.8	-11.0	
Italy		26.9	23.2		25.6		-1.3
Netherlands		19.9	18.5	20.7	27.4		7.5
Norway		26.8	27.5	26.6	27.7		0.9
UK		28.3	25.4	28.3	28.9		0.6
USA	31.6	29.3	29.6	31.2	29.7	-1.9	0.4
Men	1960s	1970s	1980s	1990s	2000s	$\Delta$ 60s	$\Delta$ 70s
France	44.8	39.1			31.7	-13.1	-7.4
Germany	47.7			37.8	29.5	-18.2	
Italy		39.1	32.8		35.1		-4.0
Netherlands		30.8	28.6	30.4	36.4		5.6
Norway		39.4	35.4	33.6	33.8		-5.6
UK		41.6	33.2	35.5	36.3		-5.3
USA	46.3	40.7	37.2	37.5	35.8	-10.5	-4.9
Women	1960s	1970s	1980s	1990s	2000s	$\Delta$ 60s	$\Delta$ 70s
France	19.2	16.7			19.9	0.7	3.2
Germany	20.3			19.7	16.0	-4.3	
Italy		15.1	13.9		16.0		0.9
Netherlands		8.8	8.3	10.7	18.1		9.3
Norway		13.8	19.7	19.5	21.4		7.6
UK		15.3	17.9	21.3	21.6		6.3
USA	17.7	18.8	22.6	25.0	23.9	6.2	5.1

Table 5: Change in Core Market Hours by Age

		Change	e 1960s			Change	e 1970s	
All	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	-12.9	-3.6	-15.0	-6.3	-9.1	1.3	-10.8	-1.7
Germany	-23.8	-7.7	-13.2	-11.7				
Italy					-9.5	-0.1	-3.6	-1.9
Netherlands					3.1	8.0	1.5	6.4
Norway					-4.6	2.6	-2.4	0.9
UK					-1.7	1.7	-5.4	0.4
USA	-6.5	0.1	-5.5	-1.4	-3.9	1.0	0.1	0.7

		Change	e 1960s			Change	e 1970s	
Men	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	-15.0	-11.8	-22.6	-12.6	-11.3	-4.9	-15.3	-6.2
Germany	-25.7	-16.0	-24.3	-18.8				
Italy					-11.0	-3.3	-8.3	-4.3
Netherlands					2.6	5.0	0.0	4.9
Norway					-6.4	-4.9	-9.5	-5.1
UK					-5.3	-3.8	-13.1	-4.7
USA	-14.0	-7.7	-15.1	-9.2	-8.4	-4.6	-3.7	-4.0

		Change	e 1960s		(	Change	e 1970s	
Women	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	-10.7	4.9	-7.8	0.0	-6.8	7.7	-6.9	2.7
Germany	-21.9	-0.0	-4.2	-5.0				
Italy					-7.4	2.3	-0.2	0.1
Netherlands					3.7	11.3	2.3	7.9
Norway					-2.4	10.5	4.3	7.0
UK					1.8	7.3	1.1	5.4
USA	0.9	7.4	2.1	5.6	0.5	6.0	3.0	4.9

Table 6: Change in Total Market Hours by Age

		Change	e 1960s			Change	e 1970s	
All	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	-12.4	-3.3	-16.0	-6.2	-9.1	0.9	-12.0	-2.1
Germany	-22.6	-6.7	-13.2	-11.0				
Italy					-7.7	0.3	-4.0	-1.3
Netherlands					5.2	9.0	2.3	7.5
Norway					-6.4	3.1	-2.0	0.9
UK					-1.2	2.0	-6.2	0.6
USA	-7.2	-0.0	-6.3	-1.9	-4.6	0.9	-0.6	0.4

		Change	e 1960s			Change	e 1970s	
Men	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	-15.5	-12.1	-24.6	-13.1	-11.9	-6.4	-17.3	-7.4
Germany	-24.2	-15.2	-24.6	-18.2				
Italy					-9.8	-3.2	-9.3	-4.0
Netherlands					4.9	5.1	0.9	5.6
Norway					-8.3	-5.2	-9.7	-5.6
UK					-5.3	-4.6	-14.7	-5.3
USA	-16.2	-8.6	-16.8	-10.5	-9.9	-5.2	-4.9	-4.9

		Change	e 1960s			Change	e 1970s	
Women	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	-9.3	5.7	-8.1	0.7	-6.2	8.4	-7.4	3.2
Germany	-21.1	0.9	-4.2	-4.3				
Italy					-5.5	3.1	0.1	0.9
Netherlands					5.6	13.1	2.7	9.3
Norway					-4.0	11.8	5.3	7.6
UK					2.6	8.6	1.1	6.3
USA	1.3	8.1	1.9	6.2	0.3	6.4	2.6	5.1

Table 7: Core Market Hours by Age

		1960s	$_{0}$	1	2	1970s	2	9, 6 6,000	ç Ç	2000s	$_{ m so}$	
All	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	23.8	32.7	25.2	29.2	20.0	27.8	21.1	24.6	10.9	29.1	10.2	22.9
Germany	36.1	32.2	23.3	31.4					12.4	24.5	10.1	19.7
Italy					20.1	27.8	15.6	23.9	10.6	27.6	12.0	22.0
Netherlands					16.2	18.7	10.6	16.9	19.3	26.8	12.1	23.3
Norway					22.9	25.3	22.5	24.2	18.3	27.9	20.1	25.1
$\overline{\text{UK}}$					22.1	27.1	21.2	24.9	20.4	28.8	15.8	25.3
$\overline{\mathrm{USA}}$	23.7	30.8	27.8	28.6	21.1	30.0	22.1	26.5	17.2	31.0	22.3	27.2
		1960s	08	-		1970s	$^{\circ}$ 0s			2000s	$_{0}$	
Men	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	27.6	47.8	36.4	40.9	23.9	40.9	29.0	34.5	12.6	36.0	13.8	28.3
Germany	39.7	48.0	38.2	44.4					14.0	32.0	13.9	25.6
Italy					24.3	41.2	27.1	34.7	13.3	37.8	18.8	30.4
Netherlands					18.7	31.1	18.8	26.1	21.3	36.2	18.8	31.0
Norway					29.1	39.1	34.1	35.8	22.7	34.1	24.6	30.7
UK					28.9	40.6	34.9	36.8	23.6	36.7	21.8	32.1
$\overline{\mathrm{USA}}$	33.2	45.2	42.5	41.8	27.7	42.2	31.1	36.6	19.2	37.5	27.4	32.6
		1960s	0s			1970s	.0s			2000s	0s	
Women	15-24	25-54	55-64	Total	15-24	25-54	25-64	Total	15-24	25-54	55-64	Total
France	20.0	17.6	14.8	17.6	16.0	14.8	13.8	14.9	9.2	22.5	6.9	17.6
Germany	32.6	16.8	10.6	18.7					10.6	16.8	6.3	13.7
Italy				,	15.4	14.9	5.7	13.5	8.0	17.2	5.5	13.6
Netherlands					13.5	5.8	3.1	7.5	17.3	17.1	5.4	15.4
Norway					16.3	11.0	11.4	12.3	13.9	21.5	15.6	19.3
$\overline{UK}$					15.6	13.7	8.7	13.2	17.4	21.1	6.6	18.6
$\overline{\mathrm{USA}}$	14.4	17.2	15.5	16.3	14.8	18.6	14.6	17.0	15.3	24.7	17.6	21.9

Table 8: Total Market Hours by Age

		1	(	Á			4	Str Camping	, ,,,	(	(	
		1960s	$^{0}$			1970s	$^{ m s}$			5000s	$^{ m s}$	
All	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	26.5	35.5	27.4	31.9	23.3	31.3	23.3	27.8	14.1	32.2	11.4	25.7
Germany	39.6	34.6	24.7	33.8					17.0	27.9	11.5	22.8
Italy					23.1	31.0	17.5	26.9	15.4	31.4	13.5	25.6
Netherlands					19.9	21.8	11.8	19.9	25.1	30.8	14.1	27.4
Norway					26.6	27.7	24.1	26.8	20.3	30.8	22.1	27.7
UK					25.7	30.8	23.9	28.3	24.5	32.7	17.7	28.9
USA	26.9	33.7	30.4	31.6	24.3	32.8	24.7	29.3	19.7	33.7	24.1	29.7
		1960s	08			1970s	.0s			2000s	0s	
Men	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	31.4	51.9	39.8	44.8	27.8	46.2	32.4	39.1	16.0	39.8	15.1	31.7
Germany	43.0	51.7	40.4	47.7					18.9	36.4	15.8	29.5
Italy					28.1	46.1	30.5	39.1	18.3	42.9	21.2	35.1
Netherlands					23.0	36.5	21.3	30.8	27.9	41.6	22.2	36.4
Norway					33.2	42.8	36.6	39.4	24.9	37.6	26.8	33.8
UK					33.1	45.8	39.1	41.6	27.8	41.3	24.4	36.3
USA	38.2	49.6	46.6	46.3	31.9	46.2	34.7	40.7	22.0	41.0	29.8	35.8
		1960s	08			1970s	s0.			2000s	$_{ m so}$	
Women	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	21.7	19.1	15.8	19.2	18.6	16.4	15.2	16.7	12.4	24.8	7.7	19.9
Germany	36.1	18.1	11.4	20.3					14.9	19.0	7.2	16.0
Italy					17.7	16.5	6.2	15.1	12.3	19.6	6.3	16.0
Netherlands					16.6	6.7	3.4	<u>«</u>	22.2	19.8	6.1	18.1
Norway					19.6	12.0	12.0	13.8	15.6	23.8	17.3	21.4
UK					18.6	15.7	10.0	15.3	21.1	24.3	11.1	21.6
USA	16.0	18.6	17.0	17.7	17.0	20.3	16.2	18.8	17.3	26.7	18.8	23.9

