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MASTER'S THESIS

PATTERNS OF PRODUCTION AND CONSUMPTION OF UNPAID WORK: A COMPARISON OF ITALY, THE NETHERLANDS AND THE UNITED KINGDOM

Ljubljana, September 2015 ANA ŠEME

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INTRODUCTION

Lately, a system called the National Transfer Accounts (hereinafter: NTA) has received a lot of attention since it extends the System of National Accounts (hereinafter: SNA) with the age dimension. In this way, the NTA improve our understanding of the generational economy through estimating monetary flows across different age groups (United Nations, 2013, pp. 1-2).

Individuals go through three different phases in the course of their life: working-age individuals are characterized by a period of independency, when they are able to finance their consumption by their own production (labour income), while at the youngest and oldest ages, consumption of individuals is higher than their production, so they experience a period of dependency. The gap between consumption and inadequate production is financed by private, public and asset-based reallocations among different age groups. By introducing the age dimension into the standard national accounts, the NTA enable the measurement of these monetary reallocations among different generations, which is especially relevant in the light of the rapid demographic changes over the past few decades (Mason, Lee, Tung, Lai, & Miller, 2006, pp. 9-11).

The consequences of ageing population are determined – among other factors – by the structure of the lifecycle, since the intensity of various economic activities varies with age (Hammer, Prskawetz, & Freund, 2015, p. 96). By introducing the age dimension, the NTA help answer the questions such as the effect of population growth and changing age structure on macroeconomic categories and are therefore a valuable tool in addressing the major challenges of modern societies (United Nations, 2013, pp. 2-3).

Some degree of intergenerational solidarity is present in all societies, but it is especially pronounced in European countries (Attias-Donfut, Ogg, & Wolff, 2005, p. 170). However, monetary transfers represent only one aspect of it, since much of intergenerational exchange takes place at home in the form of non-monetary transfers, namely unpaid work (Kluge, 2014, p. 708). Both SNA and NTA ignore unpaid work activities, such as cleaning, cooking, gardening, childcare, voluntary work etc. The significance of unpaid work has become apparent and a renewed interest has emerged lately in the light of the advancement of time-use data (Zagheni, Zannella, Movsesyan, & Wagner, 2015, p. 19).

In the recent years, a system called the National Time Transfer Accounts (hereinafter: NTTA) has been developed to complement the NTA with unpaid work. The main novelty of both systems is the introduction of the age dimension. In this way, the NTTA enable the measurement of transfers in the form of unpaid work among persons of different ages (Gál, Szabó, & Vargha, 2014, p. 1).

Time-use surveys have made the measurement of production, consumption and net transfers of unpaid work across the lifecycle possible. The largest set of harmonized time-use data on a micro level is the Multinational Time Use Study (hereinafter: MTUS). Its beginnings date back

to the 1970s, following an initiative of Professor Jonathan Gershuny and involving numerous research assistants (Fisher & Gershuny, 2015, p. 3). Thus, it is now possible to extend the SNA and the NTA by assessing the patterns of time-use and intergenerational transfers in the form of unpaid work.

The main aim of my master's thesis is to analyse the patterns of unpaid work between genders and across age groups for different countries. By creating and evaluating the NTTA for Italy, the Netherlands and the United Kingdom (hereinafter: UK), I also focus on evolution of production patterns over time in a comparative perspective.

I create age profiles for production, consumption and net transfers of unpaid work for different countries. I analyse the evolution of patterns in production of unpaid work and total workload from 1980 to 2002 for Italy, from 1980 to 2005 for the Netherlands and from 1974 to 2005 for the UK. I explore whether concepts, such as 'dual burden' and 'time-squeeze' are present in the three countries. Furthermore, a comparative analysis of patterns in consumption and net transfers across different age groups and between genders is presented for the latest available year. In particular, I compare the length and magnitude of the lifecycle deficit being defined as consumption minus production.

Previous research, relying on data from time-use surveys, has shown that traditionally men devote more time to paid work and women devote more time to unpaid work. Over the past decades, higher participation of women in the labour market has, in general, caused men to increase their production of unpaid work to account for this change. This suggests a greater workload (paid and unpaid work combined) for both men and women. This can result in the existence of a 'time-squeeze' for women as a consequence of working a double shift – first on the formal labour market and the second shift at home. However, different studies produce mixed results about the existence of a 'time-squeeze' in the industrialized countries. Thus, I explore whether the above mentioned trends are present in Italy, the Netherlands and in the UK.

Hypothesis 1: The total workload has been increasing in the last decades, mainly on the account of leisure time. This trend is more significant for women than men.

In the second part of my research work, I analyse consumption of unpaid work and net transfers at each age. Net transfers of unpaid work are defined as the difference between consumption and production. They are positive when consumption of unpaid work is greater than production, which is typical for young and elderly people. They experience a lifecycle deficit of unpaid work. For middle-aged people net transfers (and lifecycle deficit) are usually negative. There are numerous factors affecting the time allocation decisions which cause differences in production of unpaid work on the individual and on the national level. Consequently, differences among countries should also arise in the net transfers (lifecycle deficit).

Hypothesis 2: There are notable differences in the lifecycle deficit with regard to its length and magnitude among the three selected countries.

The structure of my master's thesis is the following: the first three chapters present the theoretical background information on the selected topic, based on the relevant academic literature. The first chapter explains the relevance of unpaid work in modern societies. The second chapter outlines the main concepts in the analysis of unpaid work, as well as recent trends in this field. The third chapter presents the characteristics of the three chosen countries, in particular with regard to factors that affect production of unpaid work. In the fourth chapter I describe the research data and methodology. The last chapter shows the results of my analysis and is therefore the most important part of my master's thesis. I present the age profiles of production, consumption and net transfers of unpaid work, as well as the age profiles of production of total workload.

1 SYSTEM OF NATIONAL ACCOUNTS AND NATIONAL TRANSFER ACCOUNTS

1.1 From System of National Accounts to National Transfer Accounts

1.1.1 Limitations of standard national accounts

In order to understand how the economy works, it is crucial to be able to observe and analyse the economic interactions between different sectors of the economy at the aggregate level. A framework for numerically describing all aspects of market economy dates back to the 1930s when modern national accounting began developing. Nowadays, national accounts provide estimates of economic quantities at the national level (United Nations, 2013, p. 36).

The System of National Accounts, coordinated by the United Nations, is the internationally agreed upon set of recommendations on how to measure economic activity at the level of individual economic agents, groups of agents or at the level of the total economy. Additionally, it provides information about an economy's assets and liabilities – and thus the wealth of its inhabitants – for a succession of different time periods (System of National Accounts, 2009, p. 1).

The main purpose of the SNA is to provide a systematic framework for creating a detailed macroeconomic database of the numerous economic activities. Providing a continuous flow of information is essential for purposes of economic analysis and a prerequisite for analytical and rational decision-taking and policymaking. Various economic concepts, such as welfare, may be captured fairly well by the key aggregates of the SNA. For example, one of the most well-known aggregates is gross domestic product (hereinafter: GDP), a frequently used indicator of economic performance (System of National Accounts, 2009, pp. 1-4).

Yet, other concepts and aspects of the economy are likely to remain outside the reach of the SNA. Namely, conventional national accounts do not offer information about how people at different phases of the lifecycle – which shows how people's production and consumption varies across age – are affected by different economic events, public policy or demographic change. This represents a serious gap in the statistical systems of both developing and developed countries (Mason & Lee, 2011; United Nations, 2013).

Demographic changes occur as a consequence of countries moving through the demographic transition, which greatly changes their population age distributions (Lee & Mason, 2011, p. 79). These transitions have taken place at different speeds and time periods and will continue for decades to come. The key determinants of ageing population in many European countries are the shift from high to low fertility and the increasing longevity of elderly people, as well as the ageing of the baby boom generation (Mason & Lee, 2011, pp. 3-5).

More specifically, baby booms in European countries occurred in the aftermath of the World War II. Many couples decided to increase their families, creating a long-term disequilibrium in population age structures (Bloom & Canning, 2005, p. 2). By the mid-1970s, working-age population started to increase faster than the young population as a result of two factors: baby boom generation entered the working-age and women decided for decreased childbearing. In recent years, population born in the 1950s has started to retire, significantly increasing the number of dependent people (Mason & Lee, 2011, p. 5). Future population is expected to be much older than it has ever been before, especially due to improving health conditions and longevity of elderly people (Bloom & Canning, 2005, p. 2). Due to these changes, various European countries are now facing rising health care and pension costs, as well as slower economic progress (United Nations, 2013, p. 2).

Demographic transition has had profound economic consequences, which pose a threat to economic development and need to be addressed by the policymakers. Some economic policies can be beneficial for some generations, but extensively burdening for others. A detailed database is a necessary prerequisite for development of effective policies. However, systems such as the SNA do not provide enough information about the age and generational aspect of the aforementioned changes, which limits the ability to understand the consequences of fertility decline and ageing population. A new system called the NTA has been developed to fill this gap (United Nations, 2013, p. vii).

1.1.2 The role of the National Transfer Accounts

Recently, the NTA have caught a lot of worldwide attention since they extend the System of National Accounts by introducing the age dimension. The age component is especially relevant in the light of rapid demographic change for the following reason: how individuals behave varies with age. Thus, we see how the changes in population age structure affect the share of individuals that behave in a certain economic way. Changing age structure influences the

number of young, working-age and elderly people, which in turn results in different aggregate values of production, consumption, savings etc. (Mason & Lee, 2011, p. 5).

As part of the NTA project, international researchers are measuring how people at different stages of their life produce, consume, share and save resources for their future (Donehower & Mejía-Guevara, 2011, p. 1). The focus of the NTA is not on institutions, but rather on individuals. Income streams, originally flowing among institutions, are now redefined to flow among people of different generations. Additional benefit is the consistency of concepts and definitions, applied in the NTA, with those in the SNA (Vargha, Gál, & Crosby-Nagy, 2015).

More specifically, NTA provide estimates of economic flows (also referred to as reallocations) over time and across age groups that arise mainly because at some ages individuals consume more than they produce and at other ages the situation is the opposite (Mason et al., 2006, p. 9). Age profiles, which show the age-specific averages for a particular economic activity, are created in order to measure the value of these intergenerational reallocations. NTA provide age profiles for production (labour income, public and private asset income), consumption (public or private) and monetary transfers (in private or public form) (Donehower & Mejía-Guevara, 2011, p. 2).

The most distinctive characteristic of the lifecycle is the economic dependency of young and elderly population. Typically, their consumption is far greater than the income generated on the market through their own labour input (Hammer, Prskawetz, & Freund, 2013, p. 3). The surplus of consumption over individual's production is called the **lifecycle deficit** in the NTA framework. The lifecycle deficit of children and the elderly is financed by reallocations from the working-age adults who generate a **lifecycle surplus**, i.e. their production exceeds their consumption (United Nations, 2013, p. 31). These reallocations can be in the form of private transfers (such as a monetary transfer within a household), public transfers (pensions etc.) or the difference between asset income and savings (asset-based reallocations) (Mason et al., 2006, pp. 9-11). Thus, individuals with income surplus transfer it to those with income deficit or save it. Vice versa, those with income deficit receive these transfers or dis-save (by taking out a loan or selling their assets) (Donehower & Mejía-Guevara, 2011, p. 2).

For example, successful development of youth relies mostly on monetary transfers in form of familial support (for example, parents paying for their children's clothing), while elderly also depend heavily on public transfers in the form of pensions, health care etc. (Sambt et al., 2013, p. 2). These transfers are called intergenerational because they represent flows among different generations (young, working-age and elderly people). The NTA enable the analysis of both cross-sectional (for instance, a monetary transfer of adult child to his elderly parents) as well as longitudinal reallocations (such as saving in working years and dis-saving during retirement) (Mason et al., 2006, p. 3).

Intergenerational transfers have a great influence on inequality and growth since their size in contemporary societies is undoubtedly very large. The demographic transition has dramatically

changed the population age structure, putting the system of generational flows under substantial pressure (United Nations, 2013, p. 28). Population ageing can severely indebt future generations due to an increasing share of elderly population whose costs of pensions and care have to be financed by a shrinking population of working age (Hammer et al., 2015, p. 86). High standards of living can only be maintained if the working-age population is able to generate enough income to provide for its own needs, to fund children and elderly in form of private and public transfers and to save enough funds for their retirement (Mason & Lee, 2011, p. 13).

Although the construction of the SNA and the NTA demanded a lot of thought and effort by numerous researchers, both systems are limited. One of the most serious shortcomings is exclusion of unpaid work from the accounts and therefore lack of information about a relevant aspect of the economy.

The SNA only captures market activities and it neglects the non-market services produced by households for their own use, such as cooking, childcare, cleaning etc. These activities share the characteristics of the market activities since they are also productive in an economic point of view (Ahmad & Koh, 2011, p. 6). This was the reason for the debate about the inclusion of unpaid work into the SNA, which started in the 1950s (Swiebel, 1999, p. 8).

Due to measurement difficulties and some other concerns, unpaid work remains outside of the core SNA and is included in the system only in the form of satellite accounts. Household satellite accounts provide a more profound understanding of well-being of households, but ignore the age dimension (Ahmad & Koh, 2011, p. 7).

On the other hand, NTA do capture the age dimension, but are focused only on financial transfers. These transfers are useful in understanding how dependency is sustained over the life course, but represent only one aspect of intergenerational economy (Zagheni et al., 2015, p. 22). Non-monetary transfers in the form of unpaid work are the other side of the coin. For example, when parents provide for their children, transfers in form of unpaid work complement the monetary transfers (Zagheni et al., 2015, p. 29). When parents cook for their children, this is considered an intergenerational transfer of unpaid work from parents (producers) to their children (consumers). Because time is the primary input in production of unpaid work, they are also called time transfers (Hammer et al., 2015, p. 91).

Many human needs are satisfied by production of unpaid work, which implies a huge economic significance of such form of work (Swiebel, 1999, p. 3). Ignoring it would give an inaccurate and deceptive picture of inter-age and inter-gender reallocations (Hammer et al., 2015, p. 96). Since the NTA do not include time transfers, a need for such a system emerged in order to better understand and estimate the reallocation patterns within the household. Extending the NTA with information about unpaid work resulted in the system called the National Time Transfer Accounts. Thus, the NTTA measure non-market productive activities which are not included in the standard national accounts (Donehower, 2014).

1.2 Importance of unpaid work

The inclusion of unpaid work in economic analysis is necessary due to various reasons. Firstly, by excluding unpaid work from the SNA, the value of overall production of goods and services is greatly undervalued, especially the contribution of women who have traditionally been doing a larger share of unpaid work (Zannella, 2015, p. 33). Secondly, well-being of nations is often approximated by economic indicators, such as GDP. However, such indicators are not fully adequate without the inclusion of unpaid work (Miranda, 2011, p. 6). GDP, adjusted for the value of unpaid work, would allow for a better international comparison of growth and overall – as opposed to material – well-being of nations (Swiebel, 1999, p. 8). This is especially relevant when comparing developing and developed countries, where allocation of time between paid and unpaid work differs considerably (Ahmad & Koh, 2011, p. 6).

Researchers have long been trying to answer the question about what would be the size of GDP if unpaid work was measured, appropriately valued in monetary terms and included into the SNA (Francavilla, Giannelli, Grotkowska, & Socha, 2011, p. 3). Since families devote considerable amounts of time to unpaid work, the extent of it could hugely influence the informational value of GDP. Indeed, Giannelli, Mangiavacchi and Piccoli (2010, p. 2121) show that the value of unpaid work for the member states of the European Union (hereinafter: EU) varies between 17% and 31.6% of the EU GDP. The results differ depending on the applied methodological approach for valuing unpaid work in monetary units.

Thirdly, a very misleading picture of gendered reallocations would arise if only market activities were taken into account (Donehower & Mejía-Guevara, 2011, p. 1). While both men and women consume quite similarly, the burden of paid work is distributed unequally among genders. With higher participation in the labour market, men are able to generate enough resources to cover their consumption over the lifecycle, while women need additional resources to finance their consumption at all ages (Kluge, 2014, p. 709). This reasoning leads to a misleading conclusion that there are sizeable reallocations from men to women. However, when considering unpaid work, the situation is just the opposite, with reallocations of unpaid work flowing from women to men (Sambt et al., 2013, p. 4). Therefore, a complete picture of inter-age and inter-gender reallocations needs to take into account both market and non-market activities since the gender differences in allocation of time to paid and unpaid work result in large transfers of time and money within households (Kluge, 2014, p. 709).

Furthermore, there are also other aspects of economy that unpaid work helps shed light on. Measures of income inequality may give deceptive results if unpaid work is neglected. While national accounts consider two households with the same amount of labour income as identical, this is not necessarily correct. For example, a household where parents have time to do unpaid work has more disposable income than a household where these services need to be purchased on the market (Miranda, 2011, p. 6). Additionally, parents invest a lot of their time in the care for their children and elderly members of the household. Thus, ignoring unpaid work may also bias measures of human capital and investments into these two groups (Vargha et al., 2015).

The importance of unpaid work stems from all the above-mentioned reasons. Better understanding of the society in terms of people's allocation of time contributes to greater efficiency and equity of social policies (Miranda, 2011, p. 30).

Labour market policies do not affect only market production, but also non-market production in form of unpaid work. The insight into interaction of paid and unpaid work is very limited, but crucial for understanding the effects of such policies (Swiebel, 1999, p. 28). For example, any reform which aims to increase the participation of women in paid work may relieve the financing of public transfers to children, but at the same time results in lower time that women dedicate to their children in form of unpaid work (Hammer et al., 2015, p. 87). Thus, the interplay of paid and unpaid work needs to be taken into account when designing the optimal mix of both public and private transfers to meet the demand of children care (Francavilla et al., 2011, p. 3). The re-emerging interest in measuring the value of unpaid work can therefore have an enormous significance for policymakers when designing public policies (Miranda, 2011, p. 30).

2 UNPAID WORK

2.1 Unpaid activities

In order to analyse the patterns and value of unpaid work, it is first necessary to define what unpaid work actually is. People allocate their time among different activities. According to the classification of activities by the Organisation for Economic Co-operation and Development (hereinafter: OECD), there are 5 main categories: paid work or study, unpaid work, personal care, leisure time and other activities, not included elsewhere (Ahmad & Koh, 2011, p. 8). 'Paid work or study' includes full-time and part-time work, as well as time devoted to education, such as doing homework. 'Personal care' covers activities, such as sleeping, eating, hygiene and so on, while 'leisure' includes hobbies, sports, time devoted to friends and family, watching television etc. 'Unpaid work' then describes other activities, for example routine domestic work (cooking, house cleaning, gardening, pet care etc.), as well as shopping, care for children and other family and nonfamily members (Miranda, 2011, p. 8).

Thus, unpaid work consists of variety of activities, which are generally an integral element of everyday family life and contribute to the well-being of individuals (Hunady, Orviska, & Uramova, 2014, p. 40). All these activities are productive in economic point of view, meaning that they use scarce resources in order to satisfy people's needs and wants. The primary input in production of unpaid work is time, although purchased goods may also be used as capital equipment (Swiebel, 1999, p. 1).

Crucial for the definition of unpaid work is the 'third-person' criterion, which was first introduced by Reid (1934). According to this criterion, an activity is considered unpaid work if a person could pay someone else to do it on his behalf. In this way it is possible to distinguish unpaid work from other activities. For instance, activities like cooking, cleaning and gardening

can be performed by someone else on behalf of the respondent (hirer), while someone else cannot be paid to sleep, eat, do sports or watch television on another's behalf. In this case, the benefits of the activity go to the doer, not to the hirer (Miranda, 2011, p. 7).

It is also important to note that the distinction between unpaid work and leisure does not depend on happiness or joy while performing the activity. Usually, people enjoy leisure activities while this may not be the case in production of unpaid work, however, this is not the criteria that distinguishes the two activities (Gál, Szabó, & Vargha, 2015, p. 100). Unpaid work should also not be considered as part of the informal sector since the latter represents an in-between zone between paid and unpaid work. No matter how small, uncounted and unmonitored it may be, the informal sector generates income, which does not hold for the non-market sector of unpaid work (Swiebel, 1999, p. i).

An analysis of patterns in unpaid work is built upon three basic concepts: production, consumption and net transfers of unpaid work (Donehower, 2014). It is therefore important to understand what these concepts represent. For example, cooking is an activity that is regarded as unpaid work (Donehower, 2012). If a mother cooks a meal for her family, she is a producer of unpaid work, while those who consume the fruits of her production (a cooked meal) are considered consumers of unpaid work. At the same time, a transfer of unpaid work from a mother to her family is recorded.

The final results of the production of unpaid work are different: a cooked meal when a person cooks, a cleaned apartment when a person cleans, ironed clothes as the result of ironing etc. In the NTTA framework, the comparison of different unpaid activities is enabled by expressing these activities in the same measurement unit: time (Donehower, 2012). The above described example of a mother cooking for her family would be registered in the NTTA system as the following: if a mother spends 1 hour cooking, her production of unpaid work equals 60 minutes. Production is then equally allocated among all family members who enjoy the benefits of it. If the cooked meal is eaten by a mother, her husband and a child, each one of them consumes one third of the produced unpaid work, in particular 20 minutes of unpaid work. To obtain the net transfers of unpaid work, production is subtracted from consumption. For a mother, the value of net transfers is -40 (20-60), which means that she transfers 40 minutes of produced unpaid work to her husband and her child, each of them receiving a transfer of unpaid work of 20 minutes (20-0). This framework allows a thorough study of patterns of production and consumption as well as transfers in the form of unpaid work across the lifecycle.

2.2 Factors of time allocation

Time is a scarce resource, since every individual is constrained by 24 hours per day (Gimenez-Nadal & Sevilla, 2012, p. 1338). How people allocate their time among different activities depends on a number of micro- and macro-level factors (Zagheni et al., 2015, p. 1).

Understanding the motives behind people's allocation of time between paid and unpaid work is crucial for recognizing the patterns of unpaid work.

The way individuals use their time depends both on individual characteristics as well as on institutional factors. The most significant individual factors are age, gender, education, employment status and household composition, while institutional factors relate to numerous public policies. Additionally, population age structure plays an important role at the national level, affecting the aggregate amount of unpaid work in a specific country (Crompton & Lyonette, 2006, p. 381).