Table 9: Core Home

All persons	1960s	1970s	1980s	1990s	2000s	$\Delta$ 60s	$\Delta$ 70s
France	15.3	15.3			11.3	-4.0	-4.0
Germany	14.3			9.8	10.4	-3.9	
Italy		15.6	15.9		14.1		-1.5
Netherlands		11.5	11.5	10.1	9.2		-2.3
Norway		16.6	12.3	9.6	11.5		-5.1
UK		12.1	12.1	10.7	11.2		-0.9
USA	13.5	11.9	9.8	8.4	8.2	-5.3	-3.7
Men	1960s	1970s	1980s	1990s	2000s	$\Delta$ 60s	$\Delta$ 70s
France	3.5	4.3			4.1	0.6	-0.2
Germany	1.4			4.0	5.1	3.7	
Italy		2.2	1.9		3.2		1.0
Netherlands		2.9	3.9	4.3	5.0		2.1
Norway		3.9	4.8	4.3	7.4		3.5
UK		2.4	4.9	4.9	6.0		3.6
USA	2.7	3.0	4.4	4.7	4.4	1.7	1.4
Women	1960s	1970s	1980s	1990s	2000s	$\Delta$ 60s	$\Delta$ 70s
France	27.0	26.2			18.3	-8.7	-7.9
Germany	26.3			15.7	15.8	-10.5	
Italy		28.7	29.5		25.1		-3.6
Netherlands		20.1	19.2	16.0	13.6		-6.5
Norway		29.5	20.0	15.1	15.7		-13.8
UK		21.7	18.9	16.3	16.2		-5.5
USA	23.7	20.2	15.0	12.0	12.0	-11.7	-8.2

Table 10: Shopping

All persons	1960s	1970s	1980s	1990s	2000s	$\Delta$ 60s	$\Delta$ 70s
France	4.7	5.9			4.2	-0.5	-1.7
Germany	3.4			5.2	5.6	2.2	
Italy		5.4	2.8		5.1		-0.3
Netherlands		4.9	5.5	6.1	5.7		0.8
Norway		3.3	3.3	4.2	5.9		2.6
UK		4.0	5.4	4.0	5.8		1.8
USA	6.1	7.4	7.5	7.7	8.1	2.0	0.7
Men	1960s	1970s	1980s	1990s	2000s	$\Delta$ 60s	$\Delta$ 70s
France	3.2	4.7			3.3	0.1	-1.4
Germany	2.0			4.3	4.8	2.8	
Italy		3.5	1.6		3.7		0.2
Netherlands		3.6	4.3	4.6	4.5		0.9
Norway		2.8	2.8	3.6	5.5		2.7
UK		2.4	4.4	2.7	4.6		2.2
USA	5.6	6.5	6.3	6.3	6.9	1.3	0.4
Women	1960s	1970s	1980s	1990s	2000s	$\Delta$ 60s	$\Delta$ 70s
France	6.1	7.1			5.1	-1.0	-2.0
Germany	4.6			6.2	6.4	1.8	
Italy		7.3	3.9		6.4		-0.9
Netherlands		6.3	6.8	7.6	7.0		0.7
Norway		3.9	3.8	4.8	6.3		2.4
UK		5.5	6.5	5.2	7.0		1.5
USA	6.6	8.2	8.7	9.0	9.3	2.7	1.1

Table 11: Core Home + Shopping

All persons	1960s	1970s	1980s	1990s	2000s	$\Delta 60s$	$\Delta$ 70s
France	20.0	21.2	<u> </u>	<u> </u>	15.5	-4.5	-5.7
Germany	17.7			15.0	16.0	-1.7	
Italy		21.0	18.7		19.2		-1.8
Netherlands		16.4	17.1	16.1	14.9		-1.5
Norway		19.9	15.6	13.8	17.4		-2.5
UK		16.1	17.6	14.6	16.9		0.8
USA	19.6	19.3	17.3	16.1	16.4	-3.2	-2.9
Men	1960s	1970s	1980s	1990s	2000s	$\Delta$ 60s	$\Delta$ 70s
France	6.7	9.0			7.4	0.7	-1.6
Germany	3.4			8.2	9.9	6.5	
Italy		5.6	3.5		6.9		1.3
Netherlands		6.6	8.2	8.9	9.5		2.9
Norway		6.7	7.6	7.9	12.9		6.2
UK		4.8	9.3	7.6	10.5		5.7
USA	8.4	9.5	10.7	11.0	11.3	2.9	1.8
Women	1960s	1970s	1980s	1990s	2000s	$\Delta$ 60s	$\Delta$ 70s
France	33.0	33.4			23.4	-9.6	-10.0
Germany	30.9			21.9	22.2	-8.7	
Italy		36.0	33.4		31.5		-4.5
Netherlands		26.4	26.1	23.6	20.5		-5.9
Norway		33.4	23.9	20.0	22.0		-11.4
UK		27.2	25.3	21.5	23.2		-4.0
USA	30.2	28.4	23.7	21.0	21.3	-8.9	-7.1

Table 12: Total Home

All persons	1960s	1970s	1980s	1990s	2000s	$\Delta$ 60s	$\Delta$ 70s
France	23.7	23.0			17.3	-6.4	-5.7
Germany	20.7			22.0	20.1	-0.6	
Italy		21.6	20.3		21.2		-0.4
Netherlands		21.0	22.1	21.1	19.0		-2.0
Norway		22.4	18.8	19.2	19.5		-2.9
UK		18.6	20.9	16.5	19.7		1.1
USA	22.7	22.7	21.2	19.6	20.4	-2.3	-2.3
Men	1960s	1970s	1980s	1990s	2000s	$\Delta$ 60s	$\Delta$ 70s
France	10.7	11.0			9.6	-1.1	-1.4
Germany	6.8			14.2	14.5	7.7	
Italy		6.5	5.6		8.8		2.3
Netherlands		10.6	13.2	14.2	13.3		2.7
Norway		10.7	12.2	14.3	16.1		5.4
UK		8.2	13.4	10.4	13.7		5.5
USA	11.0	13.5	15.2	14.9	15.4	4.4	1.9
Women	1960s	1970s	1980s	1990s	2000s	$\Delta$ 60s	$\Delta$ 70s
France	36.4	34.9			24.9	-11.5	-10.0
Germany	33.7			29.9	25.7	-8.0	
Italy		36.3	34.6		33.5		-2.8
Netherlands		31.6	31.0	28.2	24.9		-6.7
Norway		34.4	25.7	24.2	23.1		-11.3
UK		28.9	27.9	22.6	25.7		-3.2
USA	33.6	31.2	26.9	24.1	25.1	-8.5	-6.1

Table 13: Child Care

		Table	10. Сп	ia Carc			
All persons	1960s	1970s	1980s	1990s	2000s	$\Delta$ 60s	$\Delta$ 70s
France	5.4	4.0			2.7	-2.7	-1.3
Germany	3.3			3.4	3.2	-0.1	
Italy		2.2	2.1		2.5		0.3
Netherlands		2.6	2.8	2.9	2.9		0.3
Norway		2.9	3.2	3.8	3.8		0.9
UK		1.6	2.9	4.0	2.9		1.3
USA	3.1	3.0	2.3	2.1	4.5	1.4	1.5
Men	1960s	1970s	1980s	1990s	2000s	$\Delta 60s$	$\Delta 70s$
France	1.9	1.3			1.3	-0.6	0.0
Germany	1.0			2.0	1.9	0.9	
Italy		1.2	1.1		1.3		0.1
Netherlands		1.4	1.4	1.6	1.6		0.2
Norway		1.2	1.9	2.2	2.1		0.9
UK		0.5	1.4	2.4	1.6		1.1
USA	1.2	1.2	0.9	0.9	2.7	1.5	1.5
***	1000	4080	4000	4000	2000	<b>A</b> 60	<b>A 6</b> (0
Women	1960s	1970s	1980s	1990s	2000s	$\Delta 60s$	$\Delta$ 70s
France	8.8	6.7			4.1	-4.7	-2.6

Women	1960s	1970s	1980s	1990s	2000s	$\Delta$ 60s	$\Delta$ 70s
France	8.8	6.7			4.1	-4.7	-2.6
Germany	5.4			4.9	4.6	-0.8	
Italy		3.2	3.1		3.6		0.4
Netherlands		3.8	4.0	4.3	4.3		0.5
Norway		4.7	4.5	5.4	5.5		0.8
UK		2.6	4.1	5.7	4.1		1.5
USA	5.0	4.7	3.7	3.2	6.3	1.3	1.6

Table 14: Total Home + Childcare

All persons	1960s	1970s	1980s	1990s	2000s	$\Delta$ 60s	$\Delta$ 70s
France	29.1	27.0			20.0	-9.1	-7.0
Germany	24.0			25.4	23.3	-0.7	
Italy		23.8	22.4		23.6		-0.2
Netherlands		23.6	24.8	24.0	21.9		-1.7
Norway		25.3	22.0	23.0	23.3		-2.0
UK		20.2	23.9	20.6	22.6		2.4
USA	25.8	25.7	23.5	21.7	24.9	-0.9	-0.8
Men	1960s	1970s	1980s	1990s	2000s	$\Delta$ 60s	$\Delta$ 70s
France	12.6	12.3			10.8	-1.8	-1.5
Germany	7.7			16.2	16.4	8.7	
Italy		7.7	6.7		10.2		2.5
Netherlands		12.0	14.6	15.7	14.8		2.8
Norway		11.9	14.1	16.5	18.2		6.3
UK		8.7	14.8	12.7	15.3		6.6
USA	12.2	14.7	16.1	15.8	18.1	5.9	3.4
Women	1960s	1970s	1980s	1990s	2000s	$\Delta$ 60s	Δ 70s
France	45.1	41.6			28.9	-16.2	-12.7
Germany	39.2			34.7	30.3	-8.9	
Italy		39.5	37.7		37.1		-2.4
Netherlands		35.4	35.0	32.6	29.2		-6.2
Norway		39.0	30.2	29.6	28.6		-10.4
UK		31.4	32.1	28.3	29.8		-1.6
USA	38.7	35.9	30.6	27.3	31.4	-7.3	-4.5

Table 15: Change in Core Home Hours by Age

	${\rm Change} 1960 {\rm s}$				${\bf Change~1970s}$			
All	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	-6.8	-3.6	-2.8	-4.0	-6.1	-4.1	-2.3	-4.0
Germany	-3.1	-4.8	-3.9	-3.9				
Italy					-1.4	-2.9	-2.5	-1.5
Netherlands					-2.1	-3.3	-2.0	-2.3
Norway					-2.0	-7.2	-4.0	-5.1
UK					-1.6	-1.7	0.1	-0.9
USA	-5.2	-5.6	-6.0	-5.3	-5.1	-3.5	-3.9	-3.7

	${\bf Change~1960s}$					Change	e 1970s	
Men	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	-0.6	1.2	-0.3	0.6	-0.7	0.1	-1.3	-0.2
Germany	1.5	3.7	5.0	3.7				
Italy					0.2	0.9	1.9	1.0
Netherlands					1.4	1.8	2.5	2.1
Norway					1.8	3.4	5.0	3.5
UK					1.3	3.6	5.7	3.6
USA	0.1	2.2	1.3	1.7	-0.6	2.1	0.4	1.4

	$ Change \ 1960s $				${\rm Change} 1970 {\rm s}$			
Women	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	-13.5	-8.6	-4.2	-8.7	-12.1	-8.5	-2.8	-7.9
Germany	-8.1	-12.1	-10.1	-10.5				
Italy					-3.1	-6.2	-5.4	-3.6
Netherlands					-5.8	-8.6	-5.7	-6.5
Norway					-6.0	-18.0	-12.2	-13.8
UK					-4.4	-7.2	-4.6	-5.5
USA	-10.4	-12.8	-11.4	-11.7	-9.3	-8.7	-7.7	-8.2

Table 16: Change in Core Home + Shopping by Age

	${\bf Change~1960s}$				${\rm Change} 1970 {\rm s}$			
All	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	-8.3	-3.9	-3.2	-4.5	-9.0	-5.8	-3.1	-5.7
Germany	-1.6	-2.9	-0.5	-1.7				
Italy					-2.4	-3.6	-2.5	-1.8
Netherlands					-1.6	-2.5	-2.1	-1.5
Norway					0.3	-4.6	-1.4	-2.5
UK					-0.5	-0.0	2.6	0.8
USA	-3.0	-3.6	-3.9	-3.2	-5.8	-2.6	-1.8	-2.9

	${\bf Change~1960s}$				${\bf Change~1970s}$			
Men	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	-1.3	1.3	0.7	0.7	-2.9	-1.3	-1.9	-1.6
Germany	3.2	6.0	10.4	6.5				
Italy					-0.6	0.7	4.1	1.3
Netherlands					2.6	2.7	2.2	2.9
Norway					3.7	6.2	8.0	6.2
UK					2.7	5.7	8.8	5.7
USA	0.2	3.8	2.7	2.9	-2.0	2.9	2.0	1.8

		$Change \ 1960s$				${\bf Change~1970s}$			
Women	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total	
France	-15.5	-9.3	-5.6	-9.6	-15.5	-10.6	-3.8	-10.0	
Germany	-6.8	-10.4	-8.2	-8.7					
Italy					-4.2	-7.3	-7.2	-4.5	
Netherlands					-6.0	-8.0	-5.1	-5.9	
Norway					-3.4	-15.7	-10.1	-11.4	
UK					-3.6	-6.0	-2.5	-4.0	
USA	-6.4	-10.6	-9.0	-8.9	-9.3	-7.8	-5.0	-7.1	

Table 17: Change in Total Home Hours by Age

		${\rm Change} 1960 {\rm s}$				${\bf Change~1970s}$			
All	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total	
France	-11.6	-5.5	-4.1	-6.4	-9.4	-5.7	-2.7	-5.7	
Germany	-2.3	-2.2	2.8	-0.6					
Italy					-1.8	-2.6	0.6	-0.4	
Netherlands					-3.2	-3.2	-2.2	-2.0	
Norway					-0.5	-4.9	-2.0	-2.9	
UK					-1.1	-0.1	4.7	1.1	
USA	-3.1	-2.8	-1.2	-2.3	-5.6	-2.3	0.1	-2.3	

		Change 1960s				Change 1970s			
Men	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total	
France	-6.1	0.2	1.0	-1.1	-3.6	-1.0	-0.7	-1.4	
Germany	2.3	6.8	14.8	7.7					
Italy					0.1	1.2	6.6	2.3	
Netherlands					0.7	2.2	3.8	2.7	
Norway					2.2	5.3	7.7	5.4	
UK					1.9	5.0	9.8	5.5	
USA	1.1	4.8	6.6	4.4	-2.0	2.8	3.1	1.9	

		${\bf Change~1960s}$				${\rm Change} 1970 {\rm s}$			
Women	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total	
France	-17.2	-11.2	-7.5	-11.5	-15.6	-10.7	-4.1	-10.0	
Germany	-7.3	-9.9	-6.1	-8.0					
Italy					-3.8	-5.7	-3.6	-2.8	
Netherlands					-7.4	-8.7	-7.0	-6.7	
Norway					-3.4	-15.4	-10.7	-11.3	
UK					-3.7	-5.5	0.6	-3.2	
USA	-7.4	-9.9	-7.1	-8.5	-8.8	-7.0	-2.3	-6.1	

Table 18: Change in Total Home + Childcare by Age

		Change $1960s$				Change 1970s			
All	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total	
France	-16.8	-8.1	-4.5	-9.1	-14.1	-6.4	-2.4	-7.0	
Germany	-4.4	-1.7	2.4	-0.7					
Italy					-2.7	-1.9	0.2	-0.2	
Netherlands					-3.9	-3.0	-1.0	-1.7	
Norway					-1.2	-3.7	-2.3	-2.0	
UK					-0.6	1.6	4.7	2.4	
USA	-3.1	-0.7	-2.0	-0.9	-6.2	0.2	-0.5	-0.8	