Time that individuals spend on unpaid work varies substantially with their age and across the lifecycle. At different stages of their lifecycle, individuals live in different household compositions. For instance, living alone, with partner or together with children has a significant effect on someone's allocation of time (Zagheni et al., 2015, p. 7). At younger ages, entrance into the labour market is often accompanied with a decision to start a family, getting married etc. (Francavilla et al., 2011, p. 10). Before having children, partners in the household have high rates of labour force participation and a lot of leisure time. Having children greatly changes the trade-off between paid and unpaid work. Women drastically reduce their time spent in paid work, while both men and women devote huge amounts of time to unpaid work. Leisure time becomes very limited, if it exists at all (Apps & Rees, 2005, p. 454). At elderly ages, individuals leave the official labour market, while their children have already left the home. This leaves elderly adults again with more time for leisure, as well as for unpaid work (Francavilla et al., 2011, p. 10).

Gender is another essential dimension in studying the heterogeneity in time-use among individuals. From this aspect, cultural and social norms have the greatest impact on the gendered division of labour (Haas, 2005, p. 494). These norms shape the attitudes and beliefs of people regarding the appropriate gender roles, i.e. how men and women should behave and to which extent they should participate in paid and unpaid work. This can be described as gender ideology (Nordenmark, 2004, p. 234).

Gender ideology is usually shaped through the socialisation process already at young ages. If a person is raised in line with the traditional gender and family norms, there is a high probability that he will act according to these traditional gender roles when reaching adulthood. This means that men devote their time primarily to paid work, while women are responsible for most of the unpaid work. On the other hand, liberal upbringing and attitudes toward the gender roles result in a more equal division of work between men and women (Nordenmark, 2004, pp. 234-235).

Working status and educational level are equally important for determining the amount of time spent in unpaid work. Hunady, Orviska and Uramova (2014, pp. 42-44) confirm a negative relationship between labour compensation and unpaid work. Higher wages and salaries result in higher incentives for paid work and disincentives for unpaid work. The more time people

spend on labour market, the less time is left for other activities, including unpaid work. Furthermore, educational level also affects the motivation for time use. Zagheni et al. (2015, p. 39) observe that better educated women devote less time to unpaid work, probably because better work opportunities result in higher disposable income, therefore enabling a more frequent use of market services (for example, paying someone else to clean the house instead of doing it themselves). While the effect of education is true for women, it is less clear for men since different studies show contrasting results (Gershuny & Sullivan, 2003; Hunady et al., 2014; Zagheni et al., 2015).

Time allocation decisions are also closely related to government policies. There are three main groups of policies which shape individual's decision for participation in paid and unpaid work: working-time regulations, gender equality initiatives and different social policies related to family and work. Work regulations control conditions on the labour market, such as overtime compensation or maximum working hours. Gender equality initiatives help shape social norms and attitudes to achieve a more balanced division of work, for example enabling and promoting parental leave for men (Hook, 2006, pp. 643-644). Social policies are particularly important, as they provide opportunities, such as access to flexible working arrangements, parental leaves, family and child allowances or care services for children and the elderly. This allows individuals, especially parents, to have more freedom when deciding upon their participation in paid and unpaid work (Lewis, Knijn, Martin, & Ostner, 2008; Saraceno & Keck, 2008).

The last crucial factor of time allocation is the population age structure. Greater proportions of young and elderly people in the population affect the aggregate amounts of paid and unpaid work in the economy. Namely, these two age groups usually demand plenty of care, which particularly increases the amounts of time women dedicate to unpaid work (Hunady et al., 2014, p. 44).

There are numerous factors that influence people’s decisions regarding their time allocation. In my work, I focus on the analysis of unpaid work from the aspect of age and gender since these two factors are fundamental and as such, they account for a lot of the variability in patterns of unpaid work.

2.3 Unpaid work by age and gender

In the last half of the century, gender differences in production of unpaid in industrialized countries have become smaller, however, unpaid work still remains profoundly gender-segregated (Kan, Sullivan, & Gershuny, 2011, p. 238). Thus, the analysis by gender offers an interesting insight into the patterns of unpaid work and gender differences over time. By introducing the age dimension, it is possible to analyse production, consumption and net transfers of unpaid work over the lifecycle. This is a rather new and not vastly explored area of research, studied in the frame of the NTTA (Zagheni et al., 2015, p. 31).

To sum up, a study of unpaid work by gender and age offers an opportunity for an in-depth analysis of gender inequalities and intergenerational transfers, the area of research that is very relevant in the light of the recent demographic challenges. It is also possible to extend the analysis of unpaid work patterns by additional variables, such as number of children, household structure, education etc. However, this area remains to be explored in further analyses.

2.4 Main trends in production of unpaid work

In the recent decades, the time devoted to the production of unpaid work has changed considerably, mainly as a consequence of the changing attitude toward women, especially mothers, and their engagement in paid work (Dex, 2009, p. 18). New employment arrangements, such as flexible working hours, have emerged (Swiebel, 1999, p. 17). Additionally, beliefs about equal sharing of the burden of unpaid work between men and women have surfaced, resulting in public policies aimed at reconciling family and working life (Pascall & Lewis, 2004, p. 377).

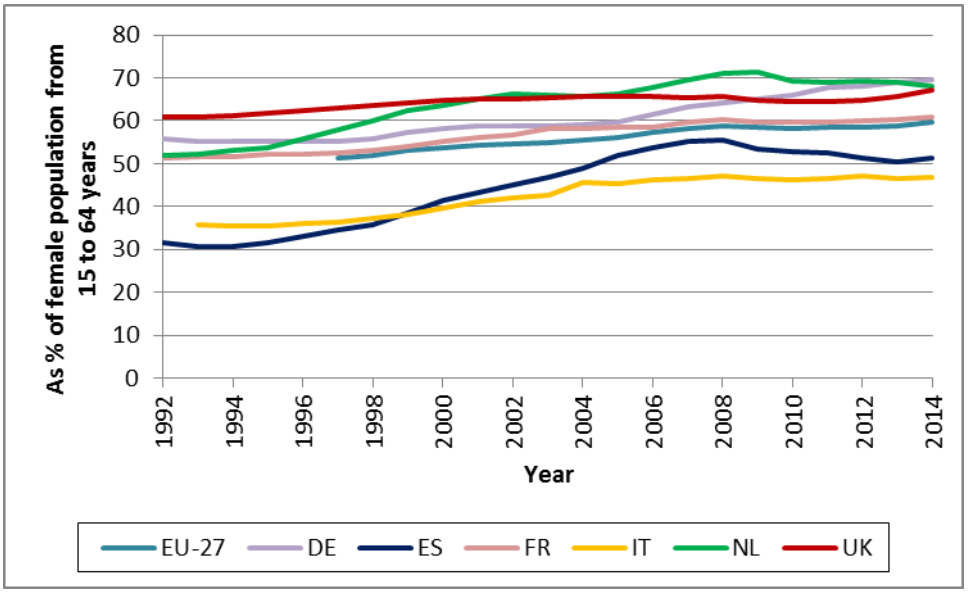
2.4.1 A fall in women's production of unpaid work

By 2000, a 'male breadwinner – female caregiver' model had widely declined due to a changing family dynamics. Typical for the 'breadwinner' family model are traditional views on gender ideology. Men are employed full-time, while women are permanently or temporarily not employed. They are expected to be the main providers of unpaid work in the household, with a special emphasis on care for children. Family and social policies support the dominance of men in the labour market (weak social security systems, lack of childcare services, gendered wage gap etc.) (Haas, 2005, p. 495).

Throughout the Europe, a 'one-and-a-half' and 'one-and-three-quarters' earner models have emerged due to a rise in women's participation in waged work (Lewis, Campbell, & Huerta, 2008, p. 21). The implication of this trend has been a gradual decline in the time spent on unpaid work by women (Kan et al., 2011, pp. 237-238). Indeed, Miranda (2011, p. 13) confirms a strong negative correlation between female labour force participation and women's average production of unpaid work.

As shown in Figure 1, from 1992 onwards employment rates of women have risen in Italy, the Netherlands and the UK, as well as on average for the EU-27. The Netherlands has experienced the largest increase at almost 20 percentage points, despite the negative growth in the recent years, which coincides with the beginnings of the world economic crisis. Both Italy and the UK have experienced a steady upward trend in employment rates of women, at 11 and 6.3 percentage points respectively.

Figure 1. Employment rates of women in selected European countries, 1992-2014



Source: Eurostat, *Employment rates by gender and nationality*, 2015c.

It is also important to note that women's employment rates in the Netherlands and the UK are very high, while Italy is well-below the EU-27 average. More than half of Italian women of age 15 to 64 nowadays do not participate in the labour market. This suggests a very traditional view on gender roles in Italy, where paid work is still mainly in the domain of men. However, in the Netherlands and in the UK, women have been actively entering the labour force, spending increasing amounts of time on paid work.

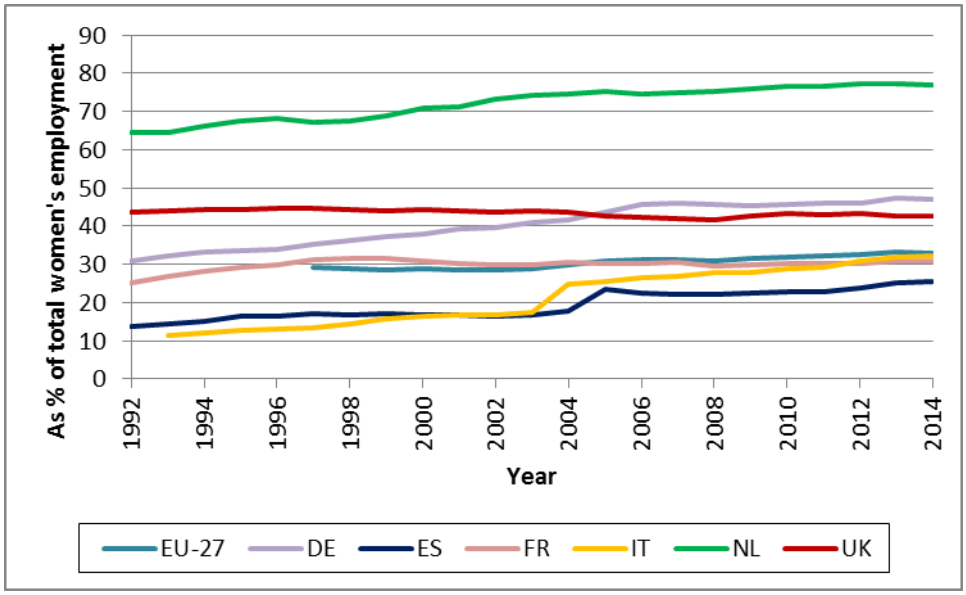
High employment rates of women in the Netherlands and in the UK can be explained by considering the type of employment arrangement most common in each country. Namely, one of the most typical approaches in balancing work and family responsibilities, especially for mothers, is to engage not in full-time, but rather in part-time work (Hill, Märtinson, Ferris, & Baker, 2004, p. 121). This leaves enough time for women to invest in their children in form of unpaid work, while maintaining their career opportunities (Hill et al., 2004, p. 132).

Figure 2 shows the percentage of women working part-time. The Netherlands immediately stands out as the country where more than 70% of women work part-time. This arrangement is also common in the UK, where more than 40% of women are employed on a part-time basis. From the beginning of the century, increases in part-time working seem to have levelled-off in the UK. However, according to Dex (2009, p. 3), the most substantial increase in the number of part-time working women in the UK occurred in the 2nd half of the 20th century.

On the other hand, part-time working was very rare in Italy before the 1990s. The expansion of female labour force participation in Italy has depended significantly on part-time work, since this form of employment has increased considerably in the last two decades. Yet, the percentage of women working part-time remains considerably low, especially compared to the

historically high levels in the Netherlands. With the arrival of young children, women's exit from the labour market is still a very common phenomenon in Italy (Lewis, Campbell, et al., 2008, pp. 22-25).

Figure 2. Part-time female workers in the selected European countries, 1992-2014



Source: Eurostat, *Employment rates by gender and nationality*, 2015c.

Women's engagement in paid work is the key reason for women's lower production of unpaid work in the recent years. Employed women have less time for other activities, such as unpaid work. It is also possible that they are more tired after spending time in paid employment and have consequently lowered their domestic standards (Dex, 2009, p. 12).

At the same time, flexible working arrangements and new job opportunities for women seem to have resulted in declining fertility and smaller families in a number of developed countries (Apps & Rees, 2005, p. 439). With fewer children, women do not need to invest so much of their time into unpaid work. Furthermore, more efficient housework equipment and the possibility of outsourcing household production (due to a higher disposable income), seem to have had an effect on the lower production of unpaid work performed by women (Dex, 2009, p. 12).

2.4.2 An increase in men's production of unpaid work

While women have been devoting more and more of their time to paid work, an increasing demand for men's active participation in unpaid work in the households has emerged. In her research, Hook (2006, p. 639) identifies a positive relationship between national levels of women's employment rates and men's production of unpaid work. Indeed, there has been a general increase in men's unpaid working time in the last four decades, even though there might be some signs of stagnation of this trend in the last years (Kan et al., 2011, pp. 236-237).

Although most men continue to work full-time, a reduction of long hours spent in paid work has been the way of counter-balancing men's increased production of unpaid work in numerous countries (Gimenez-Nadal & Sevilla, 2012; Saraceno & Keck, 2008).

Notably, a change in time that men devote to unpaid work has been smaller than the increase in time women spend on paid work. Additionally, men's increase in unpaid working time has not been large enough to fully compensate for the decline of women's unpaid working time (Hook, 2006, p. 639). Men still devote considerably less time to unpaid work than women (Miranda, 2011, p. 13).

Unpaid work remains strongly gender-segregated. Women still devote their time mainly to 'feminine' activities, such as cooking, cleaning and caring for children, while men take on non-routine activities, such as 'do it yourself' work, repairs, shopping etc. There is evidence of a slow and gradual gender convergence over time, however, gender inequality in the production of unpaid work continues to be a significant and persistent feature of a contemporary society (Kan et al., 2011, pp. 238-240).

2.4.3 Total workload and the existence of a 'time-squeeze'

Another question, closely related to the production of unpaid work, is the amount of total workload, i.e. the aggregate amount of paid and unpaid work, and its developments over time. Although the economists have widely ignored this area of research, the literature suggests two main concepts regarding the patterns in total workload (Burda, Hamermesh, & Weil, 2013, p. 240).

The first one is the existence of the so-called 'iso-work'. This term refers to a phenomenon when women's and men's total workload does not differ considerably (Burda et al., 2013, p. 257). Although there is a common belief among people that women work more than men in total (in developed countries), the analyses offer varying results. For example, Sambt (2013, p. 10) finds the existence of the 'iso-work' in Austria, whereas in Slovenia and Italy, females are the ones doing more work in total. Furthermore, Burda et al. (2013, pp. 239-244), relying on the data for 27 world countries, find different patterns in total workload across countries. However, their results do suggest strong gender equality in total workload in rich countries, while this does not seem to hold for low and middle-income countries, as well as for countries with a Catholic tradition.

The second concept relates to the occurrence of a 'time-squeeze', a term first introduced by Hochschild (1997). In a contemporary society, an increasing pace of life has led people to perceive their time as being 'squeezed', when they no longer find the time to finish the necessary tasks without multi-tasking or needing to hurry. Due to a larger workload, they experience a shortage of time (Southerton & Tomlinson, 2005, p. 215).

The existence of a 'time-squeeze' is especially relevant when entering parenthood. Despite a growing number of women who decide to enter the workforce, females are still the ones who provide more unpaid work, especially when caring for their young children (Crompton & Lyonette, 2006, p. 384). Thus, combining paid and unpaid work, especially when being a parent, proves to be more demanding for women than men (Anxo et al., 2007, p. 1).

Upon the arrival of children, women decide to adopt completely different strategies (Anxo et al., 2007, p. 1). Many mothers moderate their career ambitions by choosing less demanding jobs or part-time work or even exit the labour market permanently or for some period of time (Hill et al., 2004, p. 122). This is referred to as the 'mommy track', a term first coined by the New York Times in their response to the widely debated article by Schwartz (1989). Others decide to not put aside their career opportunities. This has raised a concern about the existence of a 'dual burden' for mothers in dual-earner households. Their active presence in the labour market as well as at home causes them to bear the burden of paid, as well as of unpaid work (Hill, Märtinson, Ferris & Baker, 2004, p. 122). However, there is little evidence that the 'dual burden' carried by women who are employed and do a larger share of unpaid work exists for the majority of women (Dex, 2009, pp. 11-12).

2.5 Consumption and net transfers of unpaid work

Production of unpaid work is only one side of the coin of intergenerational exchange. Household members are not only producers, but also consumers of unpaid work (Becker, 1965, p. 516).

In general, countries show a low degree of variability in consumption of unpaid work. Young children receive remarkably large amounts of unpaid work in the form of care from their parents. After entering adulthood, consumption tends to rise with age, reaching the maximum in the early 60s. During the retirement years, consumption of unpaid work depends heavily on the public provision of elderly care. If public facilities are poorly organized, retired people need to rely more on the familial transfers, which in turn increases their unpaid work consumption (Zagheni et al., 2015, pp. 28-29).

In the NTA, a gap between consumption and labour income at a certain age is defined as the lifecycle deficit (Lee & Ogawa, 2011, p. 109). Analogously, a lifecycle deficit of unpaid work also gives a measure of asymmetry between consumption and production of unpaid work at each age. The lifecycle deficit is generally positive in childhood and at old ages when consumption is greater than production of unpaid work (Zagheni & Zannella, 2013, p. 940). Lifecycle surplus, i.e. a negative lifecycle deficit, is typical for people in working-ages, when production of unpaid work exceeds consumption (Gál et al., 2015, p. 99).

The question remains how the lifecycle deficit of unpaid work is sustained. Whenever a person consumes more unpaid work than he produces, a period of dependency occurs. The gap between consumption and production emerges since not all of consumption needs can be fully

covered by a person's own production. Thus, individuals who generate a lifecycle deficit partially rely on transfers of unpaid work, which they receive from those who generate a lifecycle surplus. The latter produce more unpaid work than they actually consume, so they can transfer a part of extra production to others (Zannella, 2015, p. 37).

By estimating the values of production and consumption for people of a specific age, the measures of necessary net transfers or familial reallocations are obtained. The value of net transfers is positive for individuals generating the lifecycle deficit and negative for individuals with the lifecycle surplus (Hammer et al., 2013; Vargha et al., 2015). This framework now enables a thorough study of patterns of production and consumption as well as transfers in the form of unpaid work across the lifecycle.

3 CHARACTERISTICS OF THE SELECTED COUNTRIES

3.1 Welfare and gender regimes

Although the analysis of trends in unpaid work reveals a slow cross-national convergence of time-use patterns over the past few decades, there are still notable differences in patterns of unpaid work across countries. The differences arise mainly due to different cultural and institutional settings of countries (Gershuny & Sullivan, 2003; Saraceno & Keck, 2008).

For the purposes of my analysis, I selected three countries: Italy, the Netherlands and the UK. Part of the reason lies in the methodological limitations, described in detail in Chapter 4. The motive for this choice also stems from the fact that these countries represent different social and economic contexts. They have historically differed in their approach toward social and gender norms and attitudes, as well as in diverse public policies related to paid and unpaid work. Thus, in this chapter, I focus on the institutional environment and population age structure of each country, the two factors of time allocation that greatly affect the patterns of time-use.

The most widely used approach to describe the welfare systems of countries is to use Esping Andersen's (1990) typology of welfare state regimes. He distinguishes among three commonly recognized policy regimes: conservative, liberal and social democratic.

In the conservative countries, redistribution of income is very moderate, thus preserving status differences among people. A traditional view of gender roles is common. By supporting the 'male breadwinner' model, participation of women in the labour market is generally low, especially in the Southern European countries. On the other hand, liberal and social democratic countries are more likely to develop a less traditional gender ideology. They are characterized by their support for self-reliance, promoting engagement of men as well as women in the labour market (Nordenmark, 2004, pp. 234-235).

In the liberal countries, for example in the UK, level of government expenditures is relatively low. Welfare provision relies heavily on private channels (private insurance schemes), while the state benefits are directed to those most in need. This provides work incentives but results in high level of inequality (Kan et al., 2011, p. 241). On the other hand, social democratic regimes offer high levels of state services and benefits to the majority of people. The state supports individual independence and social equality, especially gender equality in paid employment. Nordic countries, as well as the Netherlands, are considered examples of this welfare regime (Gershuny & Sullivan, 2003, pp. 208, 212).

Later on the fourth regime was added to complement the then-existing welfare typology (Mandič, 2008, p. 8). The southern or Mediterranean welfare state highly resembles the conservative cluster, only social rights are weaker. A strong emphasis is placed on the traditional gender ideology and division of labour. The provision of care services depends deeply on informal family networks. Women are primarily seen as providers of unpaid rather than paid work (Kan et al., 2011, p. 242). Problems of mass unemployment and rapid population ageing are common in Mediterranean countries. Italy is a typical representative of this cluster (Karamessini, 2007, pp. 2-4).

However, Esping-Andersen's classification has several shortcomings. By concentrating on public policies and provision of welfare, it neglects an essential aspect of gender and family relations and their role in providing welfare. Furthermore, it is quite demanding to follow a 'one-country-one-typology' approach since all of the countries can be – at least to some extent – described by the characteristics of several different typologies (Haas, 2005; Mandič, 2008). Esping-Andersen's regimes represent the 'ideal-type' descriptions of countries and should therefore be considered only as a broad framework for studying the differences among countries (Gershuny & Sullivan, 2003, p. 213).

These criticisms have led to the development of alternative systems of welfare called gender regimes (Gershuny & Sullivan, 2003, p. 224). These systems capture the gendered perspective of division of labour by describing the intertwining cultural, political and economic circumstances that regulate the lives and relations between men and women (Fábián, 2011, p. 2). However, gender regimes are only theoretical concepts that need to be further verified. The complex interrelations among individual characteristics, gender roles and public policies call for more thorough analyses in the future (Haas, 2005, p. 498).

Among numerous gender regimes, two stand out as especially important when considering the three selected countries. The first one is the already mentioned 'male breadwinner' household model, while the second one is the 'modified breadwinner' model. As described by Haas (2005, pp. 495-496), the role of men as the full-time workers remains unchanged in the 'modified breadwinner' model. Although the view on gender roles is still rather traditional, women are increasingly expected to participate in paid work. In order to successfully manage their working life and family responsibilities, most women opt for part-time work. The success

of this regime depends on government policies, aimed at balancing work and family obligations, as well as on regulation regarding atypical employment arrangements.

After describing the main features of welfare and gender regimes, it is now possible to provide a brief overlook of each of the three countries, especially in relation to their work and family policies, as well as gender ideology.