		Change $1960s$				Change 1970s			
Men	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total	
France	-8.2	-0.2	1.2	-1.8	-4.5	-1.0	-0.7	-1.5	
Germany	1.5	8.5	14.5	8.7					
Italy					-0.0	1.3	6.5	2.5	
Netherlands					0.6	2.2	4.1	2.8	
Norway					1.9	6.6	7.7	6.3	
UK					2.1	6.4	10.0	6.6	
USA	1.3	7.0	6.5	5.9	-1.8	5.1	2.8	3.4	

		${\bf Change~1960s}$				${\bf Change~1970s}$			
Women	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total	
France	-25.4	-16.2	-8.4	-16.2	-24.2	-12.3	-3.5	-12.7	
Germany	-11.0	-10.3	-6.7	-8.9					
Italy					-5.5	-4.7	-4.3	-2.4	
Netherlands					-8.6	-8.5	-5.0	-6.2	
Norway					-4.4	-14.3	-11.3	-10.4	
UK					-3.1	-3.5	0.4	-1.6	
USA	-7.7	-7.9	-8.5	-7.3	-10.1	-4.0	-3.2	-4.5	

Table 19: Core Home Hours by Age

		1960s	$_{\rm so}$	1		1970s	1		Q Q	2000s	$_{ m so}$	
All	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total	15-24	25-54	25-64	Total
France	12.2	15.8	18.1	15.3	11.5	16.3	17.6	15.3	5.4	12.2	15.3	11.3
Germany	7.0	16.0	17.4	14.3					3.9	11.1	13.5	10.4
Italy					0.9	17.9	22.7	15.6	4.6	14.9	20.2	14.1
Netherlands					6.2	13.2	14.1	11.5	4.1	9.6	12.0	9.2
Norway					7.9	19.2	19.3	16.6	5.9	12.0	15.3	11.5
UK					6.7	13.6	14.4	12.1	5.1	11.9	14.5	11.2
$\overline{\mathrm{USA}}$	9.5	14.7	15.6	13.5	9.4	12.6	13.6	11.9	4.3	9.1	9.7	8.2
		1960s	$_{0s}$			1970s	$^{7}$ 0s			2000s	$_{0}$	
Men	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	3.0	3.2	5.5	3.5	3.1	4.2	6.5	4.3	2.4	4.3	5.2	4.1
Germany	0.0	1.3	2.4	1.4					2.5	5.1	7.4	5.1
Italy					1.1	2.2	3.7	2.2	1.3	3.1	5.6	3.2
Netherlands					1.6	3.4	3.9	2.9	3.0	5.2	6.5	5.0
Norway					2.1	4.3	5.2	3.9	3.9	7.7	10.2	7.4
UK					1.7	2.5	2.9	2.4	3.0	6.1	8.6	0.9
$\overline{\mathrm{USA}}$	2.2	2.6	3.9	2.7	2.9	2.7	4.8	3.0	2.3	4.8	5.2	4.4
		1960s	s0s			1970s	$^{7}$ 0s			2000s	0s	
Women	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	21.7	28.5	29.0	27.0	20.3	28.4	27.7	26.2	8.2	19.9	24.9	18.3
Germany	13.4	29.4	29.8	26.3					5.3	17.3	19.6	15.8
Italy					11.2	33.1	39.4	28.7	8.1	26.9	34.0	25.1
Netherlands					11.1	23.5	23.3	20.1	5.3	14.8	17.5	13.6
Norway					14.0	34.5	32.8	29.5	8.0	16.6	20.6	15.7
UK					11.5	24.6	24.9	21.7	7.1	17.5	20.3	16.2
$\overline{\mathrm{USA}}$	16.8	25.9	25.1	23.7	15.7	21.9	21.5	20.2	6.4	13.1	13.8	12.0

Table 20: Core Home + Shopping by Age 1970s

		1960s	$_{ m 50s}$			1970s	$^{\circ}0$			2000s	0s	
All	15-24	25-54	55-64	Total	15-24	25-54	25-64	Total	15-24	25-54	55-64	Total
France	16.2	20.5	23.6	20.0	16.9	22.4	23.5	21.2	7.9	16.6	20.4	15.5
Germany	9.3	19.7	20.8	17.7					7.7	16.7	20.4	16.0
Italy					9.3	23.9	29.3	21.0	6.9	20.3	26.8	19.2
Netherlands					10.1	18.4	20.2	16.4	8.4	15.9	18.2	14.9
Norway					10.7	22.7	22.6	19.9	11.0	18.1	21.2	17.4
UK					8.6	18.0	18.3	16.1	9.3	17.9	20.9	16.9
USA	14.4	21.1	22.1	19.6	17.2	20.1	19.9	19.3	11.4	17.4	18.1	16.4
		1960s	30s			1970s	.0s			2000s	$_{0}$	
${\rm Men}$	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	5.7	6.4	9.3	6.7	7.3	8.9	11.8	9.0	4.4	7.7	9.6	7.4
Germany	2.4	3.8	3.6	3.4					5.6	9.7	14.1	6.6
Italy					3.4	6.1	7.8	5.6	2.9	6.7	11.9	6.9
Netherlands					4.3	6.9	9.7	9.9	6.9	9.6	11.9	9.5
Norway					4.8	7.1	7.9	6.7	8.5	13.3	15.9	12.9
UK					3.5	5.2	5.1	4.8	6.2	10.8	13.9	10.5
USA	8.0	8.1	6.6	8.4	10.2	9.0	10.6	9.5	8.2	11.9	12.6	11.3
		1960s	30s			1970s	.0s			2000s	0s	
Women	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	26.9	34.7	35.8	33.0	26.9	36.1	34.0	33.4	11.4	25.4	30.2	23.4
Germany	16.5	34.3	34.9	30.9					8.6	24.0	26.7	22.2
Italy					15.4	41.2	48.2	36.0	11.1	34.0	41.0	31.5
Netherlands					16.1	30.3	29.7	26.4	10.1	22.3	24.6	20.5
Norway					17.0	38.8	36.6	33.4	13.6	23.0	26.5	22.0
UK					16.0	30.7	30.2	27.2	12.4	24.7	27.7	23.2
USA	20.9	33.4	32.1	30.2	23.9	30.6	28.1	28.4	14.6	22.8	23.1	21.3

Table 21: Total Home Hours by Age

				<b>–</b>	able 21:	Table 21: 10tal Home Hours by Age	Home F	onrs by	/ Age			
		1960s	30s			1970s	$^{20}$			2000s	$^{80}$	
All	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	20.5	23.9	27.4	23.7	18.3	24.2	26.0	23.0	8.9	18.4	23.3	17.3
Germany	11.7	23.1	23.4	20.7					9.4	20.9	26.2	20.1
Italy					9.4	24.5	30.6	21.6	7.7	21.9	31.2	21.2
Netherlands					13.0	23.4	26.6	21.0	9.7	20.2	24.4	19.0
Norway					12.4	25.4	25.8	22.4	11.9	20.5	23.8	19.5
UK					11.7	20.8	20.7	18.6	10.6	20.6	25.3	19.7
$_{ m USA}$	17.4	24.1	25.4	22.7	19.9	23.6	24.1	22.7	14.3	21.3	24.2	20.4
		1960s	308			1970s	$^{20}$			2000s	0s	
Men	15-24	25-54	55-64	Total	15-24	25-54	25-64	Total	15-24	25-54	55-64	Total
France	11.6	9.6	12.9	10.7	9.1	10.9	14.5	11.0	5.5	6.6	13.8	9.6
Germany	5.1	7.7	5.9	8.9					7.4	14.5	20.7	14.5
Italy					3.6	7.0	9.5	6.5	3.7	8.3	16.1	8.8
Netherlands					7.0	11.2	15.5	10.6	7.7	13.4	19.3	13.3
Norway					7.4	11.5	12.4	10.7	9.6	16.8	20.1	16.1
UK					5.6	0.6	8.7	8.2	7.5	14.1	18.4	13.7
USA	10.3	11.1	12.1	11.0	13.3	13.0	15.6	13.5	11.4	15.9	18.7	15.4
		1960s	30s			1970s	.0s			2000s	0s	
Women	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	29.5	38.1	39.8	36.4	27.9	37.6	36.4	34.9	12.3	26.9	32.3	24.9
Germany	18.7	37.3	37.8	33.7					11.4	27.4	31.7	25.7
Italy					15.5	41.4	49.1	36.3	11.7	35.7	45.5	33.5
Netherlands					19.3	36.0	36.6	31.6	11.9	27.2	29.6	24.9
Norway					17.7	39.6	38.4	34.4	14.3	24.2	27.7	23.1
UK					17.5	32.5	31.5	28.9	13.8	27.0	32.1	25.7
$\overline{\mathrm{USA}}$	24.7	36.4	36.2	33.6	26.1	33.4	31.4	31.2	17.3	26.5	29.1	25.1

Table 22: Total Home + Childcare by Age 1970s

		1960s	$_{\rm so}$		i	1970s				2000s	$_{0}$	
All	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total	15-24	25-54	25-64	Total
France	26.6	30.1	29.1	29.1	23.9	28.4	27.0	27.0	8.6	22.0	24.6	20.0
Germany	14.2	27.4	24.1	24.0					8.6	25.7	26.5	23.3
Italy					11.0	27.4	31.2	23.8	8.3	25.5	31.4	23.6
Netherlands					14.6	27.0	26.9	23.6	10.8	23.9	26.0	21.9
Norway					14.5	29.4	26.3	25.3	13.4	25.7	24.1	23.3
UK					13.1	22.8	20.9	20.2	12.6	24.4	25.6	22.6
$\overline{\mathrm{USA}}$	20.0	27.9	26.7	25.8	23.1	27.0	25.2	25.7	16.9	27.2	24.7	24.9
		1960s	$_{0s}$	-		1970s	$^{7}$ 0s			2000s	$_{0}$	
Men	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	13.9	11.8	13.2	12.6	10.2	12.5	15.2	12.3	5.7	11.6	14.4	10.8
Germany	5.9	8.8	6.4	7.7					7.4	17.3	21.0	16.4
Italy					3.9	8.9	8.6	7.7	3.9	10.3	16.3	10.2
Netherlands					7.4	13.3	15.8	12.0	8.0	15.5	19.9	14.8
Norway					7.8	13.3	12.7	11.9	9.7	19.9	20.4	18.2
UK					5.9	6.6	8.7	8.7	8.0	16.3	18.7	15.3
$\overline{\mathrm{USA}}$	10.8	12.7	12.6	12.2	14.0	14.6	16.4	14.7	12.1	19.6	19.2	18.1
		1960s	s0s			1970s	$^{7}$ 0s			2000s	$_{0}$	
Women	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	39.3	48.4	42.6	45.1	38.0	44.5	37.6	41.6	13.9	32.2	34.2	28.9
Germany	23.2	44.6	38.7	39.2					12.2	34.3	32.0	30.3
Italy					18.3	45.5	49.9	39.5	12.8	40.9	45.6	37.1
Netherlands					22.2	41.0	37.0	35.4	13.6	32.5	32.0	29.2
Norway					21.6	45.9	39.2	39.0	17.2	31.6	27.9	28.6
$\overline{\mathrm{UK}}$					20.2	35.8	31.9	31.4	17.0	32.3	32.2	29.8
USA	29.3	42.4	38.3	38.7	31.6	38.5	33.0	35.9	21.6	34.5	29.8	31.4

Table 23: Core Combined

All persons	1960s	1970s	1980s	1990s	2000s	$\Delta$ 60s	$\Delta$ 70s
France	44.5	39.9			34.2	-10.3	-5.7
Germany	45.7			35.7	30.1	-15.6	
Italy		39.5	38.8		36.2		-3.3
Netherlands		28.3	27.1	27.3	32.5		4.2
Norway		40.8	37.2	33.4	36.6		-4.2
UK		37.0	34.6	36.2	36.4		-0.6
USA	42.2	38.3	36.2	36.3	35.4	-6.8	-2.9
Men	1960s	1970s	1980s	1990s	2000s	$\Delta$ 60s	Δ 70s
France	44.4	38.8			32.4	-12.0	-6.4
Germany	45.9			38.0	30.7	-15.2	
Italy		36.8	34.1		33.7		-3.1
Netherlands		29.0	28.1	29.7	36.0		7.0
Norway		39.7	37.0	34.5	38.2		-1.5
UK		39.2	34.5	36.9	38.1		-1.1
USA	44.6	39.7	37.5	38.1	37.0	-7.6	-2.7
Women	1960s	1970s	1980s	1990s	2000s	$\Delta$ 60s	Δ 70s
France	44.6	41.1			36.0	-8.6	-5.1
Germany	45.0			33.2	29.5	-15.5	
Italy		42.2	43.3		38.7		-3.5
Netherlands		27.6	26.1	24.9	28.9		1.3
Norway		41.8	37.6	32.2	35.0		-6.8
UK		34.9	34.5	35.6	34.8		-0.1
USA	40.0	37.2	35.1	34.4	33.9	-6.1	-3.3

Table 24: Core Combined + Shopping

All persons	1960s	1970s	1980s	1990s	2000s	$\Delta$ 60s	$\Delta$ 70s
France	49.2	45.8			38.4	-10.8	-7.4
Germany	49.0			40.9	35.7	-13.3	
Italy		44.9	41.6		41.2		-3.7
Netherlands		33.3	32.7	33.4	38.2		4.9
Norway		44.2	40.5	37.6	42.4		-1.8
UK		41.0	40.0	40.1	42.2		1.2
USA	48.3	45.8	43.7	44.0	43.6	-4.7	-2.2
Men	1960s	1970s	1980s	1990s	2000s	$\Delta$ 60s	$\Delta$ 70s
France	47.6	43.4			35.7	-11.9	-7.7
Germany	47.8			42.3	35.5	-12.3	
Italy		40.3	35.8		37.4		-2.9
Netherlands		32.6	32.5	34.3	40.5		7.9
Norway		42.5	39.8	38.1	43.6		1.1
UK		41.5	38.8	39.6	42.6		1.1
USA	50.2	46.2	43.8	44.4	43.9	-6.3	-2.3
Women	1960s	1970s	1980s	1990s	2000s	$\Delta$ 60s	$\Delta$ 70s
France	50.7	48.3			41.0	-9.7	-7.3
Germany	49.6			39.4	35.9	-13.7	
Italy		49.5	47.2		45.1		-4.4
Netherlands		33.9	33.0	32.5	35.9		2.0
Norway		45.7	41.5	37.1	41.3		-4.4
UK		40.4	41.0	40.7	41.8		1.4
USA	46.5	45.4	43.8	43.4	43.2	-3.3	-2.2

Table 25: Total Combined

All persons	1960s	1970s	1980s	1990s	2000s	$\Delta 60s$	$\Delta$ 70s
France	55.6	50.8			43.0	-12.6	-7.8
Germany	54.5			50.8	42.9	-11.6	
Italy		48.5	43.5		46.7		-1.8
Netherlands		40.9	40.5	41.8	46.4		5.5
Norway		49.2	46.4	45.8	47.2		-2.0
UK		46.9	46.3	44.9	48.6		1.7
USA	54.2	52.0	50.8	50.8	50.1	-4.1	-1.9
Men	1960s	1970s	1980s	1990s	2000s	$\Delta$ 60s	$\Delta$ 70s
France	55.5	50.1			41.3	-14.2	-8.8
Germany	54.5			52.1	44.1	-10.4	
Italy		45.6	38.4		43.9		-1.7
Netherlands		41.4	41.8	44.4	49.6		8.2
Norway		50.1	47.6	48.0	49.9		-0.2
UK		49.7	46.6	45.9	49.9		0.2
USA	57.4	54.2	52.4	52.4	51.2	-6.2	-3.0
Women	1960s	1970s	1980s	1990s	2000s	$\Delta$ 60s	$\Delta$ 70s
France	55.5	51.6			44.8	-10.7	-6.8
Germany	54.1			49.5	41.7	-12.4	
Italy		51.4	48.5		49.5		-1.9
Netherlands		40.5	39.3	39.0	43.0		2.5
Norway		48.2	45.4	43.7	44.5		-3.7
UK		44.1	45.8	43.9	47.3		3.2
USA	51.4	50.0	49.5	49.2	49.0	-2.4	-1.0

Table 26: Total Combined + Childcare

All persons	1960s	1970s	1980s	1990s	2000s	$\Delta$ 60s	$\Delta$ 70s
France	60.9	54.8			45.7	-15.2	-9.1
Germany	57.8			54.2	46.1	-11.7	
Italy		50.7	45.6		49.2		-1.5
Netherlands		43.5	43.2	44.7	49.3		5.8
Norway		52.1	49.5	49.6	51.0		-1.1
UK		48.5	49.2	48.9	51.5		3.0
USA	57.4	55.0	53.1	52.9	54.6	-2.8	-0.4
Men	1960s	1970s	1980s	1990s	2000s	$\Delta$ 60s	$\Delta$ 70s
France	57.3	51.4			42.5	-14.8	-8.9
Germany	55.5			54.1	46.0	-9.5	
Italy		46.8	39.5		45.2		-1.6
Netherlands		42.8	43.1	46.0	51.2		8.4
Norway		51.3	49.5	50.2	52.1		0.8
UK		50.3	48.0	48.2	51.6		1.3
USA	58.5	55.4	53.3	53.3	53.9	-4.6	-1.5
Women	1960s	1970s	1980s	1990s	2000s	$\Delta$ 60s	$\Delta$ 70s
France	64.3	58.3	<u> </u>		48.8	-15.5	-9.5
Germany	59.5			54.4	46.2	-13.3	
Italy		54.6	51.6		53.1		-1.5
Netherlands		44.2	43.4	43.3	47.3		3.1
Norway		52.8	49.9	49.1	50.0		-2.8
UK		46.7	49.9	49.5	51.4		4.7
USA	56.4	54.6	53.1	52.4	55.3	-1.1	0.7