3.2 A review of countries' cultural and institutional background

The strong role of religion, family-oriented values and weak public support are typical characteristics of Italy (Anxo et al., 2007, pp. 3-4). Traditional gender ideology implies strong gender specialization and division of labour. The 'male breadwinner' family type is dominant and widely-spread (Zannella, 2015, p. 40). As a result, female employment rates are one of the lowest in the EU (Francavilla et al., 2011, p. 6). Exit from the labour market is common for young mothers, who face the lack of adequate government support. The provision of care for children and elderly relies heavily on family solidarity and is mainly delegated to the women. Supply of public childcare services (in the form of high-quality care institutions) is limited and is not responding adequately to demand, while private care institutions are relatively expensive. On the other hand, maternity leaves are quite long, providing disincentives for women to enter the labour market (Anxo et al., 2007, pp. 3-4). A similar situation can be observed in the sector of long-term care, where families are primarily responsible for elderly by law and tradition (Bettio & Verashchagina, 2012, p. 95).

In the 1990s, the Netherlands experienced a transition from the traditional 'male breadwinner' nation to the part-time society. This involved a range of work, family and taxation policies, with a strong emphasis on the individual and gender equality. Nowadays, active participation of men and women in the labour market is promoted, although women are far more likely to work part-time than men. The historical attachment to the 'male breadwinner' model, when care was mainly carried out privately within families, is still felt in women's preferences to personally care for their children. Part-time work is therefore the most common solution for working mothers (Pascall & Lewis, 2004; Plantenga, Schippers, & Siegers, 1999). Although informal care plays an important role, people expect the state to provide substantial support (Haas, 2005, p. 489). In recent times, the availability and affordability of childcare services has increased rather substantially (Plantenga & Remery, 2009, p. 23). Rather poor child benefits and comparatively short parental leaves are compensated by a very developed system of formal childcare services (Saraceno & Keck, 2008, p. 40). Particularly exceptional is the fact that the costs for childcare are very often co-financed by employers. Despite the increased provision of formal services, those are still in short supply (Plantenga & Remery, 2009, pp. 41, 48, 58). Unlike in childcare, the state is expected to offer higher levels of support for the elderly, although informal care is still important (Bettio & Verashchagina, 2012, pp. 8, 88).

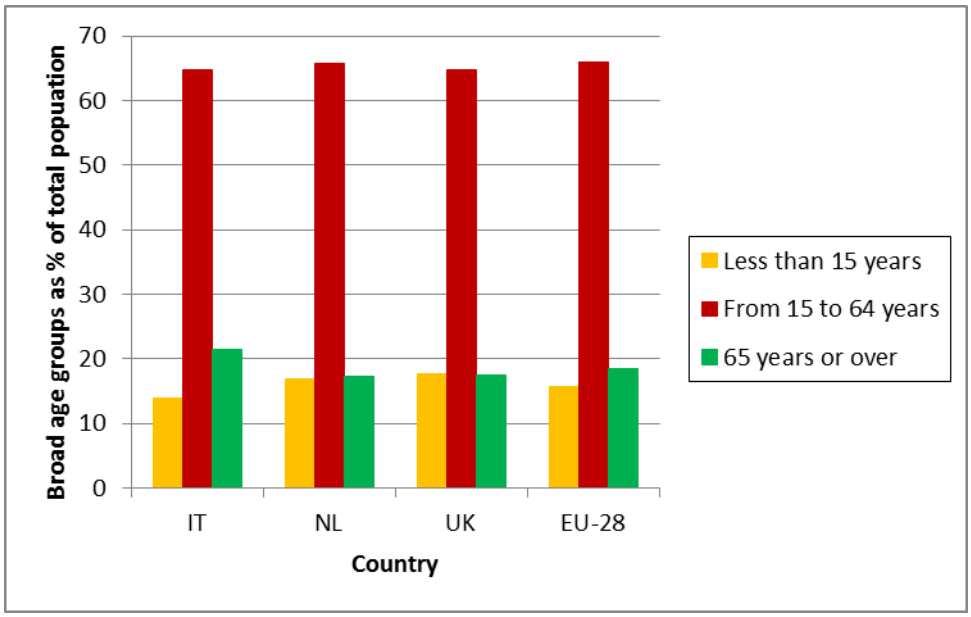
As in the case of the Netherlands, a 'modified breadwinner' family type best describes the modern society in the UK, while the traditional 'breadwinner' model has prevailed throughout

the history (Lewis, Knijn, et al., 2008, p. 264). With the election of the new government in the late 1990s, the UK has finally recognized and accepted the role of the state in reconciling employment and family obligations, an area that was historically in the domain of families (Crompton & Lyonette, 2006, p. 382). A newly developed policy package promoted mother's employment and self-reliance by providing childcare services, better paid parental leaves and flexible working arrangements (Lewis, Knijn, et al., 2008, pp. 270-272). Despite the development of public childcare services, they are in limited supply, while private services are considered expensive and are used by better-off families (Pascall & Lewis, 2004; Plantenga & Remery, 2009). In general, state support for working mothers is still weak, although the women's employment levels are among the highest in Europe (Crompton & Lyonette, 2006, pp. 380-382). Since informal childcare is considered to be provided by mothers, part-time employment is the most common approach for them to combine paid and unpaid work, while men usually work atypically long hours (Lewis, Campbell, et al., 2008, p. 33). Regarding the elderly care, the UK bears resemblance to the Netherlands since the long-term care is considered to be the responsibility of the state (Bettio & Verashchagina, 2012, p. 88).

3.3 Population age structure

As for demographic factors, Figure 3 reveals severe ageing in Italy. The share of people above 65 years is very high in Italy, almost 3 percentage points above the average of the EU-28 (21.4% compared to 18.5%). This is worsened even further by the fact that the share of people under the age of 15 is 13.9%, compared to the EU-28 average of 15.6%.

Figure 3. Population age structure for the selected EU countries, 1.1.2014



Source: Eurostat, *Population on 1 January by age and gender*, 2015e.

A much more optimistic situation is found in the Netherlands and the UK. The share of young people is above, and the share of old people is below the average of the EU-28.

I expect that the described variations in the institutional framework and population age structure will greatly affect the results of the cross-country analysis with regard to the patterns of unpaid work and total workload and the magnitude of differences among countries. For instance, the culture of long working hours in the UK suggests high production of paid work, at least for men in the UK, compared to Italy and the Netherlands; a very traditional gender ideology in Italy implies large amounts of time that women spend on unpaid work etc.

4 DATA AND METHODOLOGY

4.1 Data

I used the MTUS data to create the age- and gender-specific profiles of production, consumption and net transfers of unpaid work. To recall, the age profiles show how much (on average) people produce, consume or transfer in the form of unpaid work at a specific age and gender.

Currently, the MTUS database includes a large collection of more than 60 nationally representative time-use surveys from more than 20 industrialized countries (mainly European). The surveys are conducted by using time-use diaries which offer detailed information on how individuals allocate their time among various activities (Gimenez-Nadal & Sevilla, 2012, p. 1340). Diaries also provide information on socio-economic characteristics of the individuals, as well as of households (e.g. age, gender, employment status, number of children, household size etc.).

Micro data were first gathered in the 1960s and over the decades and across countries, there have been substantial variations in the methods of collection (Gershuny & Sullivan, 2003, p. 213). However, the time-use surveys had later been harmonized in order to allow the cross-national and over-time comparisons of time-use patterns (Fisher & Gershuny, 2015, p. 3).

Geographically, I focus on Europe. I present the estimated profiles of production of unpaid work and total workload for the 1980–2002 period for Italy, 1980–2005 period for the Netherlands and 197 –2005 time period for the UK. More specifically, I analysed diary data for Italy for years 1980/1989/2002 with the corresponding sample size of 2,116/38,069/50,968 diaries; for the Netherlands for years 1980/1985/1990/1995/2000/2005 with the corresponding sample size of 18,976/22,714/23,626/22,484/12,532/15,257 diaries; and for the UK for years 1974/1983/2000/2005 with the corresponding sample size of 20,076/9,366/19,911/4,834 diaries. For the Netherlands and the UK, MTUS dataset contains additional time-use survey samples, but I decided not to use them in the analysis due to poor data quality and small sample sizes.

In my research, I want to obtain the complete picture of intergenerational transfers of unpaid work, which also includes profiles for consumption and net transfers, therefore I present the profiles for consumption and net transfers for each of the three countries only for the latest available year. The reason for this lies in numerous limitations of data, which often make the estimation of consumption profiles impossible for more than one year. Two main problems occur: first, several time-use survey samples do not contain information on the household structure (i.e. which individuals live in the same household). Secondly, some surveys include only one person per household. In both cases, I could not calculate the total household production and allocate it among the household members. For this reason, I could not estimate the profiles for consumption and net transfers. I was faced with this problem in the case of the UK, where data from year 2005 is available. However, these data do not include information on the household structure, so I solved this problem by using data from year 2000.

I focus on the following time-use categories: paid work, unpaid work, total workload and leisure. In the MTUS collection these four groups consist of the following activities:

- Paid work: time devoted to all employment activities (commuting is included).
- Unpaid work: cooking, cleaning and other activities (laundry etc.), home/vehicle maintenance, shopping and errands, gardening, petcare, care for children and the elderly, voluntary work, travel related to household activities, other unpaid activities.
- Total workload: paid and unpaid work combined.
- Leisure: sport/exercise, watching TV, listening to the radio, socializing, religion activities, reading, playing computer games, other leisure activities.

Additionally, I refer to education activities (schooling, doing homeworks etc.) and activities of personal care (sleeping, eating, drinking, self-care and others). If the activities did not add up to 1440 minutes per day (for instance, due to unspecified time-use), I used the adjustment factor to obtain higher accuracy of data. In particular, I multiplied the time for each activity with the ratio between 1440 and the number of minutes reported by the respondent.

4.2 Methodology

I followed the methodological approach of the NTTA analysis, described by Donehower (2014). The MTUS dataset is harmonized and includes identical variables for all of the countries, so the first step was to identify the activities of unpaid work, namely the ones that satisfy the ‘third-person’ criterion. Then I estimated the time dedicated to production of unpaid work directly from the micro data. The dataset contains information about the time-use of each individual as well as data about age and gender. I could therefore obtain the average production of unpaid work for each gender and age group. I followed the standard NTTA methodology and assumed that production of children below 10 years of age equals 0.

The age of individuals included in the surveys usually ranges from 10 to 80 years, although there is considerable variation across countries. It should be noted that in the MTUS database, the age '80' does not relate only to those who are 80 years old, but also to people who are older than that. However, in order to guarantee sufficiently large samples for each age, individuals who are at least 80 years old are all a part of one age group.

On the other hand, there is no direct information in the dataset about how the produced unpaid work is consumed. Therefore, estimation of consumption profiles rested on several underlying assumptions. I split the production of unpaid work into two parts: childcare and 'other unpaid work'. I assumed that the household production of the latter is allocated equally among all the household members. This means that each member consumes the same amount of 'other unpaid work' produced in the household. In contrast, only children enjoy the benefits of the produced childcare, so I allocated the overall household production of childcare only among individuals who are less than 18 years old. Furthermore, a child cannot be a consumer of childcare, produced by himself.

These main assumptions were supported by other general assumptions: firstly, no savings of unpaid work are possible, whatever is produced is also consumed. The total household production equals the total household consumption. Secondly, I assumed that consumption varies only with age (and not with gender).

The problem arose because I could not estimate the average consumption by age for individuals who are less than 10 years old. In general, not all members of each specific household are included in the surveys, especially those below the age of 10 (or 3 in the case of Italy and 8 in the case of the UK). Since the surveys provide no information about those individuals, I could not allocate the part of overall household production to them to estimate their consumption. To overcome this problem, I imputed data about average consumption for these specific ages from research by Zannella (2015). The shape of the consumption profiles for children under the age of 10 (or 3 in Italy and 8 in the UK) is therefore identical for each country, however, the levels of consumption are different.

The only exception is the Netherlands, where I could not estimate the consumption of the household members by relying only on the MTUS database. There is no information about the household structure for the Netherlands, so I could not calculate the overall household production and allocate it among household members to estimate their consumption. However, it was possible to create the consumption profile combining the MTUS data with 'EU Statistics on Income and Living Conditions' dataset (hereinafter: EU-SILC), for which I do not have permission to access. I therefore wrote the Stata code for the Netherlands, but it was technically executed by Jože Sambt who has an access to EU-SILC data within the AGENTA[1]

[1] A project that comprehensively analyses the impact of ageing societies on intergenerational transfers in Europe. Full official name 'Ageing Europe: An Application of National Transfer Accounts (NTA) for explaining and projecting trends in public finances', within the 7th Framework Programme. More information on AGENTA project can be found at: http://www.agenta-project.eu/en/index.htm

project and the obtained results were submitted back to me. I collaborate with Slovenian AGENTA team in doing research on intergenerational (time) transfers.

I obtained the age- and gender-specific consumption profiles for the Netherlands in the following way: I started by estimating the production profile, applying the same methodological approach as used for Italy and the UK. To estimate the consumption profile, I needed to calculate total household production and allocate it among household members. The MTUS database does not provide information on household structure, therefore the data about household members (age, gender, weight, household identifier) and household structure were drawn from the EU-SILC database. However, EU-SILC survey does not contain information about time use. To overcome this problem, I imputed data on the average production of unpaid work by age and gender, calculated from the MTUS dataset. In this way, I obtained the consumption profile. EU-SILC survey provides information for all household members (including children from age 0 onwards), therefore I did not need to impute data for average consumption for the youngest individuals from research by Zannella (2015). Apart from that, the profiles for consumption and net transfers were estimated in the same way as for Italy and the UK.

Finally, I smoothed the age profiles and adjusted the consumption profiles in order to guarantee that aggregate production (obtained by multiplying the age profile of production with the actual age distribution of population) equalled the aggregate consumption (obtained by multiplying the age profile of consumption with the actual age distribution of population).

The last step was to estimate the net transfers by age and gender. As already mentioned, the net transfers were calculated as the difference between consumption and production for each gender and age. Positive net transfers denote a lifecycle deficit, while negative net transfers imply a lifecycle surplus. Thus, by estimating the net transfers, I also obtained the measure of length and magnitude of the lifecycle deficit or surplus of unpaid work.

4.3 Methodological limitations

Firstly, one of the main reasons for my choice of countries is limited data availability. For each country included in the analysis, I needed to estimate the age- and gender- specific profiles for production, consumption and net transfers. Relying on the MTUS data, I could create these profiles for the latest available year for the following European countries: Austria, Germany, Italy, the Netherlands, Slovenia, Spain and the UK. Since the first hypothesis is related to the production of total workload over time, several production profiles must be included into the analysis to test the first hypothesis. I could create more than one production profile of total workload only for Italy, the Netherlands and the UK, so the results for only these three countries are presented in my master's thesis. They are the only three European countries with relatively long time-series of time-use surveys. For all of the other countries, the MTUS dataset either does not offer time-use data for more than one year or these data are severely limited. For instance, there were five time-use surveys conducted in Spain, however, three of them

apply only to the Basque region and not to the whole country. However, I present the age-specific profiles of production, consumption and net transfers of unpaid work for the latest available year for Austria, Germany, Slovenia and Spain in Appendix C.

Secondly, the second hypothesis relies on the comparison of net transfers across countries. In line with data availability, I created the age profiles for Italy/the Netherlands/the UK for years 2002/2005/2000. Although the age profiles are not estimated for the same year, I assumed that this does not greatly affect the cross-country comparability, since the examined time periods lie within a short 5-year range. Thirdly, the latest available MTUS data for the three chosen countries date back to the first years of the 21st century, so the changes in patterns of unpaid work could not be estimated for the last decade.

It should also be noted that using the MTUS dataset, it is not possible to distinguish between intra-household (within households) and inter-household (among households) transfers of unpaid work (Fisher & Gershuny, 2015, p. 46). Although I am interested only in the former, both types of transfers were included into the analysis. Implicitly, I assumed that age patterns of transfers for inter-household transfers are the same as for intra-household transfers.

The disadvantage of the MTUS data is also the lack of data on all the household members. For some households, not all members are included in the survey. Consequently, the estimates of consumption for individuals of a specific age are not completely accurate. I corrected this by adjusting the consumption profiles so that aggregate consumption matched aggregate production. I also assumed that the sample selection is random and therefore representative at the national level.

5 RESULTS

5.1 Production of unpaid work

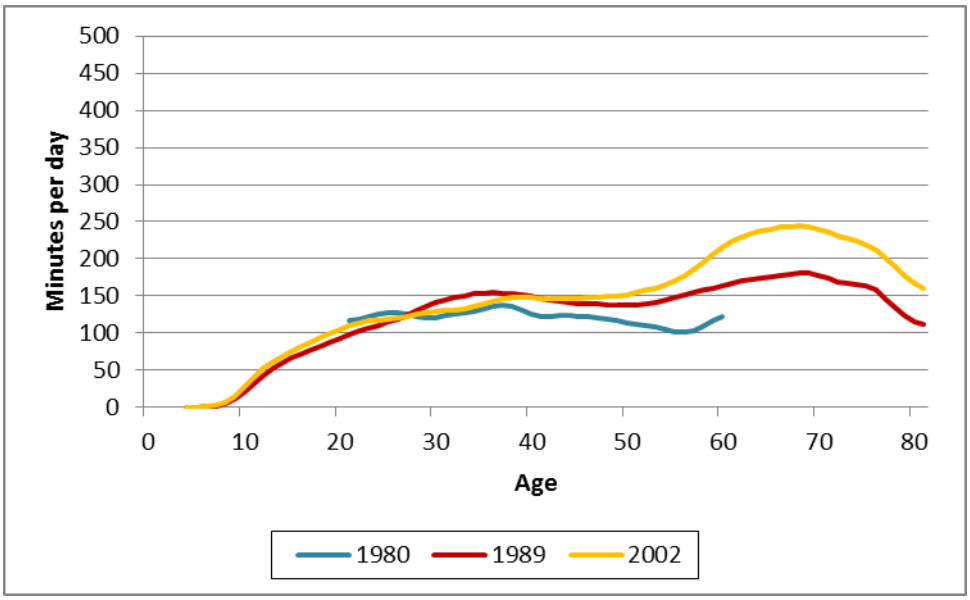
In order to understand the patterns of production of unpaid work over the last few decades, I first analyse each country individually and then compare the differences and similarities in the development of patterns across countries. I verify whether the main trends in production of unpaid work, apparent in the industrialized countries in the last decades, can also be found in Italy, the Netherlands and the UK. Additionally, I focus on evolution of total workload over time. For an easier interpretation of the obtained results, I divide total population in 10-year age groups.

5.1.1 Unpaid work in Italy, the Netherlands and the UK

Figure 4 shows the estimated age-specific production profiles of unpaid work for men in Italy. Although there are three different time periods included in the analysis, the year 1980 is problematic due to a small sample size of only 2116 diaries. Since this sample is smaller than

in other years, it should be borne in mind that the random factor and outliers have a greater impact on the results for this specific time period. Another disadvantage of the age profile for year 1980 is the shorter age range of people who participated in the survey (population from 20 to 59 years, compared to the age range from 3 to 80 years in the surveys that were conducted in 1989 and 2002). I keep the y-axis in Figure 4 the same as in Figure 5 to make the gender comparison easier for the reader.

Figure 4. Evolution of produced unpaid work for men, Italy, 1980-2002



Source: Centre for Time Use Research, *Multinational Time Use Study for Italy for years 1980, 1989 and 2002: On-demand micro data*, 2015.

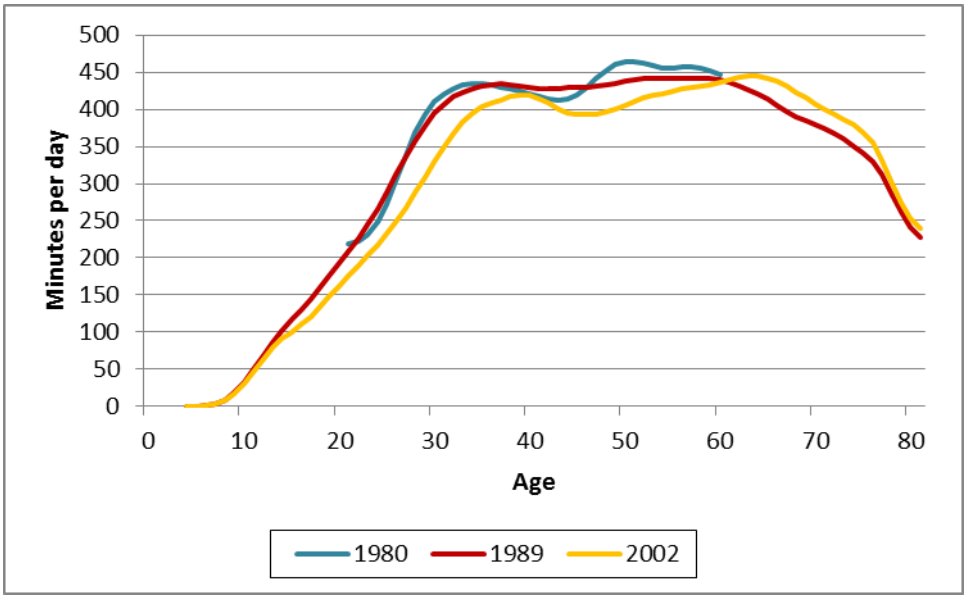
Before examining the changes in time devoted to unpaid work, I briefly explain the shape of the age profile for men. The production profile is relatively flat over the life course. The production of unpaid work increases with age and has one pronounced peak which appears after retirement. Another peak may arise at ages which are associated with the entry into parenthood. In the case of Italy, the first peak is noticeable only in year 1989, while it is not so apparent in years 1980 and 2002.

In the retirement years, male production of unpaid work is generally the highest over the entire lifecycle. For example, men's average production in Italy in year 2002 reached its overall maximum at around 70 years of age (more than 4 hours per day), compared to the years of entry into parenthood when men dedicated about 100 minutes less to production of unpaid work. This shows that elderly men stay very active in production of unpaid work even after retirement. This is possible due to the additional time they have after exiting the labour market (Zannella, 2015, p. 39). It is also interesting to note that on average, elderly men devote more time to unpaid work compared to men in their 30s, even if the latter are fathers of young children. This can be explained by long-established division of labour in Italy, where men are viewed as providers and women as carers in the family.

Figure 4 reveals that the trend in men's production of unpaid work is upwards over the observed period. The increase in production of unpaid work was the most notable for men above 50 years of age, since their average production rose for more than 1 hour per day from 1980 to 2002. The change in produced unpaid work was smaller in the 40-49 age group and negligible for younger men.