Table 27: Change in Core Combined by Age

		Change	e 1960s		(	$\operatorname{Chang}\epsilon$	e 1970s	
All	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	-19.8	-7.1	-17.7	-10.3	-15.3	-2.8	-13.1	-5.7
Germany	-26.9	-12.5	-17.0	-15.6				
Italy					-10.8	-3.1	-6.1	-3.3
Netherlands					1.0	4.8	-0.5	4.2
Norway					-6.5	-4.6	-6.4	-4.2
UK					-3.3	-0.1	-5.3	-0.6
USA	-11.6	-5.4	-11.4	-6.8	-8.9	-2.6	-3.8	-2.9

		Change	e 1960s			Change	e 1970s	
Men	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	-15.6	-10.6	-23.0	-12.0	-11.9	-4.8	-16.7	-6.4
Germany	-24.2	-12.3	-19.2	-15.2				
Italy					-10.8	-2.4	-6.5	-3.1
Netherlands					4.0	6.8	2.6	7.0
Norway					-4.6	-1.6	-4.5	-1.5
UK					-4.1	-0.3	-7.4	-1.1
USA	-13.9	-5.5	-13.9	-7.6	-9.0	-2.5	-3.3	-2.7

		Change	e 1960s			Change	e 1970s	
Women	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	-24.2	-3.7	-11.9	-8.6	-18.9	-0.8	-9.6	-5.1
Germany	-29.9	-12.2	-14.3	-15.5				
Italy					-10.6	-3.9	-5.5	-3.5
Netherlands					-2.1	2.6	-3.6	1.3
Norway					-8.5	-7.6	-8.0	-6.8
UK					-2.6	0.1	-3.5	-0.1
USA	-9.7	-5.3	-9.3	-6.1	-8.8	-2.6	-4.7	-3.3

Table 28: Change in Core Combined + Shopping by Age

		Change	e 1960s			Change	e 1970s	
All	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	-21.2	-7.5	-18.1	-10.8	-18.1	-4.5	-13.8	-7.4
Germany	-25.4	-10.6	-13.6	-13.3				
Italy					-11.7	-3.8	-6.1	-3.7
Netherlands					1.5	5.6	-0.5	4.9
Norway					-4.3	-2.0	-3.9	-1.8
UK					-2.2	1.6	-2.9	1.2
USA	-9.4	-3.5	-9.5	-4.7	-9.7	-1.7	-1.7	-2.2

		Change	e 1960s			Change	e 1970s	
Men	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	-16.4	-10.5	-22.0	-11.9	-14.2	-6.1	-17.1	-7.7
Germany	-22.4	-10.0	-13.8	-12.3				
Italy					-11.7	-2.6	-4.3	-2.9
Netherlands					5.1	7.7	2.2	7.9
Norway					-2.7	1.3	-1.4	1.1
UK					-2.8	1.8	-4.3	1.1
USA	-13.7	-3.9	-12.4	-6.3	-10.3	-1.7	-1.7	-2.3

		Change	e 1960s			Change	e 1970s	
Women	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	-26.3	-4.4	-13.4	-9.7	-22.3	-2.9	-10.7	-7.3
Germany	-28.7	-10.4	-12.4	-13.7				
Italy					-11.7	-5.0	-7.3	-4.4
Netherlands					-2.3	3.3	-2.9	2.0
Norway					-5.9	-5.3	-5.9	-4.4
UK					-1.8	1.3	-1.3	1.4
USA	-5.5	-3.1	-6.9	-3.3	-8.8	-1.7	-2.0	-2.2

Table 29: Change in Total Combined by Age

		Change	e 1960s			Change	e 1970s	
All	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	-24.1	-8.7	-20.0	-12.6	-18.5	-4.8	-14.7	-7.8
Germany	-24.9	-8.9	-10.5	-11.6				
Italy					-9.6	-2.2	-3.3	-1.8
Netherlands					2.0	5.8	0.2	5.5
Norway					-6.9	-1.8	-4.0	-2.0
UK					-2.2	1.8	-1.5	1.7
USA	-10.3	-2.8	-7.5	-4.1	-10.2	-1.4	-0.5	-1.9

	(	Change	e 1960s			Change	e 1970s	
Men	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	-21.6	-11.9	-23.6	-14.2	-15.5	-7.4	-17.8	-8.8
Germany	-21.8	-8.4	-9.9	-10.4				
Italy					-9.8	-1.9	-2.7	-1.7
Netherlands					5.5	7.3	4.8	8.2
Norway					-6.2	0.1	-2.1	-0.2
UK					-3.4	0.5	-4.9	0.2
USA	-15.2	-3.8	-10.1	-6.2	-11.9	-2.4	-1.7	-3.0

		Change	e 1960s			Change	e 1970s	
Women	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	-26.5	-5.6	-15.7	-10.7	-21.7	-2.3	-11.6	-6.8
Germany	-28.3	-9.0	-10.3	-12.4				
Italy					-9.2	-2.6	-3.5	-1.9
Netherlands					-1.8	4.3	-4.3	2.5
Norway					-7.5	-3.6	-5.5	-3.7
UK					-1.2	3.2	1.6	3.2
USA	-6.0	-1.9	-5.2	-2.4	-8.4	-0.5	0.3	-1.0

Table 30: Change in Total Combined + Childcare by Age

		Change	e 1960s			Change	e 1970s	
All	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	-29.1	-11.4	-20.5	-15.2	-23.2	-5.5	-14.4	-9.1
Germany	-27.1	-8.4	-10.9	-11.7				
Italy					-10.4	-1.6	-3.8	-1.5
Netherlands					1.3	5.9	1.3	5.8
Norway					-7.5	-0.6	-4.3	-1.1
UK					-1.8	3.6	-1.6	3.0
USA	-10.3	-0.7	-8.2	-2.8	-10.9	1.1	-1.1	-0.4

		Change	e 1960s			Change	e 1970s	
Men	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	-23.6	-12.4	-23.4	-14.8	-16.5	-7.3	-18.0	-8.9
Germany	-22.5	-6.7	-10.1	-9.5				
Italy					-9.9	-1.8	-2.8	-1.6
Netherlands					5.4	7.3	5.1	8.4
Norway					-6.4	1.4	-2.1	0.8
UK					-3.2	1.9	-4.7	1.3
USA	-15.0	-1.6	-10.2	-4.6	-11.8	-0.2	-2.1	-1.5

		Change	e 1960s			Change	e 1970s	
Women	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	-34.7	-10.5	-16.6	-15.5	-30.4	-3.9	-10.8	-9.5
Germany	-32.1	-9.4	-10.9	-13.3				
Italy					-10.9	-1.5	-4.2	-1.5
Netherlands					-3.1	4.6	-2.2	3.1
Norway					-8.4	-2.5	-6.1	-2.8
UK					-0.5	5.2	1.4	4.7
USA	-6.3	0.2	-6.6	-1.1	-9.7	2.4	-0.6	0.7