Figure 5 presents production of unpaid work for Italian women. It shows that it is not only the amount of time dedicated to unpaid work that differs between men and women, but also the shape of the production age profile. The bimodal shape of the age profile is much more distinctive for women. Production of unpaid work reaches its first peak in the childbearing ages. After the first peak, it usually stabilizes or slightly declines before it reaches the second peak in the period of retirement. For Italy, the second peak is higher, however, this does not hold for the Netherlands and the UK, as shown later.

Figure 5. Evolution of produced unpaid work for women, Italy, 1980-2002



Source: Centre for Time Use Research, *Multinational Time Use Study for Italy for years 1980, 1989 and 2002: On-demand micro data*, 2015.

The main difference in the shape of the age profile between males and females is a far more pronounced first peak for women. This is primarily a consequence of the longer time that women dedicate to childcare compared to their male partners. Apps and Rees (2005, p. 450) discover that the age profiles of men and women are very similar if childcare is excluded from unpaid work. Another pattern attracts attention: even in their teenage years, females produce more unpaid work than men. Differences in time allocation among various activities cannot explain females' higher production in teenage years, since both males and females at these ages do not participate in paid work and spend comparable amounts of time in compulsory education. Thus, traditional gender ideology and division of labour can be seen already at the young ages.

The analysis of the change in the patterns of production over time for Italian women reveals two main trends. First, a fall in women's production from 1980 to 2002 is evident for those below the age of 60, mainly due to increased female labour force participation (Employment rates by gender and nationality, 2015). The fall in production was the largest for female population between 20 to 29 years, where the average production decreased for almost an hour per day. On the other hand, the engagement in production of unpaid work from 1989 to 2002 increased for women above 60 years old, although the change was smaller (around 20 minutes per day). This could be explained by a fall in paid working time for Italian women above 60 years of age (from 1989 to 2002 according to the MTUS data), although the labour force participation of women between 55 and 64 years of age slightly increased from 1993 onwards (Employment rates by gender and nationality, 2015).

The second trend is a consequence of the changes in the timing of crucial life events. Lately, the decisions of men and women to delay parenthood to later ages have become a widespread phenomenon in a range of industrialised countries. Changing social attitudes and eagerness to finish education and seize career opportunities are just some of the factors that contributed to this change (Sobotka, 2010, p. 129). Since production of unpaid work increases remarkably with the birth of children, the trend of delaying parenthood is clearly visible in the age profiles of production. The shift of the first peak to the right is an indicator that postponing the birth of children to later ages is common in Italy. In the observed time period, the average age of Italian women at childbirth increased for around 3 years (Mean age of women at childbirth by nationality, 2015).

Italian women also experienced a shift of the second peak to the older ages. This could be explained by higher employment rates of older women (Employment rates by gender and nationality, 2015). Furthermore, retirement age of women in Italy had been increasing in the last decades (OECD, 2011, p. 26), which is reflected in the shift of the second peak to the right. This trend was not apparent for men.

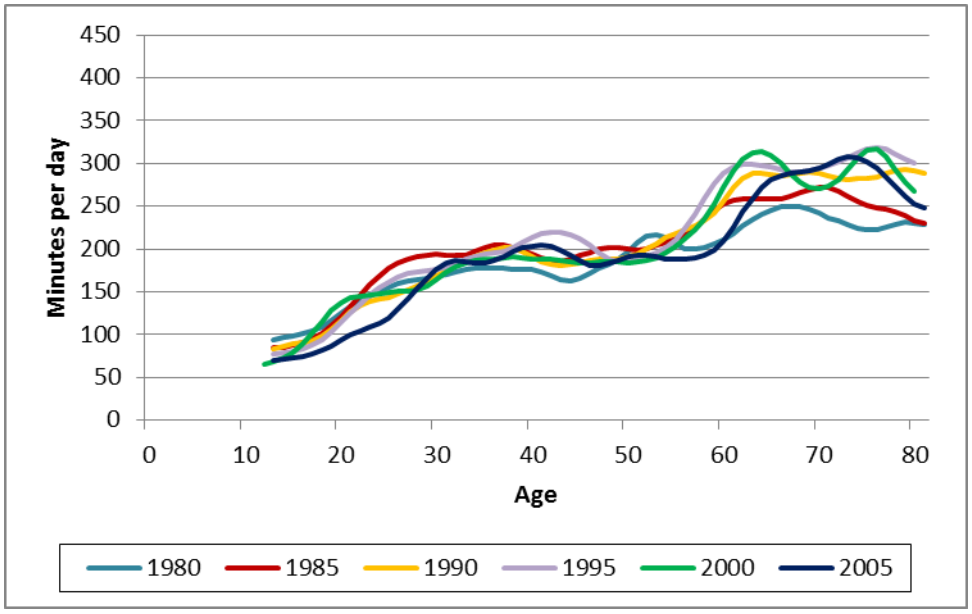
When comparing men and women, it is evident that despite the recent trends, women still do substantially more unpaid work than men. This result confirms the existence of a strong gender ideology in Italy, where women are mainly responsible for unpaid work, while men primarily engage in paid work. Additionally, low public childcare support increases the differences among genders. Upon the arrival of children, men continue to participate in paid work, while this is not true for women. Withdrawal of women from the labour market is usually temporary if work-family policies are well-established. On the other hand, if the public childcare services are weak as in Italy, women may exit the labour market permanently to provide for their children. Indeed, employment rates of Italian women do not start increasing when their children grow older (Anxo et al., 2007, p. 21).

In 1980, gender differences were remarkably high. The gender gap was most prominent for population between 30 and 59 years, where women were, on average, involved in production of unpaid work from around 5 to 6 hours per day more than their male counterparts. There

were signs of slow gender convergence in unpaid work over time. From years 1980 to 2002, gender differences dropped on average for all age groups (from 20 to 50 years of age) between 0.5 hour and 1.5 hours per day. However, gender gap in 2002 remained very high at all ages, but in particular for population from 30 to 59 years, where the gender gap in production of unpaid work was still above 4 hours per day.

Figures 6 and 7 represent the average time dedicated to production of unpaid work for men and women in the Netherlands. In general, the age profiles in Figure 6 display a gradual increase in men's production of unpaid work, in particular from 1980 to 1995, while at the turn of the century, this trend seemed to level-off. In the first years of the 21st century the production was even lower. The final result was mixed. Men above 30 years of age increased their production of unpaid work (except in the 50-59 age group), while younger men experienced a fall in unpaid working time from the initial level in 1980. Except in the oldest age group, the changes in unpaid working time from 1980 to 2005 did not surpass 0.5 hour per day. Only a small increase (or even decline) in production of unpaid work can be explained by growing employment rates of Dutch men in the observed time period (Employment rates by gender and nationality, 2015).

Figure 6. Evolution of produced unpaid work for men, the Netherlands, 1980-2005

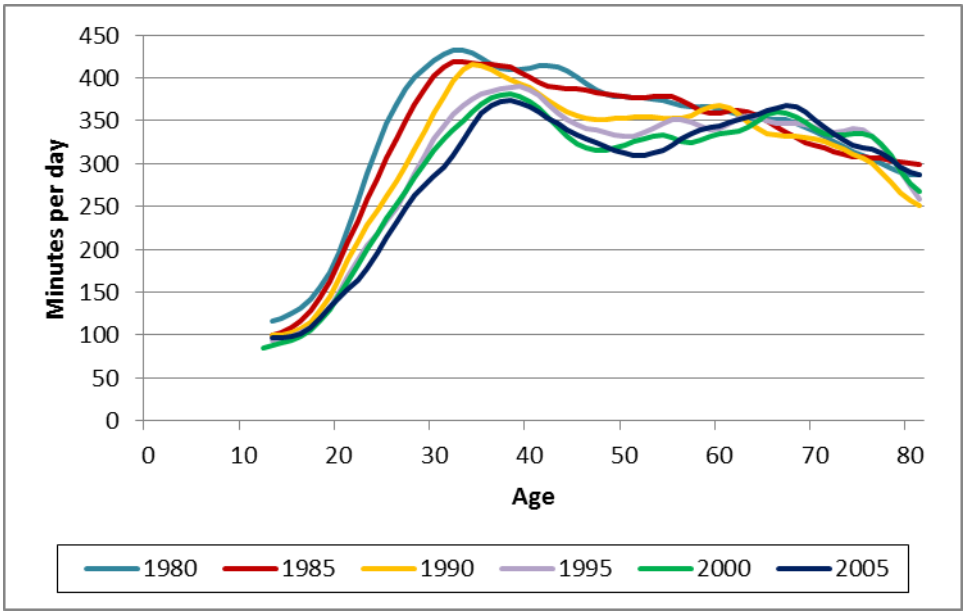


Source: Centre for Time Use Research, *Multinational Time Use Study for the Netherlands for years 1980, 1985, 1990, 1995, 2000 and 2005: On-demand micro data*, 2015.

In contrast to Italy, in the Netherlands the first peak is more apparent. During the analysed time period, it moved to older ages. In 1980, men's production reached its first maximum in the mid-30s, while in 2005, the maximum occurred in the early 40s as a consequence of delayed parenthood. Similarly, the second peak also moved to the right for around 5 years, which could be explained by increasing average exit age from labour market. From 2001 onwards, an

increase in average exit age is noticeable for Dutch men (Average exit age from the labour force by nationality, 2015). Unfortunately, older data do not exist.

Figure 7. Evolution of produced unpaid work for women, the Netherlands, 1980-2005



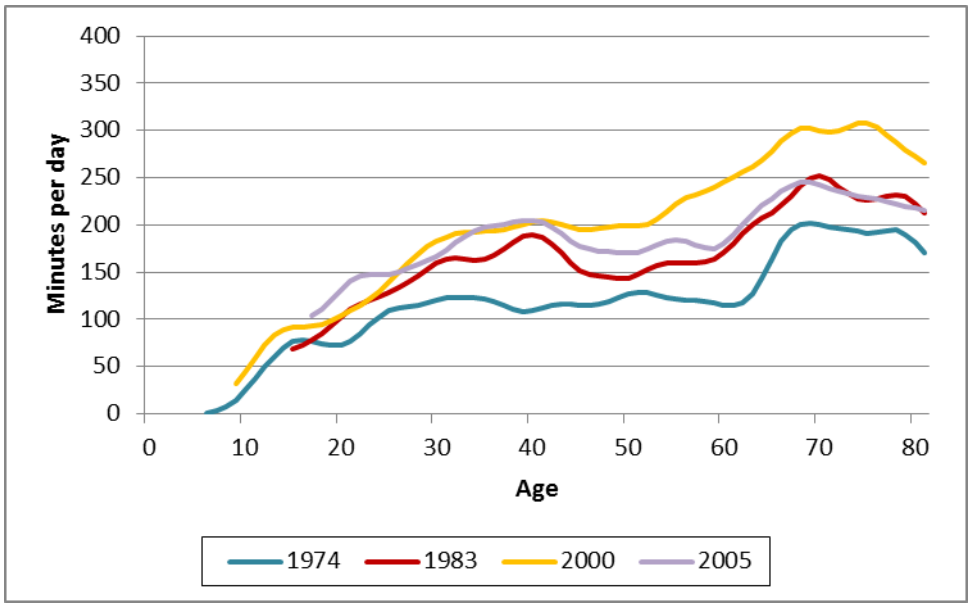
Source: Centre for Time Use Research, *Multinational Time Use Study for the Netherlands for years 1980, 1985, 1990, 1995, 2000 and 2005: On-demand micro data*, 2015.

In contrast to men, the examination of patterns in women's production reveals a straightforward declining trend for all age groups, with the exception of female population aged 60 to 69. A drop in time dedicated to unpaid work was the highest for women between 20 and 29 years of age, where the average production fell for more than 2 hours per day. Women decreased their unpaid working time to compensate for their higher labour force participation in the last decades (Employment rates by gender and nationality, 2015). The effect of delayed parenthood is again reflected in the shift of the first peak to the older ages. Indeed, the mean age of women at childbirth in the Netherlands increased for almost 3 years in the observed time period (Mean age of women at childbirth by nationality, 2015). In 1980 average production of women in childbearing ages reached its maximum of more than 7 hours per day in their early 30s, while in 2005, the first peak occurred around 5 years later. Average production fell for around 1 hour per day.

As in Italy, the evolution of gender differences in the production of unpaid work in the Netherlands showed signs of convergence. The gender gap was most notable for the working-age population, but it started to decline after 1980. In 1980, women aged 20 to 59 used to dedicate on average from around 2.5 to 4 hours per day more to the production of unpaid work than males. In 2005, the difference declined to around 2.5 hours per day or less. In other age groups, the gap in 2005 was even lower than 1.5 hours per day.

Figures 8 and 9 offer an insight into the evolution of male and female patterns in the UK. In the last decades of the 20th century, men continuously intensified their participation in production of unpaid work. The growth stopped only at the beginning of the 21st century (in fact, it even became negative for men above 40 years old). However, men's production in 2005 for all ages was still much higher compared to the initial level. The change was the most notable for men in the age range of 30 to 70 (around 1 hour per day).

Figure 8. Evolution of produced unpaid work for men, the UK, 1974-2005



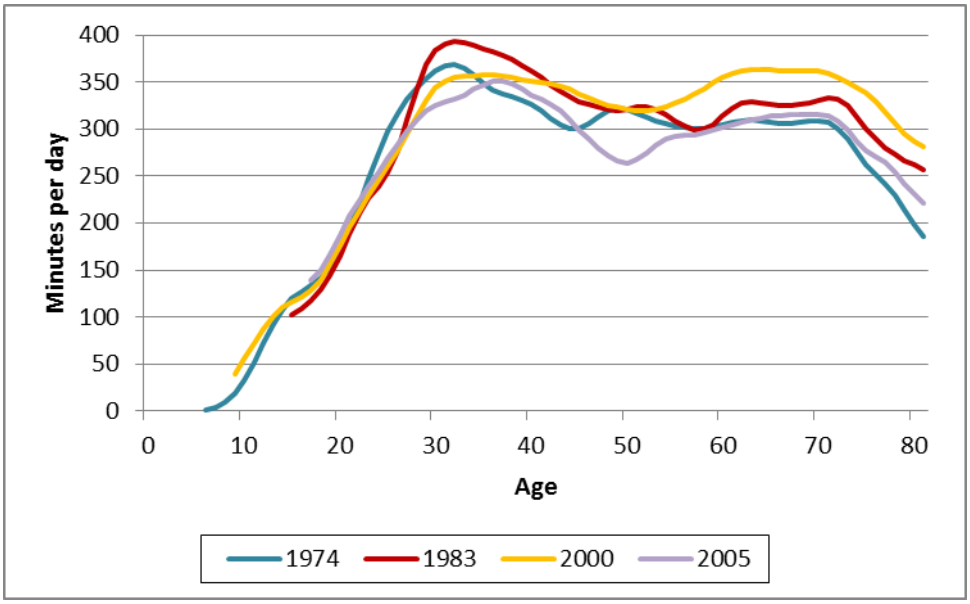
Source: Centre for Time Use Research, *Multinational Time Use Study for the UK for years 1974, 1983, 2000 and 2005: On-demand micro data*, 2015.

The trend was somewhat less apparent for women. From 1974 to 1983, production of women rose, which continued until the last years of the 20th century. The only exception were women from 20 to 39 years of age, since their participation in production of unpaid work started falling already after 1983. At the turn of the century, the female participation in production of unpaid work finally fell for all the age groups. Yet, production of unpaid work in 2005 did not substantially differ from the initial levels in 1974. For the working-age female population in the age range of 20 to 60, the average production did not fall for more than 20 minutes per day. For all the other age groups production even increased, although by only a small margin. These data show that although British women intensified their participation in labour market in the observed time period (Employment rates by gender and nationality, 2015), this did not greatly affect their production of unpaid work.

The examination of male and female patterns also reveals a gradual shift of the first peak in production of unpaid work to later ages. Over the observed time period, this trend is evident both for men and women. In 1974, men's production reached the first maximum at early 30s (around 2 hours per day), while in 2005, the maximum was reached at late 30s and the corresponding production was almost 3.5 hours per day. A shift of the first peak was larger for

men than for women since women experienced a shift of around 5 years (from early to mid-30s). In the analysed time period, the average age of women at childbirth increased for almost 3 years from 1974 to 2005 (Mean age of women at childbirth by nationality, 2015).

Figure 9. Evolution of produced unpaid work for women, the UK, 1974-2005



Source: Centre for Time Use Research, *Multinational Time Use Study for the UK for years 1974, 1983, 2000 and 2005: On-demand micro data*, 2015.

As in Italy and the Netherlands, production of unpaid work is divided unequally between genders, since women, compared to men, produce more unpaid work at all ages. Gender gap is seen in all of the examined time periods. However, these gender differences are becoming smaller over time. The largest gender gap in 1974 was almost 4 hours for the population between 30 and 39 years of age, but it dropped to an average of around 2.5 hours per day in 2005. The changes in gender gap over time were large also for other age groups. In 2005, gender differences remained the highest for the working-age population (of around 2 hours per day) and the lowest for the youngest and oldest population (less than 0.5 hour per day).

5.1.2 Cross-country comparison of the patterns in production of unpaid work

An analysis of patterns in production of unpaid work reveals various changes and trends over time. However, there are important similarities and differences among countries in their patterns regarding unpaid work, which need to be highlighted. A cross-country comparison of Italy, the Netherlands and the UK offers the following conclusions:

- Over the last few decades, men have in general increased their time devoted to unpaid work. In Italy, the trend was upwards all the time, while in the Netherlands and the UK, stagnation in production (and even decline) occurred after the turn of the century. While the growth in men's participation in unpaid work was considerably high only for elderly people

in Italy and the Netherlands, the UK is the only country where production rose for all of the age groups compared to the initial levels. There are also differences in the amounts of production among the three countries. Comparing the levels in the first years of the 21st century, Italian men devoted the least time to production of unpaid work (on average around 150 minutes per day during the first and approximately 250 minutes per day during the second peak). Their produced unpaid work was low due to the very traditional division of labour in Italy. Men in the Netherlands are those who participated in unpaid work the most (approximately 50 minutes per day more during both peaks, compared to the Italian men). The UK was in between, although the British men experienced the highest growth in production of unpaid work in the last decades.

- For women the trend in production of unpaid work was the opposite. Compared to the initial levels, women generally reduced the time spent on unpaid work. The fall in production was the largest for women during the first peak, while there was only a negligible increase in the time spent on unpaid work during the second peak in all of the countries. Dutch women experienced the highest decline in production, since their employment rates increased the most in the last decades (Employment rates by gender and nationality, 2015). A comparison of the most recent amounts of production reveals larger cross-national differences than in the case of men. By far the highest production was found in Italy, followed by the Netherlands and the UK. For instance, Italian women spent on average around 50 minutes per day more on unpaid work during the first peak and almost 100 minutes per day more during the second peak in comparison with the Netherlands. In Italy, higher production of unpaid work in childbearing ages is most likely the consequence of a traditional view on gender roles and weak public support for working mothers. Gender ideology and low public support for the elderly in Italy may also explain much higher production of unpaid work during the second peak. It is also interesting to note that the second peak was typically a little higher than the first peak in Italy, while a reverse situation was observed in the Netherlands and the UK. It seems that Italian women stay very active in producing unpaid work even after retirement, while women in the Netherlands and the UK rather devote more time to leisure activities (see Table 1, 2 and 3 for the average amounts of leisure time).

- There is a visible shift of the first peak in production of unpaid work to older ages for all countries and both genders (except for men in Italy, where the first peak is not so apparent). The shift is a consequence of delayed parenthood and increasing average age at childbirth for all of the three countries in the last decades. An analysis of the age profiles also reveals a shift of the second peak to later years, however only for men in the Netherlands and women in Italy. This is most likely the consequence of an increasing average age when people leave the labour market. Due to limited data availability, I can confirm the existence of this trend only from 2001 onwards and not over all the analysed time period.

- The last trend that is similar for all of the three countries is convergence of gender differences in the time devoted to production of unpaid work. In Italy, the Netherlands and

in the UK, the gender gap lessened over the past few decades, however, the magnitude of these changes varied considerably across countries. A drop in gender gap was the most pronounced in the Netherlands, followed by the UK. Gender gap decreased the least in Italy, since for most of the age groups, the gender differences fell for around or below 1 hour per day. Despite slow gender convergence, women still produced more unpaid work than men in the first years of the 21st century. The difference remained the highest in Italy (around 4 hours per day for the working-age population), while the gap was smaller in the Netherlands and the UK (from 1 to 2.5 hours per day for the working-age population).

5.1.3 Total workload over time and across countries

Individuals allocate their time between two types of work: unpaid and paid work. Summing up the time spent on both types of work gives the amount of total workload that each individual carries out in a day. Increasing time that men spend on unpaid work and intensification of women's paid working time suggest higher burden of total workload, which leads to the first hypothesis. To recall, the first hypothesis states that total workload has been increasing in the last decades (especially on the account of leisure time) and the change has been more significant for women than men. In order to verify the validity of this hypothesis, I extend my research not only to total workload, but also to time spent on other activities: leisure, education and personal care.

The question of total workload and its evolution over time is especially relevant for the working-age people. They engage in both types of work and therefore experience the largest levels and changes in total workload. In contrast, the young and the elderly work much less. Therefore in this section I interpret the results only for individuals between 20 and 59 years of age (although the age profiles are presented for the whole population). In this context, I can research the concepts, such as 'iso-work', 'time-squeeze' and 'dual burden'.

I presented the patterns in production of unpaid work in the previous section. To complement the picture of time spent on total workload, I begin by explaining the patterns in paid work over the lifecycle, presented in Table 1. The age profile for production of paid work is a reversed U-shape. Time spent on paid work is the highest between 30 and 49 years of age, which are the prime working ages. Engagement in paid work is the lowest in youngest and oldest ages, when most of the individuals have not yet entered the labour market or have already left it. In Italy, the gender gap in paid work is extremely wide, since men devote substantially more time to paid work than women, who are engaged primarily in unpaid work. In 2002, the time that prime-aged men devoted to paid work was approximately twice as large compared to women in those ages.

Although the average daily amount of time spent in paid work seems low (especially for Italian women), it should be borne in mind that the surveys were conducted on any day of the week. Thus, these results also include weekends (when paid work is typically very low), holidays, as well as non-employed people, which all affects the average time spent on paid work.

Table 1. Average time (in minutes per day) devoted to paid work, total workload, education, leisure and personal care by gender and age, Italy, for years 1980, 1989 and 2002

	Age group/ Year	20-29		30-39		40-49		50-59	
		Males	Females	Males	Females	Males	Females	Males	Females
Paid work	1980	322	164	406	145	409	162	397	101
	1989	288	153	352	149	359	140	290	77
	2002	295	179	405	184	400	196	287	116
Total workload	1980	442	463	541	576	531	595	505	555
	1989	408	457	504	579	499	570	438	519
	2002	416	426	545	590	546	591	464	541
Education	1980	81	66	16	3	8	2	4	2
	1989	44	44	7	4	3	2	1	1
	2002	52	72	5	5	1	2	1	1
Leisure	1980	315	272	284	244	289	223	300	259
	1989	321	266	276	211	276	220	314	250
	2002	324	276	256	202	261	211	315	244
Personal care	1980	602	639	600	616	613	620	631	624
	1989	668	672	654	646	661	648	686	670
	2002	648	666	634	644	632	635	659	653

Source: Centre for Time Use Research, *Multinational Time Use Study for Italy for years 1980, 1989 and 2002: On-demand micro data*, 2015.

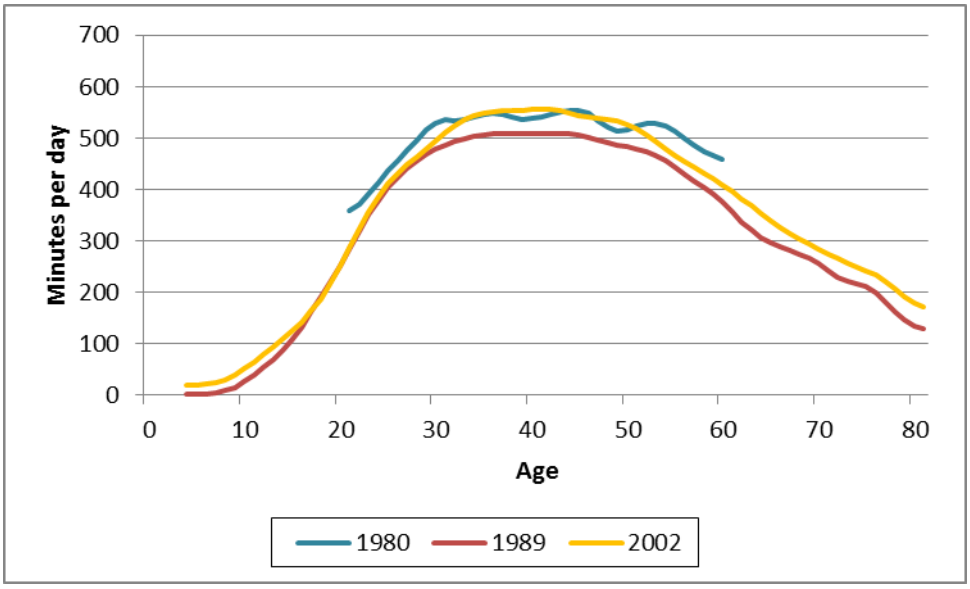
Leisure time is the counterpart of total workload. Over the lifecycle, the highest burden of paid and unpaid work usually corresponds to the lowest amounts of leisure time (Anxo et al., 2007, p. 18). Leisure time over the lifecycle is similar across countries and can be represented as a U-shaped curve. Contrary to patterns in paid work, individuals enjoy the largest amounts of leisure time before and after employment. Prime-aged adults are typically the ones with the least time to spare for leisure activities due to intensified participation in paid work, as well as unpaid work, especially in the form of childcare (Anxo et al., 2007, p. 18). Men on average enjoy more leisure time than women at all stages of their life. Interestingly, the differences in leisure time between Italian men and women are the lowest for prime-age adults (usually less than 1 hour per day) and the biggest for elderly people above 50 years of age (mostly due to a large amount of time that women dedicate to unpaid work).

Besides work and leisure time, there are two more groups of activities to which people allocate their time: education and personal care. Table 1 shows that the time individuals devote to education is the highest for the youngest age groups and very low for others, while time for personal care is rather constant over the lifecycle.

The age profiles of total workload for men in Italy are shown in Figure 10. From 1980 onwards, an increase in total workload was small or slightly negative for men below 49 years of age, which is explained by rather unchanged production of paid and unpaid work. Men in

the oldest age group under consideration experienced the largest change (decline) in total workload due to a substantial fall in paid working time. Employment rates of Italian men between 55 and 64 years of age fell for more than 5 percentage points from 1993 to 2002 (older data are not available) (Employment rates by gender and nationality, 2015). A fall in paid working time was high enough to cause a decrease in total workload, even if unpaid work for the oldest men increased in the analysed time period. Figure 10 also reveals that – mainly due to the changes in paid work – the time devoted to total workload actually dropped from 1980 to 1989 in all the age groups, however, an increase from 1989 to 2002 was large enough to compensate for the previous fall. Hence, the overall change in total workload was very little.

Figure 10. Evolution of total workload for men, Italy, 1980-2002



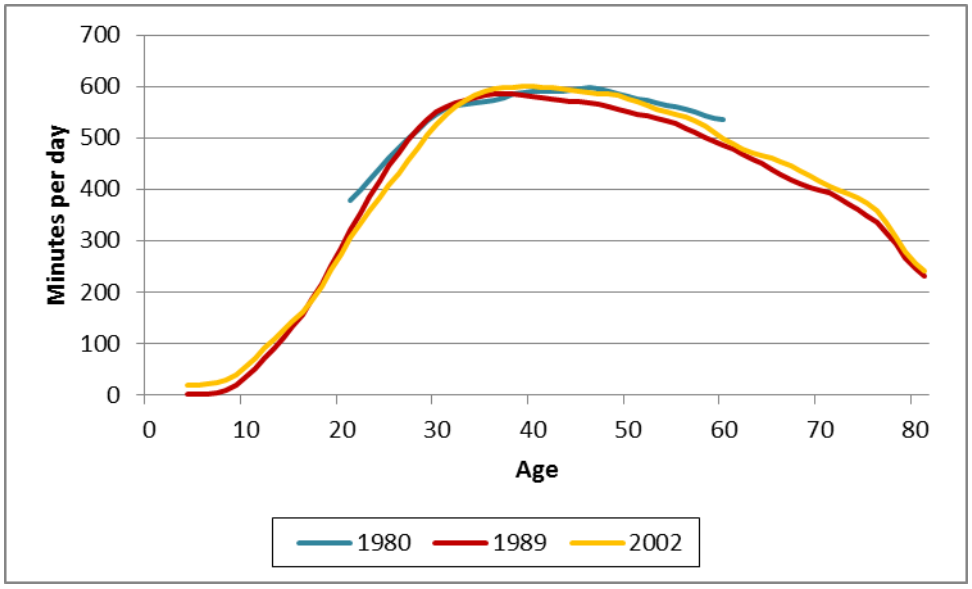
Source: Centre for Time Use Research, *Multinational Time Use Study for Italy for years 1980, 1989 and 2002: On-demand micro data*, 2015.

Figure 11 reveals a similar situation for Italian women. The average time spent on total work did not change much in the observed time period. A fall in unpaid working time was offset by higher amounts of time dedicated to paid work. The overall change was positive only in the 30-39 age group and negative for other women. I do not analyse whether an increase in total working time occurred mainly on the account of leisure time (as stated in the first hypothesis), since both men's and women's total workload stayed rather constant or even declined.

Throughout the analysed time period, women's working time had been higher than men's. Italian women spend immense amounts of time on work (especially on unpaid work), not only compared to Italian men, but also to women in other countries. Furthermore, there was no apparent trend in gender convergence in total workload in the last decades. The gender gap lessened in the 20-29 and 40-49 age groups and increased for other population, but the change was small in all the age groups (around half an hour per day or less). It is therefore not possible to talk about the existence of an 'iso-work' phenomenon for men and women in Italy, since

women's total workload was higher than men's at all ages in the analysed time period. In 2002, the biggest difference in total workload was in the oldest age group under consideration, where women devoted almost 9 hours per week more to total workload than men.

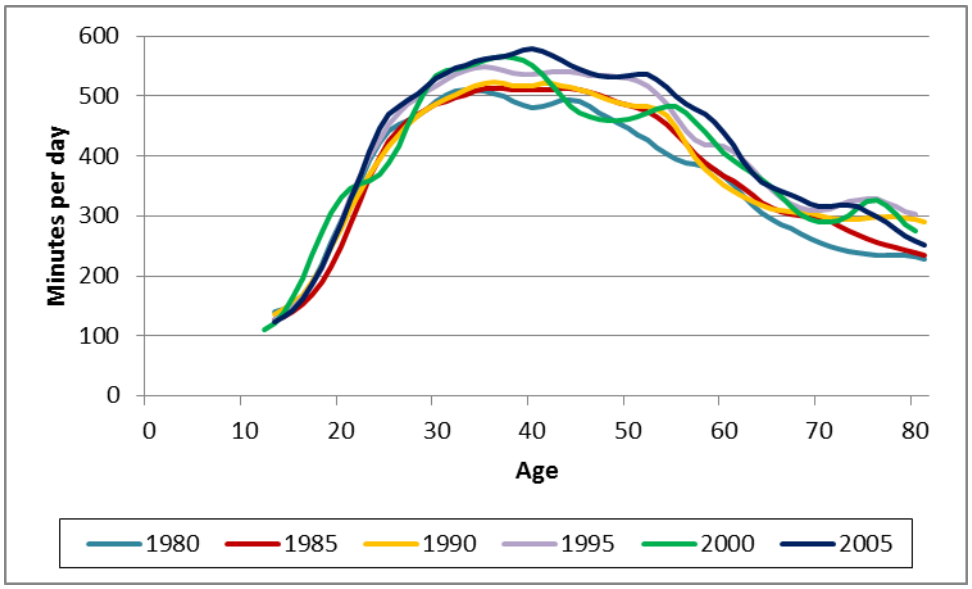
Figure 11. Evolution of total workload for women, Italy, 1980-2002



Source: Centre for Time Use Research, *Multinational Time Use Study for Italy for years 1980, 1989 and 2002: On-demand micro data*, 2015.

Figure 12 demonstrates the evolution of patterns in total workload for men in the Netherlands. A gradual increase in total workload over decades is apparent.

Figure 12. Evolution of total workload for men, the Netherlands, 1980-2005



Source: Centre for Time Use Research, *Multinational Time Use Study for the Netherlands for years 1980, 1985, 1990, 1995, 2000 and 2005: On-demand micro data*, 2015.

Table 2 reveals that the average time spent on total workload by men in 2005 was remarkably higher than in 1980 in all the age groups. Men between 30 and 59 years of age experienced the largest increase of more than 1 hour per day.

Table 2. Average time (in minutes per day) devoted to paid work, total workload, education, leisure and personal care by gender and age, the Netherlands, for years 1980, 1985, 1990, 1995, 2000 and 2005

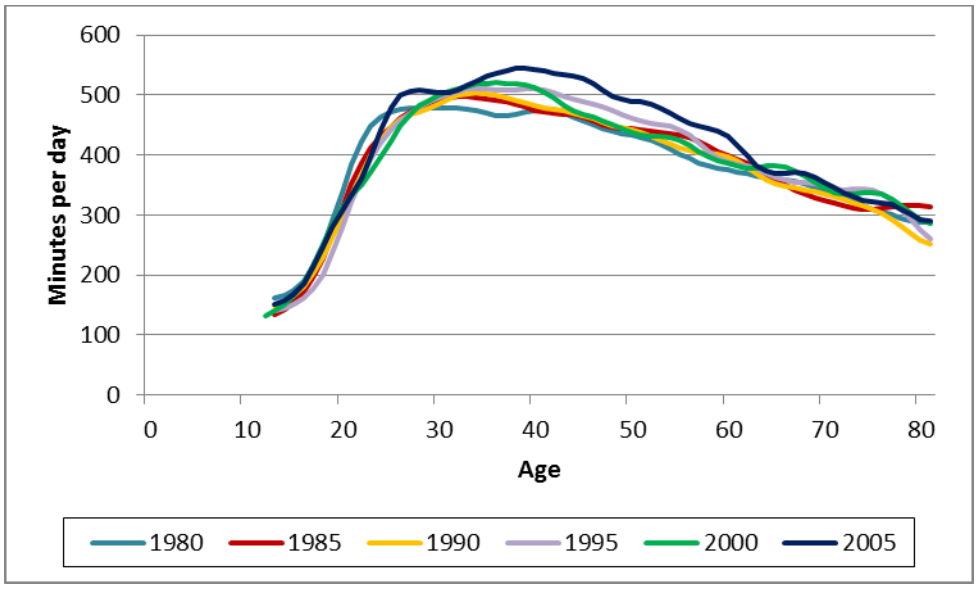
	Age group/ Year	**20-29**		**30-39**		**40-49**		**50-59**	
		Males	**Females**	**Males**	**Females**	**Males**	**Females**	**Males**	**Females**
Paid work	1980	276	111	328	48	306	57	197	31
	1985	252	130	307	73	316	75	209	57
	1990	278	164	315	91	334	104	211	58
	1995	301	193	345	130	335	140	231	86
	2000	250	188	373	150	306	144	268	83
	2005	334	235	372	181	354	178	313	142
Total workload	1980	433	469	503	473	481	455	404	403
	1985	433	455	505	492	509	458	426	426
	1990	426	446	511	499	514	463	428	413
	1995	465	446	540	510	541	487	462	428
	2000	401	438	561	518	489	471	469	415
	2005	467	456	565	530	544	515	503	465
Education	1980	60	21	16	14	19	13	9	7
	1985	64	33	20	9	8	9	6	6
	1990	74	41	20	16	13	13	4	7
	1995	55	42	13	11	12	12	12	8
	2000	63	50	11	10	12	17	8	7
	2005	43	56	14	14	15	13	12	11
Leisure	1980	332	319	304	316	317	318	375	363
	1985	338	323	315	323	315	334	368	369
	1990	329	313	309	297	307	332	363	367
	1995	308	305	295	290	294	310	351	362
	2000	337	306	274	275	321	310	339	350
	2005	307	278	256	246	273	278	305	311
Personal care	1980	615	631	617	638	623	653	652	667
	1985	604	629	601	616	608	639	640	639
	1990	612	640	600	629	606	632	645	654
	1995	612	648	592	628	594	631	615	642
	2000	639	646	594	637	618	642	624	669
	2005	622	650	604	650	607	634	620	653

Source: Centre for Time Use Research, *Multinational Time Use Study for the Netherlands for years 1980, 1985, 1990, 1995, 2000 and 2005: On-demand micro data*, 2015.

This change is a result of two trends in time-use patterns: first, a relatively small increase in production of unpaid work by men (some age groups even experienced a decrease), and secondly, a considerable growth in time spent on paid work. In 2005 men, on average, devoted from around 40 minutes to 2 hours per day more to paid work obligations than they did in 1980. Men in the 50–59 age group intensified their paid working time the most (on average for almost 2 hours per day). Indeed, employment rates of men between 55 and 64 years of age increased in the last decades for around 15 percentage points from 1990s to 2005 (Employment rates by gender and nationality, 2015). This is also reflected in the highest increase in total workload for this age group.

As seen in Figure 13, a trend of growth in total working hours is also notable for women, except for females in their 20s. For other female population, the average change in total working time was approximately 1 hour per day in the observed time period. However, an increase in women's total workload from 1980 to 2005 was admittedly smaller than the increase in men's total workload.

Figure 13. Evolution of total workload for women, the Netherlands, 1980-2005



Source: Centre for Time Use Research, *Multinational Time Use Study for the Netherlands for years 1980, 1985, 1990, 1995, 2000 and 2005: On-demand micro data*, 2015.

As for men, a general increase in total working time for women occurred primarily due to a huge intensification in paid working time, although this effect was diminished by a fall in production of unpaid work. The average time spent on paid work was very low in 1980, but had increased for around 2 hours per day in all the age groups in the observed time period. In 2005, the average time devoted to paid work varied from 2 to 4 hours per day for female population between 20 and 59 years of age. These results are expected because of a greater female labour force participation in the Netherlands in the last decades, especially in the form of part-time work.

For both genders, an increase in total workload occurred mainly on the account of the decline in leisure time. Indeed, around 70% or more of an increase was compensated by a fall in leisure time. Indeed, the latter had declined both for men and women in the observed time period. A fall in average time dedicated to leisure activities ranged from around 40 to 70 minutes for both men and women in most age groups. Only a small part of an increase in total working time was compensated by a fall in time dedicated to personal care (relevant for men above 30 and women above 40 years of age) or education (relevant only for men in the youngest age group). It is interesting to note that men in their 20s spent less time on education in 2005 than in 1980, although the number of enrolled students in tertiary education per 100,000 inhabitants actually increased (Enrolment in tertiary education by gender and nationality, 2015).

Another pattern in total workload of Dutch population attracts attention. Over the analysed time period, men had constantly spent more time on total workload than women, except for the youngest age group. This was due to the growing employment rates of Dutch men, but also their active presence in unpaid work. Furthermore, gender differences did not fall, but were slightly intensified over time. The change in gender gap was the most pronounced for the youngest and the oldest age group (a change of more than 0.5 hour per day). Therefore, men's production of total workload still exceeded women's production in 2005. While the difference in production of total workload in 2005 was not large for people in their 20s, it was higher in the other age groups (on average, men spent from 3.5 to 4.5 hours per week more on total workload than women).

Compared to Italy, the gender differences in total workload for Dutch population were smaller (comparing data for the latest available year), however, they were not too small to describe the pattern in total workload as 'iso-work'. This term could only describe population in the age range of 20 to 29, since men on average devoted only about 10 minutes per day more to total workload than women. Even for years prior to 2005, the term 'iso-work' could not be used to describe the general pattern in total working time for the Dutch population.

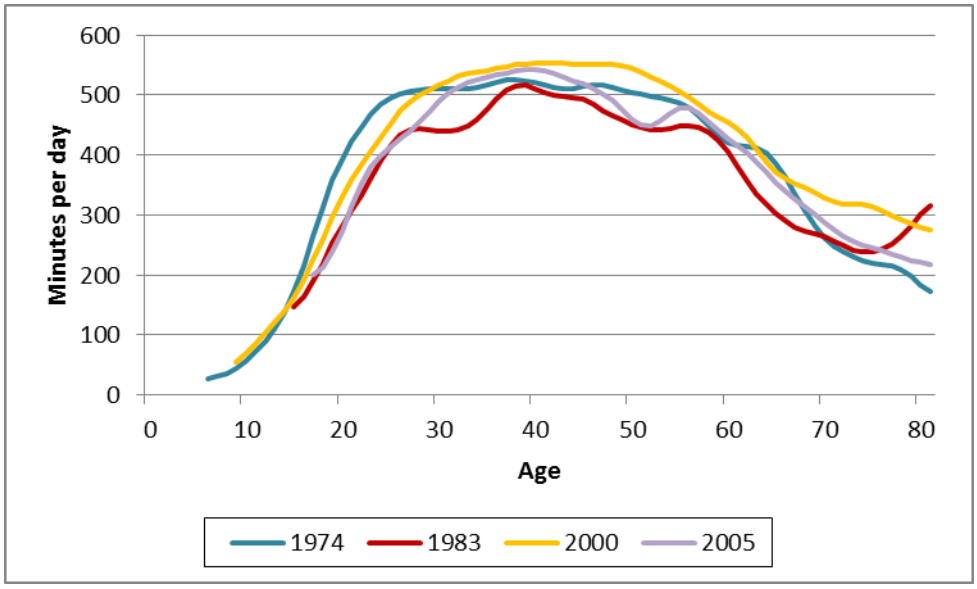
Figure 14 shows that the patterns in total workload for men in the UK are somewhat more varying, since periods of increases, as well as decreases occurred from 1974 to 2005. The final result differs for different age groups.

Total workload of male population between 30 and 49 years of age stayed unchanged or only increased a little compared to the year 1974. The pattern was the opposite for the youngest and the oldest age groups, where the changes were negative and the largest (a decrease from around 0.5 hour to 1 hour per day). Thus, in contrast to Dutch and similar to Italian men, British men did not experience an increase in their total workload.

Changes of total workload were in line with the changes of paid working time, which fell in the 1970s, increased in the following two decades and again fell at the turn of the century. This movement was also in line with the employment rates of British men from 1990s onwards (Employment rates by gender and nationality, 2015). Despite the varying changes in levels of

paid work, the final result was that the paid working time in the relevant time period fell considerably for all the age groups, on average from 1 to almost 2 hours per day. On the other hand, the increase in unpaid work was also high. As seen in Table 3, the contradicting patterns in paid and unpaid work had a different effect on total workload for different age groups, depending on which effect prevailed: higher paid work or lower unpaid work.

Figure 14. Evolution of total workload for men, the UK, 1974-2005



Source: Centre for Time Use Research, *Multinational Time Use Study for the UK for years 1974, 1983, 2000 and 2005: On-demand micro data*, 2015.

Leisure evolved differently in the three countries, but only British men experienced a considerable increase in leisure time (on average from 1.5 to almost 9 hours per week). An increase was the highest for those age groups where the fall in total workload was the biggest. Regarding the first hypothesis, this means that an increase in total workload (which occurred only in the 30-39 age group) was not compensated by a fall in leisure time (but rather by a fall in personal care).

Contrary to men, British women experienced an upwards trend in total workload in the analysed time period, as seen in Figure 15. While the 1970s were characterized by a relative stability, the following two decades offered a notable increase in total working time. In the first years of the 21st century, the trend seemed to stagnate for most of the age groups. However, the overall average change was positive and ranged from around 0.5 hour to 1 hour per day. The exception was the oldest age group where the time spent on total workload stayed almost the same as in 1974.

A primary reason for an upwards trend in total workload was a substantial increase in women's paid working time for all the age groups considered. On average, paid working time (in all of the age groups except the oldest one) rose up to 1 hour per day in the relevant time period, which corresponds to higher employment rates of women in the UK in the last decades

(Employment rates by gender and nationality, 2015). Since the growth in paid working time was higher than the decline in unpaid working time, the effect of the former prevailed. Although a change in total workload was positive for all the age groups (and fairly constant for the oldest one), leisure decreased only for women from 20 to 39 years of age. Even for women of these ages, the higher hours of working time were only partially compensated by a decrease in leisure time. In all of the age groups, most of the increase in total working time occurred on the account of lower time spent on personal care. On average, personal care fell for around 40 minutes per day in the analysed time period due to less time spent on sleeping, eating and drinking, as well as self-care.