Table 31: Core Combined by Age

		1960s	$_{0}$			1970s			2011	2000s	$_{ m so}$	
All	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	36.0	48.4	43.3	44.5	31.5	44.1	38.7	39.9	16.2	41.3	25.6	34.2
Germany	43.1	48.1	40.7	45.7					16.3	35.6	23.7	30.1
Italy					26.1	45.6	38.3	39.5	15.3	42.5	32.2	36.2
Netherlands					22.4	32.0	24.6	28.3	23.4	36.7	24.1	32.5
Norway					30.7	44.5	41.8	40.8	24.2	40.0	35.4	36.6
$\overline{\mathrm{UK}}$					28.8	40.8	35.7	37.0	25.5	40.6	30.3	36.4
$\overline{\mathrm{USA}}$	33.2	45.4	43.4	42.2	30.5	42.6	35.8	38.3	21.6	40.1	31.9	35.4
		1960s	s0:			1970s	$^{\circ}$ 0s			2000s	0s	
Men	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	30.6	50.9	41.9	44.4	26.9	45.1	35.6	38.8	15.0	40.3	18.9	32.4
Germany	40.7	49.4	40.5	45.9					16.5	37.1	21.4	30.7
Italy					25.4	43.4	30.8	36.8	14.6	40.9	24.3	33.7
Netherlands					20.3	34.5	22.7	29.0	24.3	41.4	25.3	36.0
Norway					31.1	43.4	39.3	39.7	26.6	41.8	34.8	38.2
UK					30.6	43.1	37.8	39.2	26.5	42.9	30.4	38.1
NSA	35.4	47.8	46.4	44.6	30.5	44.9	35.8	39.7	21.5	42.4	32.6	37.0
		1960s	s0s			1970s	.0s			2000s	0s	
Women	15-24	25-54	55-64	Total	15-24	25-54	25-64	Total	15-24	25-54	25-64	Total
France	41.7	46.1	43.8	44.6	36.3	43.2	41.5	41.1	17.5	42.3	31.9	36.0
Germany	45.9	46.2	40.3	45.0					15.9	34.1	26.0	29.5
Italy					26.6	48.0	45.1	42.2	16.0	44.1	39.5	38.7
Netherlands					24.6	29.3	26.4	27.6	22.5	31.9	22.8	28.9
Norway					30.3	45.6	44.2	41.8	21.8	38.1	36.2	35.0
$\overline{\mathrm{UK}}$					27.0	38.4	33.7	34.9	24.4	38.5	30.2	34.8
$\overline{\mathrm{USA}}$	31.3	43.1	40.7	40.0	30.4	40.5	36.0	37.2	21.6	37.8	31.3	33.9

Table 32: Core Combined + Shopping by Age

		1960s	s0s	3		1970s	.0s	ddoire	0s	2000s	$_{ m so}$	
All	15-24	25-54	25-64	Total	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	40.0	53.2	48.7	49.2	36.9	50.3	44.5	45.8	18.8	45.7	30.6	38.4
Germany	45.4	51.9	44.1	49.0					20.0	41.3	30.5	35.7
Italy					29.3	51.7	44.9	44.9	17.6	47.8	38.8	41.2
Netherlands					26.3	37.1	30.8	33.3	27.8	42.7	30.3	38.2
Norway					33.6	48.0	45.1	44.2	29.3	46.0	41.3	42.4
$\overline{\mathrm{UK}}$					31.9	45.1	39.5	41.0	29.7	46.7	36.6	42.2
VSA	38.0	51.9	49.9	48.3	38.3	50.1	42.1	45.8	28.6	48.4	40.4	43.6
		1960s	s0s			1970s	.0s			2000s	0s	
${ m Men}$	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	33.3	54.2	45.7	47.6	31.2	49.8	40.8	43.4	16.9	43.7	23.7	35.7
Germany	42.1	51.8	41.8	47.8					19.7	41.8	28.0	35.5
Italy					27.8	47.2	35.0	40.3	16.1	44.6	30.7	37.4
Netherlands					23.0	38.0	28.6	32.6	28.1	45.8	30.7	40.5
Norway					33.8	46.2	42.0	42.5	31.2	47.4	40.6	43.6
UK					32.4	45.8	40.0	41.5	29.6	47.6	35.7	42.6
NSA	41.2	53.3	52.4	50.2	37.8	51.1	41.7	46.2	27.5	49.4	40.0	43.9
		1960s	30s			1970s	.0s			2000s	0s	
Women	15-24	25-54	55-64	Total	15-24	25-54	25-64	Total	15-24	25-54	25-64	Total
France	46.9	52.3	50.5	50.7	43.0	50.8	47.8	48.3	20.7	47.9	37.1	41.0
Germany	49.1	51.2	45.4	49.6					20.4	40.7	33.0	35.9
Italy					30.8	56.1	53.9	49.5	19.1	51.2	46.6	45.1
Netherlands					29.6	36.1	32.8	33.9	27.3	39.4	29.9	35.9
Norway					33.3	49.8	48.1	45.7	27.5	44.5	42.2	41.3
$\overline{\mathrm{UK}}$					31.5	44.4	38.9	40.4	29.8	45.8	37.6	41.8
$\overline{\mathrm{USA}}$	35.4	50.6	47.6	46.5	38.6	49.1	42.6	45.4	29.8	47.4	40.7	43.2

Table 33: Total Combined by Age

		1960s	$s_0$			1970s			0	2000s	$_{ m so}$	
All	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total	15-24	25-54	25-64	Total
France	47.1	59.4	54.7	55.6	41.6	55.5	49.3	50.8	23.0	50.7	34.7	43.0
Germany	51.2	57.7	48.2	54.5					26.3	48.8	37.7	42.9
Italy					32.6	55.5	48.1	48.5	23.0	53.3	44.8	46.7
Netherlands					32.9	45.3	38.4	40.9	34.9	51.1	38.5	46.4
Norway					39.1	53.1	49.9	49.2	32.2	51.3	45.9	47.2
UK					37.3	51.6	44.5	46.9	35.1	53.3	43.1	48.6
USA	44.3	57.8	55.8	54.2	44.2	56.4	48.8	52.0	34.0	55.0	48.3	50.1
		1960s	$_{0s}$			1970s	.0s			2000s	$_{0}$	
Men	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	43.0	61.5	52.6	55.5	36.9	57.0	46.9	50.1	21.4	49.6	29.1	41.3
Germany	48.1	59.3	46.4	54.5					26.3	50.9	36.5	44.1
Italy					31.7	53.1	40.0	45.6	22.0	51.2	37.3	43.9
Netherlands					30.0	47.8	36.7	41.4	35.6	55.0	41.5	49.6
Norway					40.6	54.3	49.1	50.1	34.5	54.4	47.0	49.9
UK					38.7	54.9	47.8	49.7	35.3	55.3	42.8	49.9
$\overline{\mathrm{USA}}$	48.5	2.09	58.7	57.4	45.3	59.2	50.3	54.2	33.3	56.9	48.6	51.2
		1960s	s0s			1970s	.0s			2000s	0s	
Women	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	51.2	57.3	55.6	55.5	46.4	54.0	51.6	51.6	24.7	51.7	40.0	44.8
Germany	54.7	55.4	49.2	54.1					26.4	46.5	38.9	41.7
Italy					33.2	58.0	55.3	51.4	24.0	55.3	51.8	49.5
Netherlands					35.9	42.7	39.9	40.5	34.1	47.0	35.6	43.0
Norway					37.3	51.7	50.5	48.2	29.8	48.1	45.0	44.5
$\overline{\mathrm{UK}}$					36.1	48.2	41.6	44.1	34.9	51.4	43.2	47.3
USA	40.7	55.0	53.2	51.4	43.1	53.7	47.7	50.0	34.6	53.2	48.0	49.0

Table 34: Total Combined + Childcare by Age

		1960s	0s			1970s	$^{20}$			2000s	$_{0}$	
All	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	53.2	65.6	56.4	6.09	47.2	59.7	50.3	54.8	24.0	54.2	35.9	45.7
Germany	53.8	62.0	48.9	57.8					26.7	53.6	38.0	46.1
Italy					34.0	58.5	48.6	50.7	23.6	56.9	44.9	49.2
Netherlands					34.6	48.8	38.8	43.5	35.9	54.7	40.1	49.3
Norway					41.2	57.1	50.4	52.1	33.7	56.5	46.1	51.0
UK					38.8	53.6	44.8	48.5	37.0	57.1	43.2	51.5
USA	46.8	61.6	57.1	57.4	47.4	59.8	49.9	55.0	36.5	6.09	48.9	54.6
		1960s	$_{0s}$			1970s	20s			2000s	$_{0}$	
Men	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	45.3	63.7	53.0	57.3	38.1	58.7	47.6	51.4	21.7	51.4	29.6	42.5
Germany	48.9	60.5	46.9	55.5					26.4	53.8	36.8	46.0
Italy					32.0	55.0	40.3	46.8	22.1	53.2	37.5	45.2
Netherlands					30.5	49.8	37.0	42.8	35.9	57.1	42.0	51.2
Norway					41.0	56.1	49.3	51.3	34.6	57.5	47.2	52.1
UK					39.0	55.6	47.9	50.3	35.9	57.6	43.2	51.6
USA	49.0	62.2	59.2	58.5	45.9	8.09	51.1	55.4	34.1	9.09	49.0	53.9
		1960s	s0s			1970s	20s			2000s	08	
Women	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total	15-24	25-54	55-64	Total
France	61.0	9.79	58.5	64.3	56.7	6.09	52.8	58.3	26.3	57.0	42.0	48.8
Germany	59.2	62.7	50.1	59.5					27.2	53.3	39.2	46.2
Italy					36.0	62.0	56.1	54.6	25.1	60.5	51.9	53.1
Netherlands					38.9	47.7	40.4	44.2	35.8	52.3	38.1	47.3
Norway					41.2	57.9	51.3	52.8	32.8	55.4	45.2	50.0
UK					38.7	51.5	41.9	46.7	38.1	56.7	43.3	51.4
$\overline{\mathrm{USA}}$	45.3	61.0	55.3	56.4	48.6	58.8	49.2	54.6	38.9	61.2	48.6	55.3