Table 3. Average time (in minutes per day) devoted to paid work, total workload, education, leisure and personal care by gender and age, the UK, for years 1974, 1983, 2000 and 2005

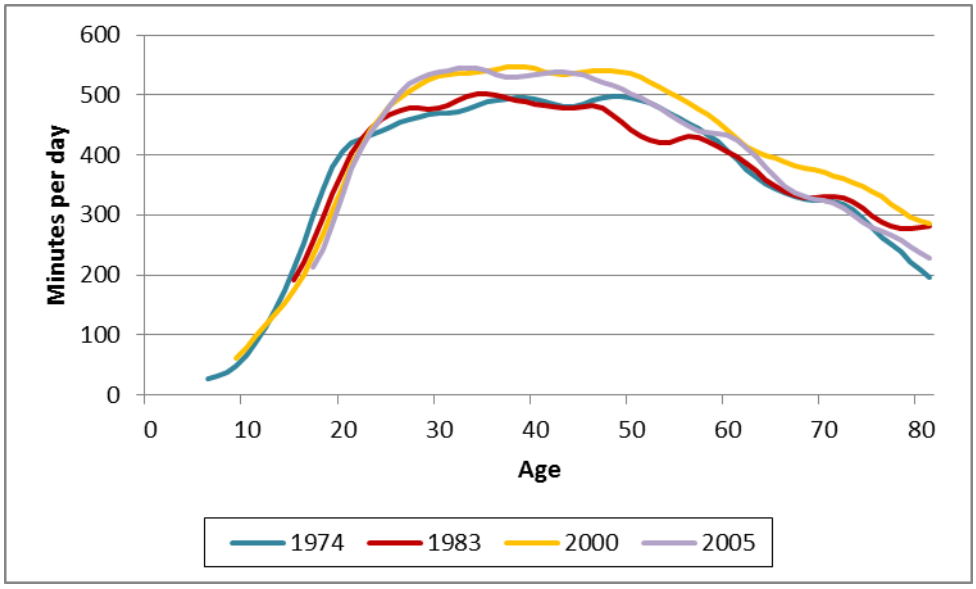
	Age group/ Year	**20-29**		**30-39**		**40-49**		**50-59**	
		Males	**Females**	**Males**	**Females**	**Males**	**Females**	**Males**	**Females**
Paid work	1974	385	153	398	135	394	176	350	157
	1983	276	183	318	115	328	156	292	113
	2000	310	209	352	190	352	201	283	167
	2005	279	208	337	196	329	231	276	173
Total workload	1974	490	449	517	488	511	487	475	463
	1983	406	463	486	493	481	476	443	423
	2000	454	479	545	545	552	536	499	494
	2005	431	487	532	538	512	525	451	461
Education	1974	8	4	3	4	1	4	1	1
	1983	18	17	5	5	7	3	0	1
	2000	26	20	7	7	3	9	2	3
	2005	16	20	7	7	6	6	1	4
Leisure	1974	336	339	321	314	314	315	356	348
	1983	379	315	337	310	330	319	360	366
	2000	325	285	283	254	286	266	327	301
	2005	411	325	334	304	352	316	404	372
Personal care	1974	606	648	599	635	613	635	608	628
	1983	632	641	607	628	616	637	632	646
	2000	633	654	604	632	567	627	611	640
	2005	582	607	567	590	570	593	584	603

Source: Centre for Time Use Research, *Multinational Time Use Study for the UK for years 1974, 1983, 2000 and 2005: On-demand micro data*, 2015.

An analysis of gender differences in total workload in the UK reveals that women in 2005 worked more in total than their male counterparts, although the difference was very small. Gender gap in total workload was negligible for every age group except the youngest one, since average gender differences amounted to around 10 minutes per day. Thus, it is possible to use the term ‘iso-work’ to describe the pattern in total workload for British population in the

21st century. Historically, the situation was the other way around since men showed higher total workload until the late 1990s (with the exception of the youngest age group, where female population worked more than males from 1983 onwards). However, gender differences in total workload in the last decades of the 20th century were also small (except in the youngest age group), so the term 'iso-work' applies also for that time period.

Figure 15. Evolution of total workload for women, the UK, 1974-2005



Source: Centre for Time Use Research, *Multinational Time Use Study for the UK for years 1974, 1983, 2000 and 2005: On-demand micro data*, 2015.

The analysis of patterns and trends in total workload across countries shows that I cannot confirm the first hypothesis for all of the three countries. I explain the reasons for each country individually.

In Italy, total workload for both genders had not changed significantly from 1980 to 2002. For women, total working time stayed rather constant throughout the observed time period, while men experienced a decline in the 1980s. However, the effect of the decline was diminished by an increase from 1990s onwards, so the overall change was negligible. Thus, it is impossible to confirm the first hypothesis for both Italian men and women.

For the Netherlands, the hypothesis can be only partially confirmed. A growth in total working time had been substantial for both genders and was primarily compensated by a fall in leisure time. However, the change was more pronounced for men and not for women, although men's total workload was already higher than women's in 1974.

In the UK, a change in total working time had been admittedly larger for women than men, but it is impossible to talk about an increase of total workload for British men, since their workload even decreased or remained constant for most of the age groups. Furthermore, women's

increase in total workload was compensated by a fall in leisure time only to a small extent, while men's leisure time even increased over the relevant time period. Thus, the hypothesis can only be partially confirmed for the Netherlands, as it does not describe a general pattern in total workload for Italy and the UK.

5.1.4 'Dual burden' and 'time-squeeze'

One of the concepts discussed in the literature is the existence of a 'dual burden' which implies that women work two shifts: one in paid employment and the second at home in the form of unpaid work. In dual-earner households both partners have responsibilities in paid work, however, women often take on a larger share of unpaid work at home (Sayer, England, Bittman, & Bianchi, 2009, p. 523).

'Dual burden' rests on the assumption that men are primarily responsible only for paid work, while women are responsible for both types of work. To verify the existence of this concept, I refer only to the most current data which is the first decade of the 21st century for all of the three countries. In these years, women's employment rates are the highest over the observed time period, so the existence of a 'dual burden' is most likely to be found here.

In my analysis I have shown that the total working time in the three analysed countries for the latest available year is higher for women than for men only in Italy, while it is comparable in the UK and even higher for men in the Netherlands. Although women work more in the form of unpaid work than men, this is compensated by a shorter time they spend in paid work. For the Netherlands and the UK, the claim that women are 'double burdened' by paid work and higher amounts of unpaid work is not true, since men also actively participate in both types of work and spend a comparable amount of time on total workload. The difference is only in the share of time that men and women devote to paid and unpaid work.

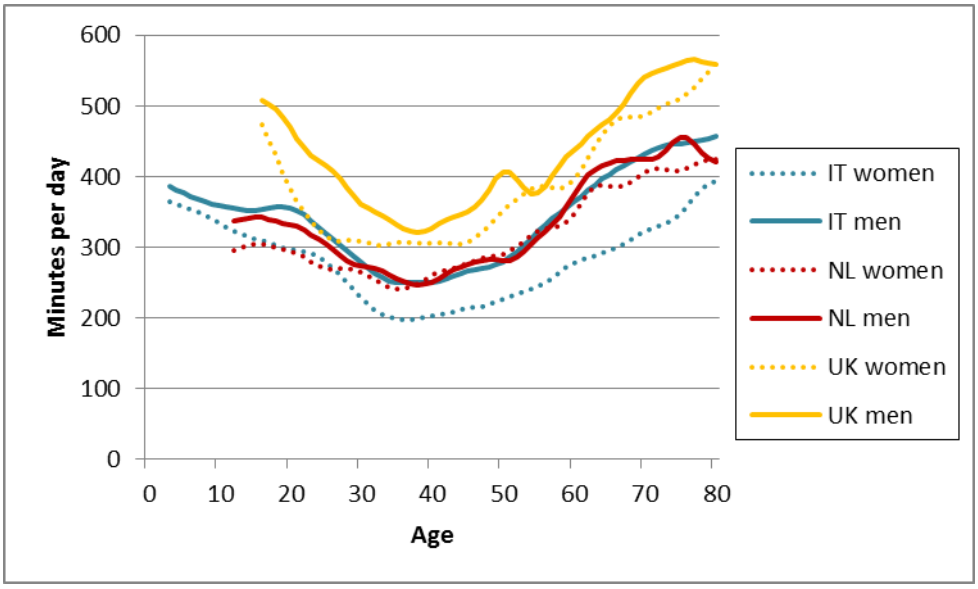
In contrast to the Netherlands and the UK, Italy is characterized by considerable differences in time devoted to paid and unpaid work combined. On average, women aged 30 to 59 spend between 5 and 9 hours per week more in production of total workload in comparison to men. Despite that, women do not carry the 'dual burden'. In Italy, a very traditional gender ideology is reflected in traditional division of labour. Each gender is responsible for one type of work: men spend substantially more time in paid work, while women devote their time primarily to unpaid work. Thus, Italian women are burdened mainly by unpaid work, since their paid working time is very low at all ages.

Another concept closely related to the 'dual burden' is a 'time-squeeze'. An expansion of dual-earner families and an increasing pace of life have put pressure on leisure time. The 'dual burden' hypothesis indicates higher working time for women, but it also implies a gender gap in leisure time, since the latter is considered the mirror image of total workload (Bittman & Wajcman, 2000, pp. 165-168). The more time spent on work implies less leisure time.

In contrast to the 'dual burden' hypothesis, my assessment of patterns in total workload shows that women and men dedicate approximately the same amount of time to both paid and unpaid work. In this chapter I examine how this affects the gender equity in leisure time and I also explore the differences in time poverty across countries, over time and at different ages.

It is seen from Figure 16 that there are considerable differences in the amount of time spent on leisure activities across countries. In Italy, where the total workload is the highest (especially for women), leisure time is the lowest. In contrast, British men dedicate the least time to paid and unpaid work combined, which results in largest amount of leisure time. In all of the three countries, leisure time is the lowest for the working-age population, which is most likely to experience a 'time-squeeze'. They engage in both types of work, while the youngest and the oldest individuals engage only in one form of work or even in none (young children).

Figure 16. Average time (in minutes per day) spent on leisure activities by age and gender for Italy (2002), the Netherlands (2005) and the UK (2000)



Source: Centre for Time Use Research, *Multinational Time Use Study for Italy for year 2002 and for the Netherlands and the UK for year 2005: On-demand micro data*, 2015.

Leisure time does not vary only with age and across countries, but also between genders. In Italy and the UK, men enjoy more leisure time than women at any age. Italian men in their 60s are the most exceptional: on average, they devote around 11.5 hours per week more to leisure activities than women of the same age. This shows that after retirement, Italian women devote a lot of their extra time to unpaid work, while men opt for more leisure time instead. In contrast, gender differences are almost non-existing in the Netherlands. Although Dutch men spend more time on total workload, leisure time is characterized by gender parity. While women work less than men, they spend more time on personal care. In the youngest age group, women also spend more time on education, so the distribution of leisure time in the Netherlands is rather similar between genders.

Addressing the question whether people had been gaining or loosing leisure time in the analysed time period, Tables 1, 2 and 3 reveal that in Italy, the decline of leisure time between 1980 and 2002 was the most severe for population between 30 and 49 years of age (up to around 40 minutes per day), while leisure time did not change much for other population. A drop in leisure time was the largest in the Netherlands for the working-age population of both genders, since it amounted to up to around 70 minutes per day. Thus, people might experience 'time-squeeze' because current generations enjoy less leisure time than past generations.

In contrast, the UK offers the most surprising result, since most of the British population gained leisure time in the observed time period. However, it should be noted that until the end of the 20th century, leisure time of British population had been declining and had substantially increased only in the first years of the 21st century. This change was due to less time spent on personal care (more time available for leisure activities) and not to lower amounts of total workload.

The analysis of patterns in leisure time shows that the concept of a 'time-squeeze' is relevant especially for the working-age population, while younger and older individuals enjoy much more leisure time. The individuals between 30 and 49 years of age are most burdened, especially women who usually experience less free time than men (mostly due to higher childcare production). Italy is the country where 'time-squeeze' is the most severe, especially for women. At ages when Italian women are the most burdened, they enjoy only around 24 hours of leisure time per week. To recall, weekends and holidays, when leisure time is typically higher, were taken into account for these data. British population is the least time-deprived, since it enjoys more than 5 hours of leisure time per day at any age, which is much more than in the other two countries.

The quantitative analysis of 'dual burden' and 'time-squeeze' is only one side of the coin, since people may feel 'time-squeezed' even though the empirical data do not confirm this finding (Southerton & Tomlinson, 2005, p. 220). Furthermore, Bittman and Wajcman (2000, p. 185) show that not all leisure time is homogenous. Namely, women's leisure time is more likely to be enjoyed in combination with unpaid work. Their leisure time gets interrupted more frequently, which results in men having a better quality leisure time than women. This all affects individuals' perception of being 'time-squeezed'.

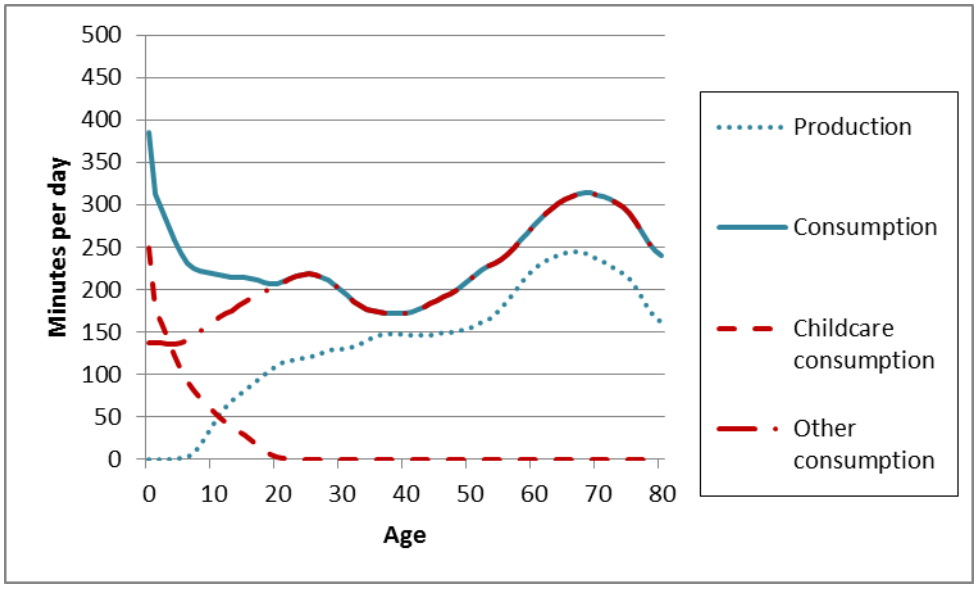
5.2 Consumption of unpaid work

After examining the patterns in total workload, I refer back to unpaid work. Time-use surveys collect information on how people allocate their time among different activities, however, they do not provide any indication of how produced unpaid work is consumed by individuals. In line with the NTTA guidelines (Donehower, 2014), I estimated the age-specific consumption profiles by allocating time spent on unpaid work activities (childcare excluded) equally among the household members. I allocated childcare only to its beneficiaries, who are children below the age of 18.

As already mentioned, an analysis of consumption patterns over time is impossible because data do not enable the creation of age-specific consumption profiles for more than one time period. Thus, I estimated the consumption profiles only for one year (2002 for Italy, 2005 for the Netherlands and 2000 for the UK) and focused on the cross-country analysis.

Average total consumption of unpaid work by age for men and women in Italy is shown in Figures 17 and 18, where I divided total consumption into childcare consumption and 'other consumption' (total consumption without childcare consumption) for a better understanding of patterns over the lifecycle. To recall, consumption of unpaid work over the lifecycle does not vary by gender. Previously explained production profiles are also shown in the graph. In Appendix D, I additionally present the unsmoothed profiles for production and consumption for the three analysed countries.

Figure 17. Smoothed age profiles of production, consumption and its subcategories for men in Italy, 2002

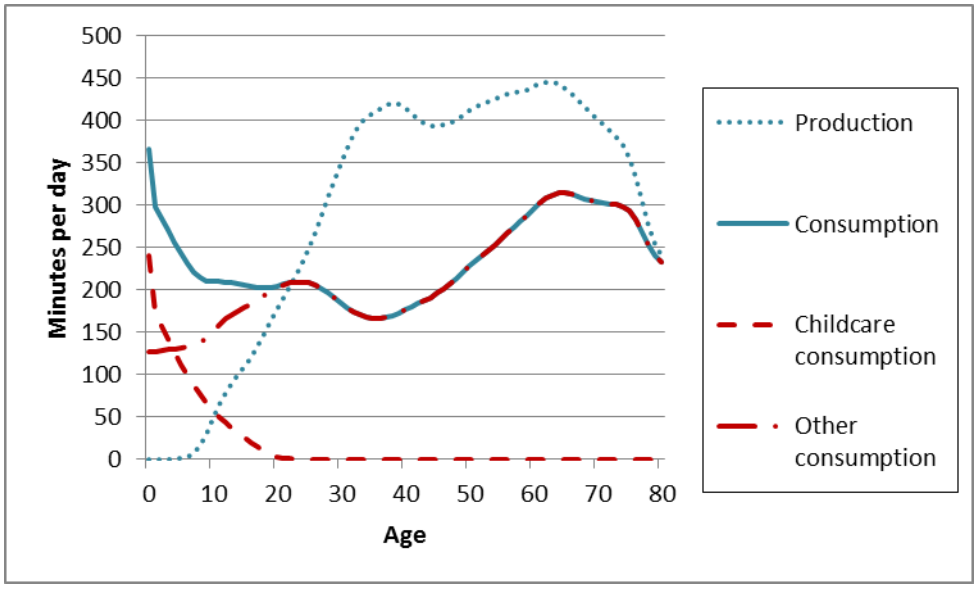


Source: Centre for Time Use Research, *Multinational Time Use Study for Italy for year 2002: On-demand micro data*, 2015; Eurostat, *Population on 1 January by age and gender*, 2015e.

Figures 17 and 18 reveal that consumption is the greatest at young and old ages, when it is approximately twice as high as for the working-age population. The greatest consumers of unpaid work, especially in the form of childcare, are the youngest. The average consumption of a child up to 3 years of age is from 4.5 to 6.5 hours per day, before it starts to decline when children grow older. In their teenage years and in the early 20s, average consumption of individuals is relatively constant and it starts to decline again in the middle of their 20s. A minimum is reached in the mid-30s for women and late 30s for men, when both genders, on average, consume less than 3 hours of unpaid work per day. A minimum in consumption occurs in the childbearing years, when children increase the size of the households. Thus,

production of unpaid work is allocated among more people, which in turn decreases the share of unpaid work that each individual can consume (Hammer et al., 2015, p. 93).

Figure 18. Smoothed age profiles of production, consumption and its subcategories for women in Italy, 2002



Source: Centre for Time Use Research, *Multinational Time Use Study for Italy for year 2002: On-demand micro data, 2015*; Eurostat, *Population on 1 January by age and gender*, 2015e.

After that, consumption gradually increases until it reaches its maximum point of a little above 5 hours per day for both genders in the mid-60s. Consumption of the elderly is relatively high, although it slowly declines when people reach their 70s. Individuals in retirement years are able to preserve high consumption because they continue to produce high amounts of unpaid work. Furthermore, their children have typically already left their parents' nest, so consumption is allocated among fewer household members. While elderly men consume all of their production, women's produced unpaid work is so high that they are able to cover their own consumption, as well as consumption needs of others.

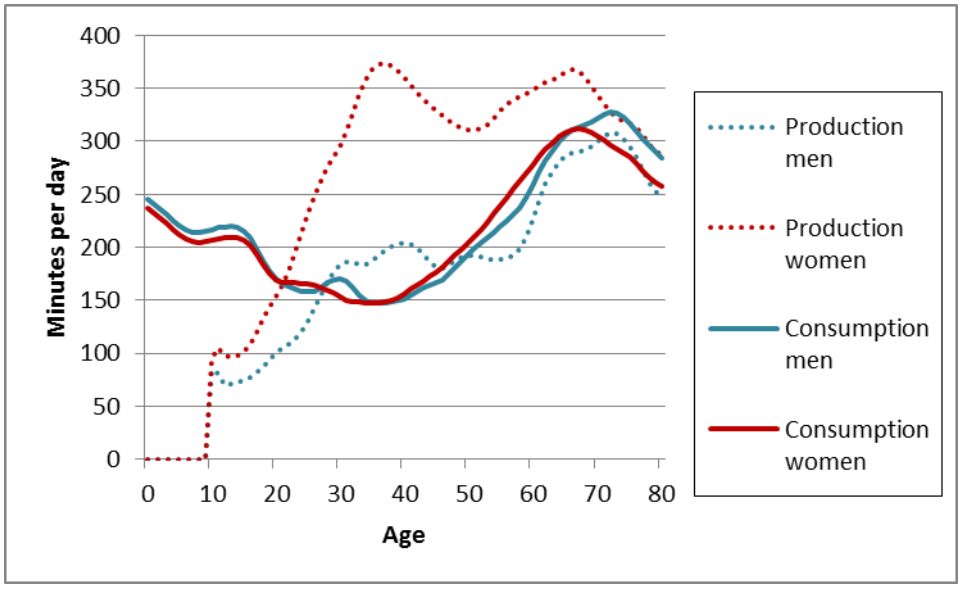
There are no major differences in consumption between genders, which is reflected in the similar shape of consumption age profiles. Differences arise only as an effect of household structure (Zannella, 2015, p. 39). The shape of the consumption profile is determined by two components: childcare consumption and 'other consumption' (such as domestic work, shopping, maintenance etc.). Childcare is the prevailing component at the youngest age. Although 'other consumption' increases in the first years of the lifecycle, a decline in childcare consumption is so strong that it causes total consumption to fall. After the age of 18, childcare consumption is zero, so the shape of the consumption profile equals 'other consumption'.

Comparing women's production and consumption, it is apparent that after they reach the middle of their 20s, they start producing far larger amounts of unpaid work than they consume.

Throughout most of their lifecycle they are able to support their consumption needs, as well as the needs of others. A large part of their extra production goes to their dependent children, primarily in the form of childcare. Part of their extra produced unpaid work must also go to their male partners, since men's consumption over the lifecycle is constantly lower than their production. This framework is a foundation for the analysis of net transfers among different generations and between the two genders.

Figure 19 enables a thorough examination of consumption patterns in the Netherlands. In this figure, I present the age profiles for production and consumption for men and women in the same graph so that the differences and similarities in consumption between genders are more apparent. I leave out the components of total consumption, since decomposition of total consumption is very similar across countries.

Figure 19. Smoothed age profiles of production and consumption for both genders, the Netherlands, 2005



Source: Centre for Time Use Research, *Multinational Time Use Study for the Netherlands for year 2005: On-demand micro data*, 2015; Eurostat, *Population on 1 January by age and gender*, 2015e.

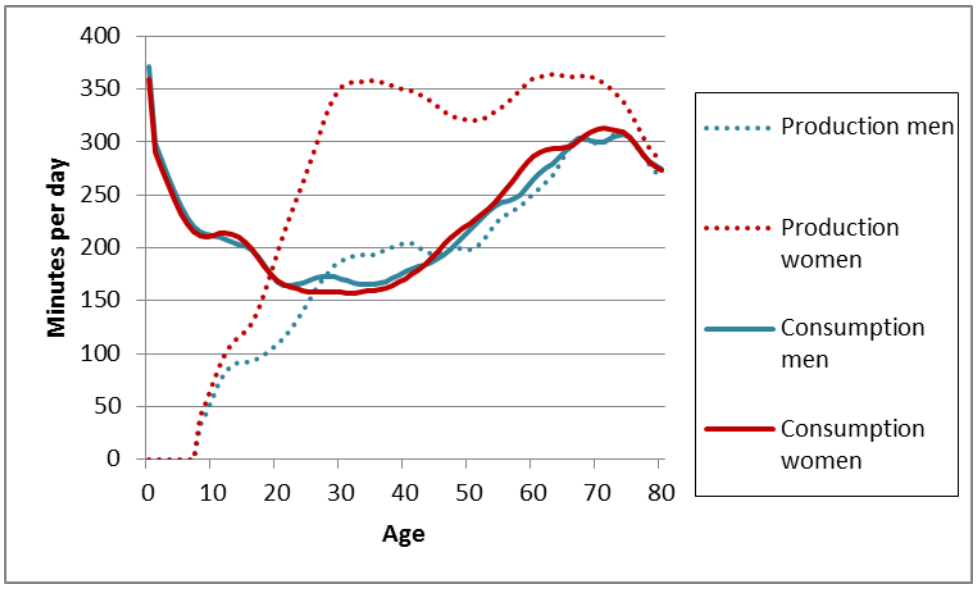
The shape of the consumption profile is very similar as in Italy, since the highest consumption is observable for the young and the elderly, while middle-aged population consumes the least. The youngest children consume on average around 4 hours of unpaid work per day, which is less than in Italy. However, this difference is most likely a consequence of a different methodological approach applied when estimating childcare consumption. For the Netherlands, a full household structure is known so consumption can be estimated for children of all ages (from EU-SILC and MTUS data). In contrast, in Italy and in the UK, children under the age of 3 (for Italy) or 8 (for the UK) are not included into the analysis, so the average consumption for those ages is imputed from Italian consumption profile, obtained by Zannella (2015).

Consumption is the highest at youngest age, before it gradually declines with age (with the exception of a small hump). A minimum of around 2.5 hours per day is reached at mid-30s for women and late 30s for men. After that, the average consumption of people starts increasing before it stabilizes at around 5 hours per day for women at late 60s and slightly more for men at early 70s. At these ages, consumption is the highest over the lifecycle, before it gradually declines at the oldest ages. Patterns in consumption are again very similar between genders and differ only in small differences in amounts of average consumption at different ages.

As in Italy, women's production exceeds their consumption from their early 20s onwards and stays this way until the rest of their lives. On the other hand, men's production is lower than their consumption for almost their entire life. Their production is higher than their consumption only from their late 20s to late 40s, when they enter into parenthood.

The British patterns in consumption are seen in Figure 20. The shape of the profile resembles the Italian and the Dutch one. The children below the age of 4 consume on average from 4.5 to around 6 hours of unpaid work per day, while consumption of elderly people reaches the amount of approximately 5 hours per day. Compared to Italy and the Netherlands, in elderly age maximum is reached later (at mid-70s), although consumption is already high when people are in their late 60s. Population between 20 and 40 years of age consumes the least, on average from 2.5 to around 3 hours per day.

Figure 20. Smoothed age profiles of production and consumption for both genders, the UK, 2000



Source: Centre for Time Use Research, *Multinational Time Use Study for the UK for year 2000: On-demand micro data*, 2015; Eurostat, *Population on 1 January by age and gender*, 2015e.

In the UK, women are able to support their own consumption needs only by their production of unpaid work from the age of approximately 20 onwards, which represents the longest time

period of self-support among the three countries. As in the Netherlands, men in the UK produce more than they consume only for around two decades in their life (from late 20s to late 40s). In their elderly years, some of their consumption must be produced by others, but contrary to Italy and the Netherlands, the gap is very low.

To conclude the analysis of consumption patterns, I check whether the differences in institutional background across countries have an effect on consumption of young and elderly people.

A weak government support in the form of public childcare services is typical for Italy. Childcare is provided mainly within families, which increases the consumption of unpaid work for young children. Among the three analysed countries, the use of formal childcare arrangements for children between 0 and 2 years of age is the lowest in Italy (Plantenga & Remery, 2009, p. 31). However, the Netherlands and the UK are also characterized by a limited supply of public childcare services and important role of family in childcare. Therefore, the differences in consumption at youngest ages are very small between the UK and Italy, while the Netherlands is a special example due to methodological differences.

Consumption in the last stage of life depends heavily on the provision of care for the elderly by the government. The more elderly people rely on familial support instead of private or public facilities, the higher their consumption of unpaid work. In Italy, responsibility for the elderly is primarily in the domain of families. In the Netherlands and the UK, informal care is very important, but the state is also expected to offer high levels of support. This would suggest higher consumption of unpaid work for the elderly in Italy. However, the age profiles show a rather similar consumption of elderly people in all of the three countries (a maximum of around 5 hours per day is reached in retirement years). This shows that stronger state support for the elderly in the Netherlands and in the UK does not greatly affect the importance of informal care in the form of unpaid work.

By examining and comparing production and consumption profiles, it is possible to obtain the estimations of net transfers, which is further addressed in the next section. The differences in consumption patterns across countries are rather small. Thus, variations in the net transfers primarily occur on the account of the differences in production of unpaid work.

5.3 Net transfers in the form of unpaid work

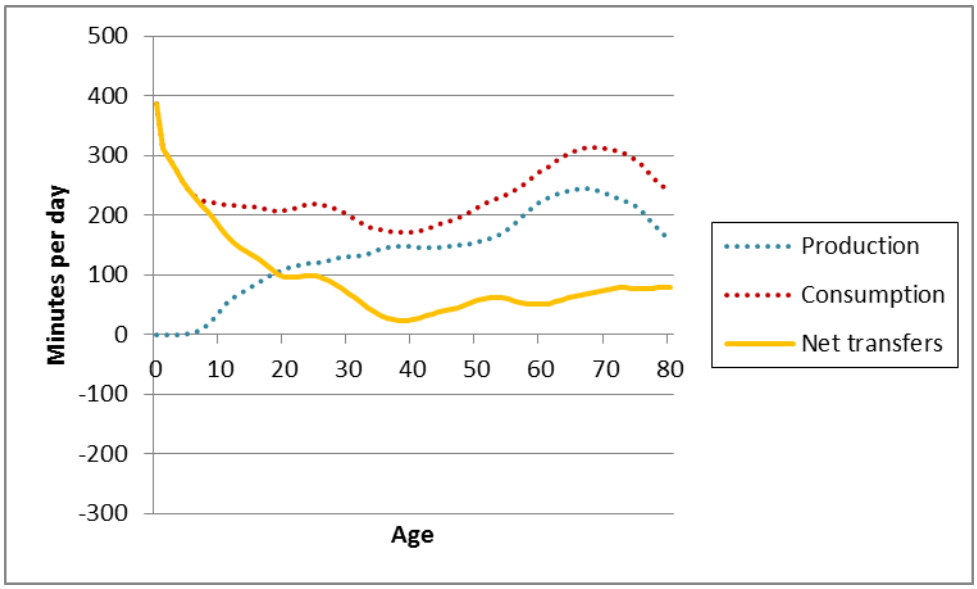
5.3.1 Lifecycle deficit in Italy, the Netherlands and the UK

Net transfers by age are obtained by subtracting production from consumption at each age over the lifecycle. Positive values of net transfers denote a lifecycle deficit, while negative values of net transfers indicate a lifecycle surplus for unpaid work (i.e. a negative lifecycle deficit). For instance, a person with a lifecycle surplus produces more unpaid work than he consumes,

therefore a part of his production is transferred to other individuals. Because he gives transfers to others, his value of net transfers is negative.

Figure 21 represents the age-specific profiles of production, consumption and net transfers for Italian men (unsmoothed profiles of net transfers are shown in Appendix E). The profile of net transfers shows whether a person of a specific age and gender is a net receiver or a net giver of familial transfers in the form of unpaid work.

Figure 21. Smoothed age profiles of lifecycle deficit (net transfers) and its subcategories for men, Italy, 2002



Source: Centre for Time Use Research, *Multinational Time Use Study for Italy for year 2002: On-demand micro data*, 2015; Eurostat, *Population on 1 January by age and gender*, 2015e.

Children experience a lifecycle deficit due to high consumption needs, while their production of unpaid work is very low or (by assumption) non-existent up to 10 years of age. Children are unable to support their own consumption, so they must receive transfers of unpaid work, primarily from their parents. This pattern is found in all of the three countries for both genders. Although consumption is high for both children and the elderly, only children receive remarkable amounts of transfers, while elderly people mostly rely on their own production of unpaid work. For instance, the youngest children in Italy receive net transfers of unpaid work from around 4.5 to 6.5 hours per day.

Net transfers are the largest for the youngest children and then they gradually decline. For Italian men, net transfers are the lowest, but still positive in their mid-30s, when men on average receive around 20 minutes per day in the form of unpaid work. In all of the countries under consideration, net transfers reach their minimum in the childbearing ages. This is a consequence of two factors: a low consumption of prime-aged adults, as well as high

production of unpaid work (the first peak in production occurs, mainly due to high childcare production).

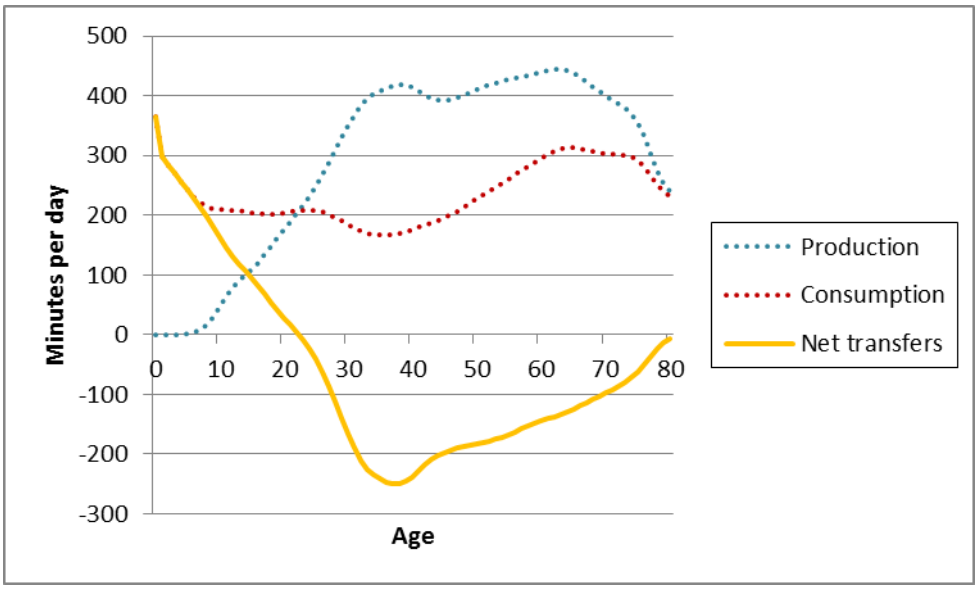
What is unique in the case of Italy is that men receive transfers in the form of unpaid work throughout their whole life, even in ages when they become fathers. These are the years when individuals usually give transfers in the form of unpaid work to others (especially their children), not receive them. Italian men receive unpaid work primarily from their female partners, who produce more unpaid work than they consume almost throughout their whole life. This phenomenon can be explained by a very traditional view on gender roles in Italy, where women are the ones primarily responsible for childcare, whereas men actively engage in paid work. Compared to Dutch and British men, Italian men's participation in production of unpaid work is very low.

When men get older, their production continues to rise. After they exit the labour market, part of their extra time is devoted to unpaid work, so after the retirement the production of unpaid work increases (except in the oldest ages). However, consumption also increases with age. As children get older, become independent and move on their own, household production is allocated among fewer people, in turn increasing their consumption. Although Italian men in older age produce enough to cover most of their consumption, part of it is still supported by their female partners. After the age of 50, on average Italian men produce from around 2 to 4 hours of unpaid work per day, while they receive more than 1 hour of unpaid work from others. When men enter their 70s, both production and consumption start to fall, however, net transfers remain approximately the same as in the previous years.

Figure 22 reveals non-negligible differences between men's and women's patterns in net transfers of unpaid work over the lifecycle in Italy. In the first stages of the lifecycle, pattern is similar between genders. A lifecycle deficit implies high positive values of net transfers to children, especially to the youngest ones. However, the first notable difference between Italian men and women occur in their early 20s, when women start producing more unpaid work than they consume (which never happens for Italian men). This is reflected in the existence of the lifecycle surplus which lasts for the rest of their lives. Thus, Italian women give net transfers in the form of unpaid work to others for the most of their life, while men receive net transfers at all ages. This shows that in contrast to the monetary transfers, non-monetary transfers of unpaid work flow from women to men.

In the childbearing years, women's net transfers of unpaid work are the highest in their life. More specifically, the maximum amount of unpaid work is transferred in their late 30s. At this life stage, women's average production of unpaid work is extremely high and amounts to almost 7 hours per day. However, only around 40% of this production is consumed by themselves, while the rest (around 4.5 hours per day) is transferred to others, primarily to their children, while a smaller amount is also transferred to their male partners.

Figure 22. Smoothed age profiles of lifecycle deficit (net transfers) and its subcategories for women, Italy, 2002



Source: Centre for Time Use Research, *Multinational Time Use Study for Italy for year 2002: On-demand micro data*, 2015; Eurostat, *Population on 1 January by age and gender*, 2015e.

Women continue to give net transfers to other household and non-household members also in the older ages, although the amount of net transfers declines with age. This is primarily a consequence of higher consumption in the older ages, while production stays rather constant. Most of their extra production in retirement years is consumed by their male partners. The trend changes only for women aged 80 or more, since they retain all of their production for themselves. This is due to their reduced involvement in production of unpaid work, as many elderly women live alone as the 'merry widows' – they are either widows, divorced or single (Anxo et al., 2007, p. 14). On average, they receive less than 10 minutes of unpaid work per day, most likely as a net transfer from their grown-up children in the form of an elderly care.

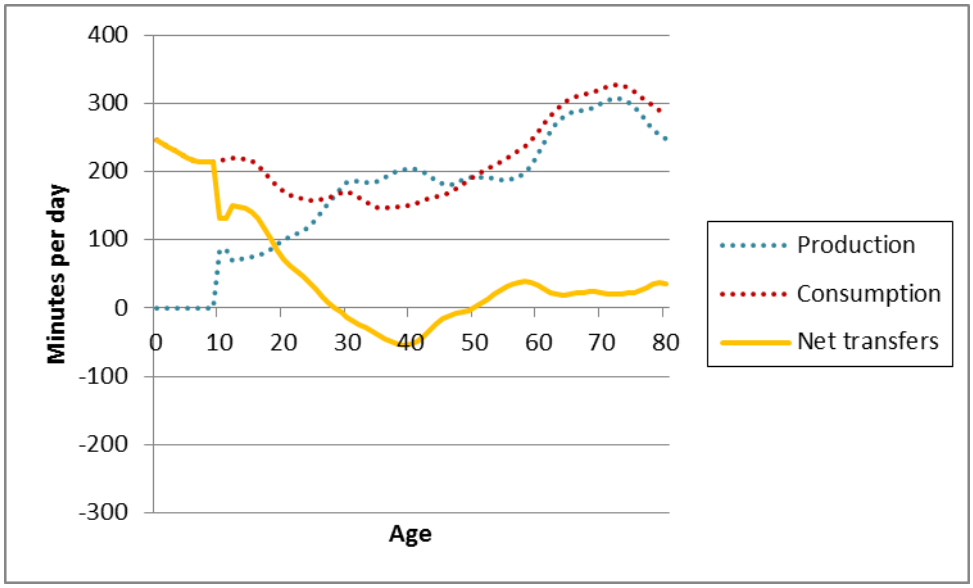
Figures 23 and 24 confirm that the main patterns, noticeable in Italy, can also be found in the Netherlands, but there are a few important differences between the two countries that need to be pointed out.

Young children and people in their teenage years are again characterized by a lifecycle deficit and large amounts of unpaid work flowing to them. Newborns receive the most net transfers of unpaid work (on average around 4 hours per day), although considerably less than in Italy. This is due to different consumption in the childhood, although the difference is mainly caused by methodological issues, already discussed in the previous section.

Another methodological limitation needs to be taken into account when interpreting the results for the Netherlands. It seems that a smooth decline in net transfers is interrupted at the ages of 10 and 11 (for both genders). However, as the survey included only people aged 12 to 80,

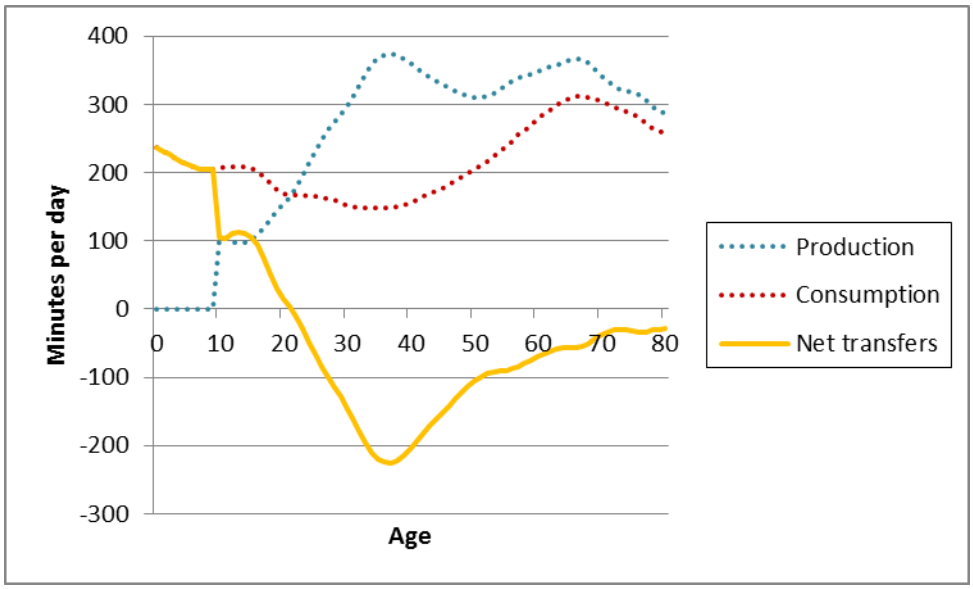
production for children of age 10 and 11 cannot be estimated from the Dutch data directly. Thus, I imputed the values of average production of other European countries, for which MTUS data is available, also for children of 10 and 11 years. These imputed data explain non-fitting values of production and net transfers at these ages.

Figure 23. Smoothed age profiles of lifecycle deficit (net transfers) and its subcategories for men, the Netherlands, 2005



Source: Centre for Time Use Research, *Multinational Time Use Study for the Netherlands for year 2005: On-demand micro data*, 2015; Eurostat, *Population on 1 January by age and gender*, 2015e.

Figure 24. Smoothed age profiles of lifecycle deficit (net transfers) and its subcategories for women, the Netherlands, 2005



Source: Centre for Time Use Research, *Multinational Time Use Study for the Netherlands for year 2005: On-demand micro data*, 2015; Eurostat, *Population on 1 January by age and gender*, 2015e.

A period of dependency is followed by a stage in life when men and women produce more than they consume, so they are able to support their own consumption needs. A self-sustaining phase is much shorter for men than for women since the latter produce more unpaid work. Men's production starts to exceed their consumption in the late 20s, while women experience the transition already in their early 20s. Furthermore, Dutch women remain net givers of transfers for the rest of their life, while men give away part of their production only in the ages when they usually enter into parenthood. This is an important difference compared to Italian men whose consumption is higher than their production in any period of their life. For instance, Dutch men who are between 35 and 40 years old transfer, on average, from 0.5 to around 1 hour of unpaid work per day, while their Italian counterparts do not generate any extra production at all to transfer it to others.

Both Dutch men and women transfer the largest amounts of produced unpaid work to others – primarily their children – at around the same age (in their late 30s), but the transferred amounts differ substantially. While men on average transfer up to 1 hour per day to others, women transfer almost 4 hours of unpaid work per day. This is a consequence of much higher production of women (mostly on the account of higher childcare production) which is almost twice as high as men's in these ages, while the consumption is approximately the same. Compared to Italy, men and women in the Netherlands divide their childcare responsibilities more equally, although childcare still remains gender-segregated.

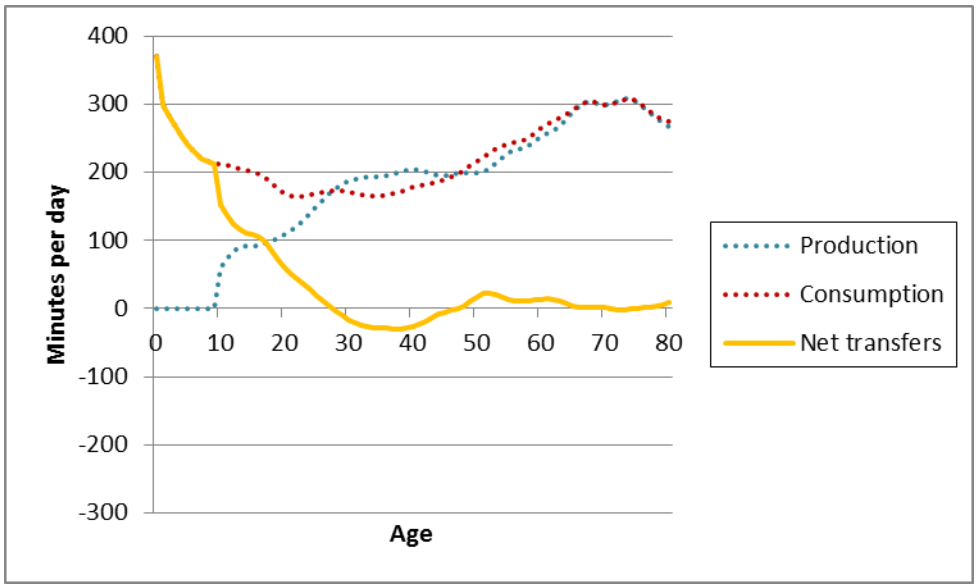
Dutch men are able to support their consumption by their own production only for about 20 years in their life. After they reach their late-40s, men's consumption of unpaid work needs to be partially covered by transfers. The period of dependency lasts until the end of their lives. Although both Italian and Dutch men in old age depend to some extent on the received transfers of unpaid work, the latter are much more self-reliant. In contrast, Dutch women continue to produce more than they consume until the rest of their lives, although their net transfers decline with age. Similar to Italian women, the difference between their consumption and production becomes negligible at oldest ages.