## References

- **Aguiar, Mark, and Erik Hurst.** 2007. "Measuring Trends in Leisure: The Allocation of Time Over Five Decades." Quarterly Journal of Economics, 122(3): 969 1006.
- Benhabib, Jess, Richard Rogerson, and Randall Wright. 1991. "Homework in Macroeconomics: Household Production and Aggregate Fluctuations." <u>Journal of Political</u> Economy, 99(6): 1166–87.
- Burda, Michael C., Daniel S. Hamermesh, and Philippe Weil. 2008. "The Distribution of Total Work in the EU and USA." Working Hours and Job Sharing in the EU and USA. Oxford University Press.
- Campbell, John Y, and Sydney Ludvigson. 2001. "Elasticities of Substitution in Real Business Cycle Models with Home Protection." <u>Journal of Money, Credit and Banking</u>, 33(4): 847–75.
- Freeman, Richard B., Ronald Schettkat, Esther Duflo, and Tullio Jappelli. 2005. "Marketization of Household Production and the EU-US Gap in Work." Economic Policy, 20(41): 5–50.
- Gershuny, Jonathan, Kimberly Fisher, Evrim Altintas, Alyssa Borkosky, Anita Bortnik, Donna Dosman, Cara Fedick, Tyler Frederick, Anne H. Gauthier, Sally Jones, Jiweon Jun, Aaron Lai, Qianhan Lin, Tingting Lu, Fiona Lui, Leslie MacRae, Berenice Monna, Jos Ignacio, Gimnez Nadal, Monica Pauls, Cori Pawlak, Andrew Shipley, Cecilia Tinonin, Nuno Torres, Charlemaigne Victorino, and Oiching Yeung. 2010. "Multinational Time Use Study, Versions World 5.5.3, 5.80 and 6.0." University of Oxford, United Kingdom, Centre for Time Use Research, http://www.timeuse.org/mtus/.

- Gimenez-Nadal, Jose Ignacio, and Almudena Sevilla. 2012. "Trends in time allocation: A cross-country analysis." European Economic Review, 56(6): 1338 1359.
- Greenwood, Jeremy, and Zvi Hercowitz. 1991. "The allocation of capital and time over the business cycle." Journal of Political Economy, 99(6): 1188–1214.
- McDaniel, Cara. 2011. "Forces Shaping Hours Worked in the OECD, 1960-2004." American Economic Journal: Macroeconomics, 3(4): 27–52.
- McGrattan, Ellen R., and Richard Rogerson. 2004. "Changes in hours worked, 1950-2000." Quarterly Review, Federal Reserve Bank of Minneapolis, 14–33.
- McGrattan, Ellen R., Richard Rogerson, and Randall Wright. 1997. "An Equilibrium Model of the Business cycle with Household Production and Fiscal Policy." International Economic Review, 38(2): 361–381.
- Ngai, L Rachel, and Christopher A Pissarides. 2008. "Trends in Hours and Economic Growth." Review of Economic Dynamics, 11(2): 239–256.
- Ngai, L Rachel, and Christopher A Pissarides. 2011. "Taxes, Social Subsidies, and the Allocation of Work Time." American Economic Journal: Macroeconomics, 3(4): 1–26.
- Ohanian, Lee, Andrea Raffo, and Richard Rogerson. 2008. "Long-term changes in labor supply and taxes: Evidence from OECD countries, 19562004." <u>Journal of Monetary</u> Economics, 55(8): 1353 1362.
- Ragan, Kelly. 2013. "Taxes and Time Use: Fiscal Policy in a Household Production Model." American Economic Journal: Macroeconomics, 5(1): 168–192.
- Ramey, Valerie A. 2009. "Time Spent in Home Production in the Twentieth-Century United States: New Estimates from Old Data." Journal of Economic History, 69(1): 1–47.

Ramey, Valerie A., and Neville Francis. 2009. "A Century of Work and Leisure." American Economic Journal: Macroeconomics, 1(2): 189–224.

Rogerson, Richard. 2008. "Structural Transformation and the Deterioration of European Labor Market Outcomes." Journal of Political Economy, 116(2): 235–259.

## References

- **Aguiar, Mark, and Erik Hurst.** 2007. "Measuring Trends in Leisure: The Allocation of Time Over Five Decades." Quarterly Journal of Economics, 122(3): 969 1006.
- Benhabib, Jess, Richard Rogerson, and Randall Wright. 1991. "Homework in Macroeconomics: Household Production and Aggregate Fluctuations." <u>Journal of Political</u> Economy, 99(6): 1166–87.
- Burda, Michael C., Daniel S. Hamermesh, and Philippe Weil. 2008. "The Distribution of Total Work in the EU and USA." Working Hours and Job Sharing in the EU and USA. Oxford University Press.
- Campbell, John Y, and Sydney Ludvigson. 2001. "Elasticities of Substitution in Real Business Cycle Models with Home Protection." <u>Journal of Money, Credit and Banking</u>, 33(4): 847–75.
- Freeman, Richard B., Ronald Schettkat, Esther Duflo, and Tullio Jappelli. 2005. "Marketization of Household Production and the EU-US Gap in Work." Economic Policy, 20(41): 5–50.
- Gershuny, Jonathan, Kimberly Fisher, Evrim Altintas, Alyssa Borkosky, Anita Bortnik, Donna Dosman, Cara Fedick, Tyler Frederick, Anne H. Gauthier, Sally Jones, Jiweon Jun, Aaron Lai, Qianhan Lin, Tingting Lu, Fiona Lui, Leslie MacRae, Berenice Monna, Jos Ignacio, Gimnez Nadal, Monica Pauls, Cori Pawlak, Andrew Shipley, Cecilia Tinonin, Nuno Torres, Charlemaigne Victorino, and Oiching Yeung. 2010. "Multinational Time Use Study, Versions World 5.5.3, 5.80 and 6.0." University of Oxford, United Kingdom, Centre for Time Use Research, http://www.timeuse.org/mtus/.

- Gimenez-Nadal, Jose Ignacio, and Almudena Sevilla. 2012. "Trends in time allocation: A cross-country analysis." European Economic Review, 56(6): 1338 1359.
- Greenwood, Jeremy, and Zvi Hercowitz. 1991. "The allocation of capital and time over the business cycle." Journal of Political Economy, 99(6): 1188–1214.
- McDaniel, Cara. 2011. "Forces Shaping Hours Worked in the OECD, 1960-2004." American Economic Journal: Macroeconomics, 3(4): 27–52.
- McGrattan, Ellen R., and Richard Rogerson. 2004. "Changes in hours worked, 1950-2000." Quarterly Review, Federal Reserve Bank of Minneapolis, 14–33.
- McGrattan, Ellen R., Richard Rogerson, and Randall Wright. 1997. "An Equilibrium Model of the Business cycle with Household Production and Fiscal Policy." International Economic Review, 38(2): 361–381.
- Ngai, L Rachel, and Christopher A Pissarides. 2008. "Trends in Hours and Economic Growth." Review of Economic Dynamics, 11(2): 239–256.
- Ngai, L Rachel, and Christopher A Pissarides. 2011. "Taxes, Social Subsidies, and the Allocation of Work Time." American Economic Journal: Macroeconomics, 3(4): 1–26.
- Ohanian, Lee, Andrea Raffo, and Richard Rogerson. 2008. "Long-term changes in labor supply and taxes: Evidence from OECD countries, 19562004." <u>Journal of Monetary</u> Economics, 55(8): 1353 1362.
- Ragan, Kelly. 2013. "Taxes and Time Use: Fiscal Policy in a Household Production Model." American Economic Journal: Macroeconomics, 5(1): 168–192.
- Ramey, Valerie A. 2009. "Time Spent in Home Production in the Twentieth-Century United States: New Estimates from Old Data." Journal of Economic History, 69(1): 1–47.

Ramey, Valerie A., and Neville Francis. 2009. "A Century of Work and Leisure." American Economic Journal: Macroeconomics, 1(2): 189–224.

Rogerson, Richard. 2008. "Structural Transformation and the Deterioration of European Labor Market Outcomes." Journal of Political Economy, 116(2): 235–259.