Figures 25 and 26 reveal that the age profiles of net transfers in the UK resemble the Dutch. A comparison of patterns between genders at the youngest ages reveals that both men and women show a lifecycle deficit. The transition into the period of self-dependency occurs around the age of 20 for women and in the late 20s for men. Compared to Italy and the Netherlands, British men and women are able to support their consumption by their own production of unpaid work at the earliest ages.

Men's phase of independency lasts for around 20 years (neglecting a very short period of independency in their 70s), while women – after reaching their 20s – remain net givers of transfers of unpaid work for the rest of their life. Even when men's consumption is lower than their production, men never transfer more than 1 hour of unpaid work per day, not even in their late 30s when their net transfers are the largest. On the other hand, women's net transfers are the highest in their mid-30s and correspond to approximately 3.5 hours per day. In the

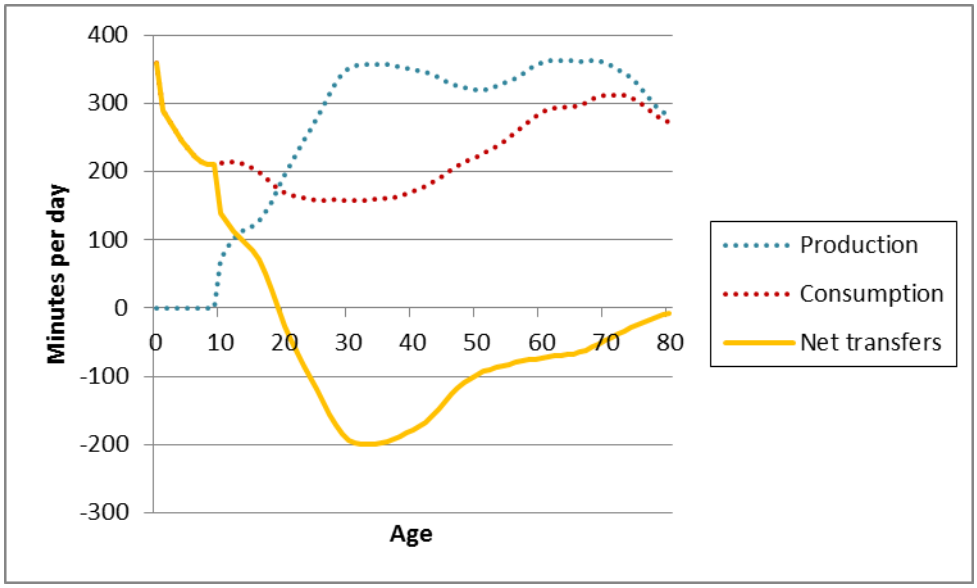
childbearing years, British women transfer a little less unpaid work compared to Italian and Dutch women (possibly relying more on public childcare support), while men's net transfers of unpaid work are comparable to the Dutch levels.

Figure 25. Smoothed age profiles of lifecycle deficit (net transfers) and its subcategories for men, the UK, 2000



Source: Centre for Time Use Research, *Multinational Time Use Study for the UK for year 2000: On-demand micro data*, 2015; Eurostat, *Population on 1 January by age and gender*, 2015e.

Figure 26. Smoothed age profiles of lifecycle deficit (net transfers) and its subcategories for women, the UK, 2000



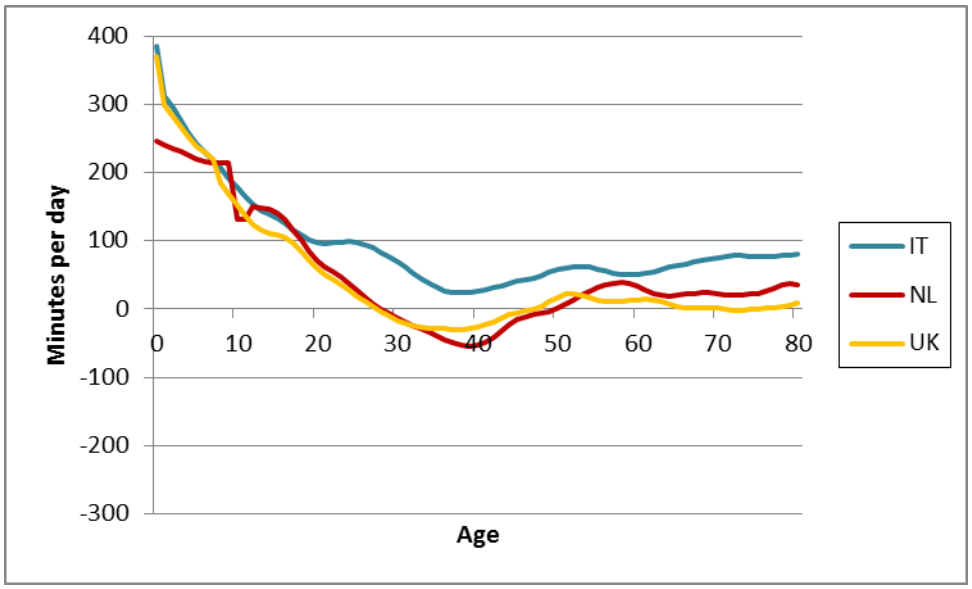
Source: Centre for Time Use Research, *Multinational Time Use Study for the UK for year 2000: On-demand micro data*, 2015; Eurostat, *Population on 1 January by age and gender*, 2015e.

After men's consumption starts to again exceed their production in the mid-40s, the difference between the two stays low for the rest of their life. Older men rely on transfers only to a small extent. Women's patterns in net transfers in older age groups are similar to the Italian and Dutch ones. A gradual closing of the gap between consumption and production results in decreasing values of transferred unpaid work. When women reach the age of 80, the gap is closed and women consume all of their produced unpaid work.

5.3.2 A cross-country comparison of the lifecycle deficit

With the above analysis, I show that the basic patterns in net transfers of unpaid work are quite similar across countries. Women produce more than they consume for the most of their life and men experience the opposite situation. Although these trends can be found in Italy, the Netherlands and the UK, Figure 27 points out some important differences across countries.

Figure 27. Smoothed age profiles of lifecycle deficit for men in Italy (2002), the Netherlands (2005) and the UK (2000)



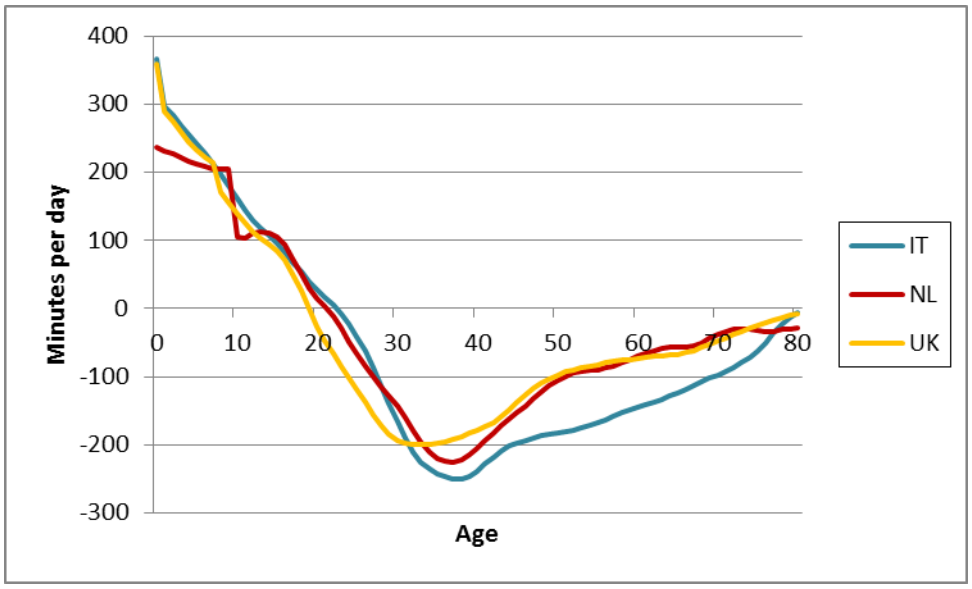
Source: Centre for Time Use Research, *Multinational Time Use Study for Italy for year 2002, for the Netherlands for year 2005 and for the UK for year 2000: On-demand micro data*, 2015; Eurostat, *Population on 1 January by age and gender*, 2015e.

In the first stages of the lifecycle, men's consumption in all of the three countries is sustained only by transfers from others, most notably their parents. In the earliest years, the received net transfers are comparable for Italian and British children, followed by the Dutch children (although a lower amount in the Netherlands is most likely caused by methodological differences). The period of dependency ends in the late 20s in the Netherlands and the UK. The phase of independency is the longest for the Dutch men, who also transfer the highest amounts of unpaid work primarily to their children. Italian men stand out as being the least self-reliant due to very traditional division of labour in Italy. Their consumption is higher than their production over their whole life, even in the years when they usually become fathers of small

children. From their 50s on, the shape of the profile is similar for British and Dutch men, however, the gap between consumption and production stays very low for British men (for a short period, they even become net givers of transfers again) and more pronounced for men in the Netherlands. Again, Italian men at older ages receive by far the highest amounts of net transfers, even more than 1 hour per day.

Women experience a somewhat different pattern in net transfers, displayed in Figure 28. Similar to men, the first stage in the female lifecycle is characterized by dependency on transfers of unpaid work to support their own consumption. After their teen years, women's production starts to exceed their consumption and they enter the phase of self-reliance, which is reached at least half of a decade sooner than in the case of men (due to higher production of women in their teen years and in their 20s). British women are the first to reach this phase, followed by Dutch women. Italian women retain high consumption of more than 200 minutes per day even in their 20s, therefore reaching the phase of independency the last, approximately five years after their British counterparts. High consumption of Italian women might be explained by the fact that Italian youth leaves their parent's nest later than in the Netherlands and the UK, therefore receiving – and consuming – larger amounts of unpaid work, produced by other household members (Share of young people living with their parents by gender and nationality, 2015). Furthermore, Italian women in their 20s produce more unpaid work than Dutch and British women, so they can also consume more.

Figure 28. Smoothed age profiles of lifecycle deficit for women in Italy (2002), the Netherlands (2005) and the UK (2000)



Source: Centre for Time Use Research, *Multinational Time Use Study for Italy for year 2002, for the Netherlands for year 2005 and for the UK for year 2000: On-demand micro data*, 2015; Eurostat, *Population on 1 January by age and gender*, 2015e.

In contrast to men, women produce more unpaid work than they consume until the rest of their lives. Furthermore, the amounts of unpaid work that they transfer to others are much higher

than men's. Italian women transfer by far the largest amounts of unpaid work, not only in their childbearing years, but also in the old age. For example, in the 50s and 60s, Italian women transfer more than 1 hour per day more than Dutch and British women. Due to traditional gender ideology, female labour force participation is the lowest in Italy, therefore Italian women have more time to dedicate to unpaid work. Consequently, their net transfers are higher than in other countries. When women enter their 80s, the gap between consumption and production is almost non-existent in all of the three countries.

Another difference is the age when women's net transfers are the highest. This occurs in the childbearing years, however, British women transfer the most unpaid work when they are younger, compared to Dutch and Italian women. This can be explained by the average age of women at childbirth, which is lower for British women (28.5 years) and higher for Dutch and Italian women (30.6 years) (Mean age of women at childbirth by nationality, 2015). However, it should be borne in mind that the age profiles of net transfers are shown for different years (2000 for the UK, 2002 for Italy and 2005 for the Netherlands). If they were presented for the same year, it is likely that the difference would become smaller or disappear.

Relying on these results, I can confirm the second hypothesis, i.e. that there are notable differences in lifecycle deficit with regard to its length and magnitude among the three selected countries. Furthermore, I show that lifecycle deficit does not vary only across countries, but also between genders.

The results of my analysis also confirm the importance of unpaid work and its relevance in understanding the generational economy and inter-age, as well as inter-gender reallocations. Due to different time allocation decisions of men and women between paid and unpaid work, large flows of monetary and non-monetary (familial) transfers are found within households (Kluge, 2014, p. 707). I show that non-monetary transfers flow primarily from women to men (while the situation in the market is the opposite). However, unpaid work does not flow only among genders, but also between different generations. According to my results, substantial amounts of unpaid work flow primarily from working-age adults to their children. Thus, a comprehensive picture of reallocations can be obtained only by including unpaid work into the analysis.

Inclusion of unpaid work is also relevant when designing public policies. Economic dependency of children and elderly people is not financed only in the form of public and private monetary transfers (such as child benefits, pensions, familial monetary transfers etc.), but also in the form of familial non-monetary transfers (Kluge, 2014, p. 707). I show that households are essential in supporting the dependency of children, while they do not play such an important role in financing the elderly. Elderly people rely mostly on their own production of unpaid work, while children's consumption is mainly supported by remarkably high transfers of unpaid work from parents to their children. As such, transfers in the form of unpaid work cannot be neglected when designing effective and rational public policies. Understanding and taking these patterns and interrelations between paid and unpaid work into account is

important for any country that wishes to maintain the welfare of its inhabitants, especially in the light of alarming demographic changes.

CONCLUSION

Time allocation decisions between paid and unpaid work differ greatly between genders. Historically, men have generally engaged in paid work, while women have been primarily responsible for production of an often overlooked part of the economy: unpaid work. Recent economic and demographic trends, such as increase in female labour force participation and ageing of population, as well as different institutional backgrounds of countries have had different implications for time allocation decisions. The main contribution of my master's thesis is adding the age dimension into the analysis of patterns in time use.

My results show that there are several notable trends with regard to production of unpaid work in Italy, the Netherlands and the UK in the last 4 decades. Firstly, the shape of the age-specific production profiles remained the same in the analysed time period. Production is the lowest in the youngest ages before it increases and reaches the first peak in the childbearing ages. The first peak is far more pronounced for women than for men, mainly because women devote more time to childcare than men. After the first peak production stabilizes or slightly declines. A second maximum occurs in the retirement years. Production of unpaid work remains high for elderly people and only starts to decline in the final stage of the lifecycle. Due to decisions for delayed parenthood, one of the most noticeable trends was a shift of the first peak to the later age (for both men and women in all of the three countries).

Secondly, production of unpaid work generally increased for men and declined for women in the observed time period. Growth in time devoted to unpaid work was significant for men of all ages in the UK. In Italy and the Netherlands only elderly men experienced notable increases in production of unpaid work. Furthermore, in the Netherlands and the UK, an upwards trend seemed to level-off at the turn of the century. Women experienced an opposite trend due to their intensified participation in labour market. A fall in unpaid working time was the most significant for women in the childbearing ages. Although women reduced and men intensified their unpaid working time, women still devoted more time to production of unpaid work than men in the first years of the 21st century. Despite a slow gender convergence in production of unpaid work in the recent decades, gender gap remained high in all of the three countries in the first decade of the 21st century. In Italy, the gender gap was the largest, which can be explained by a very traditional gender ideology and division of labour.

By adding up men's and women's production in paid and unpaid work, it becomes obvious that the amounts of total time devoted to work are much more similar between genders, although the term 'iso-work' can only be used for the UK to describe the pattern in total workload. Furthermore, analysis of trends in total workload over time reveals that I cannot confirm the first hypothesis, i.e. that total workload has been increasing (mainly on the account of leisure time) and that a change has been more pronounced for women than men. In Italy, total

workload changed only negligibly in the observed time period. In the Netherlands, the increase in total workload was more pronounced for men than for women. In the UK, women experienced an increase in total workload, while men's levels of total production remained constant or even slightly declined. Furthermore, men's leisure time increased in the relevant time period.

Relying on several assumptions, I also estimated the age-specific consumption profiles for the latest available year for each country. Patterns of consumption in the three countries are of a similar U-shape: children and elderly consume the largest amounts of unpaid work, while middle-aged population records the lowest consumption. There are no major differences in consumption across countries despite different institutional background.

By subtracting production from consumption, I estimated net transfers of unpaid work. The first stage of the lifecycle is characterized by positive net transfers, which means that individuals consume more unpaid work than they produce. The period of childhood dependency is the longest in Italy. The youngest children receive the highest net transfers, which decline with age. After their teenage years, patterns in net transfers start to differ between genders. Women start to produce more than they consume already in their 20s. From then on, they are able to support their own consumption needs, as well as needs of other individuals. In the childbearing years, they mainly support their children. In retirement years, men are the main receivers of women's transfers. The gap between women's consumption and production is not closed until the last stage in their life.

On the other hand, men are net receivers of transfers for the most of their life. Men produce more than they consume only in the ages when entry into parenthood is the most usual. The exception is Italy, where men's average consumption never exceeds their average production. However, the net transfers of unpaid work that men receive mostly from their female partners are much lower than transfers to children, who are by far the greatest consumers of unpaid work. Consumption is also high for elderly people, however, they support it mostly by themselves. In the Netherlands and the UK, older men rely on transfers only to a small extent, while Italian men depend on them more heavily.

The shape of the age profiles of net transfers is rather similar across countries, however, the differences arise due to different individual and institutional characteristics. There are substantial differences across countries in the amounts of transferred unpaid work at different ages, as well as in the length of lifecycle deficit and surplus periods. Relying on these results, I confirm the second hypothesis that there are notable differences in lifecycle deficit with regard to its length and magnitude in Italy, the Netherlands and the UK.

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APPENDIXES

TABLE OF APPENDIXES

Appendix A: Slovenian summary

Vsak posameznik gre v svojem življenju skozi tri različna obdobja: delovno aktivni prebivalci so ekonomsko neodvisni, saj so s proizvodnjo sposobni financirati svojo potrošnjo, medtem ko je za mladost in starost značilno obdobje ekonomske odvisnosti, ko posameznikova potrošnja presega njegovo proizvodnjo, t.j. dohodek od dela. V času mladosti in starosti se tako razlika med potrošnjo in proizvodnjo financira s pomočjo privatnih in javnih transferjev ter 'prerazdelitve iz naslova sredstev' (angl. *asset-based reallocations*) med posameznimi starostnimi skupinami. Ti transferji predstavljajo ekonomske tokove med različnimi generacijami (med mladim, delovno aktivnim in starim prebivalstvom), zato jim rečemo tudi medgeneracijski transferji.

V zadnjih letih so veliko pozornosti pritegnili 'Računi nacionalnih transferjev' (angl. *National Transfer Accounts*), ki v ustaljen 'Sistem nacionalnih računov' (angl. *System of National Accounts*) uvajajo starostno dimenzijo. Na ta način omogočajo poglobljeno razumevanje medgeneracijskih ekonomskih transferjev, kar je še posebej pomembno glede na demografske spremembe, ki smo jim priča v zadnjih desetletjih.

Medgeneracijska solidarnost pa ne poteka le preko trga. Namreč, velik del medgeneracijske izmenjave se odvija doma v obliki nedenarnih transferjev, t.j. neplačanega dela. Tako Sistem nacionalnih računov kot Računi nacionalnih transferjev zanemarjajo neplačane aktivnosti, kot so npr. kuhanje, čiščenje, nega otrok, prostovoljno delo itd. To vodi do nenatančne in zavajajoče slike transferjev med ljudmi različnih starosti ter med obema spoloma. Poleg tega vključitev neplačanega dela v ekonomsko analizo prispeva k bolj natančnemu merjenju blaginje prebivalstva, kakor tudi omogoča širšo mednarodno primerljivost različnih makroekonomskih kazalnikov.

Zaradi pomembnosti neplačanega dela v ekonomiji je mednarodna skupina raziskovalcev razvila nov sistem, imenovan 'Računi nacionalnih transferjev časa' (angl. *National Time Transfer Accounts*), ki dopolnjuje proizvodnjo, potrošnjo in transferje s podatki o neplačanem delu. Računi nacionalnih transferjev časa tako omogočajo merjenje neplačanega dela ter uvajajo starostno dimenzijo. Merjenje proizvodnje, potrošnje in neto transferjev neplačanega dela v življenjskem ciklu posameznika temelji na uporabi harmoniziranih anket o porabi časa.

V empiričnem delu magistrske naloge se najprej osredotočim na proizvodnjo neplačanega dela v Italiji, na Nizozemskem in v Veliki Britaniji ter na trende, opazne v zadnjih desetletjih. Oblika starostnega profila proizvodnje pokaže, da je v vseh treh državah proizvodnja neplačanega dela nizka v času mladosti, potem pa postopoma narašča in doseže prvi vrh v letih, ko se ljudje običajno odločajo za povečanje družine. V tej starosti je veliko predvsem neplačanega dela v obliki nege otrok. Prvi vrh je izrazito poudarjen za ženske, pri moških pa manj oz. ga ponekod sploh ni opaziti. Nato proizvodnja stagnira oz. rahlo upade, dokler ne doseže drugega vrha v starosti, ko so ljudje običajno že upokojeni. Ugotovim, da vzorec

proizvodnje neplačanega dela skozi življenje v preučevanem časovnem obdobju ostaja nespremenjen v vseh treh državah.

Analiza proizvodnje skozi čas razkrije pomemben trend: proizvodnja neplačanega dela je v zadnjih letih večinoma narasla za moške in upadla za ženske. V Italiji in na Nizozemskem se je količina neplačanega dela občutno povečala predvsem za starejše moške, medtem ko je bil v Veliki Britaniji ta trend prisoten pri moških vseh starosti. Nasprotno so v vseh treh državah najmočnejši padec v proizvedenem neplačanem delu doživele ženske v svojih 30-ih, medtem ko so starejše ženske ohranile približno enako ali rahlo povišano proizvodnjo neplačanega dela. Kljub naraščajočemu trendu v proizvodnji za moške ugotovim, da so le-ti v prvih letih 21. stoletja še zmeraj posvečali občutno manj časa neplačanemu delu kot ženske, čeprav so razlike v proizvodnji med obema spoloma v zadnjih desetletjih upadle. V Italiji je še zmeraj prisoten zelo tradicionalen pogled na delitev dela, kar pojasnjuje dejstvo, da ženske v Italiji v povprečju dnevno še zmeraj namenijo 4 ure več neplačanemu delu kot moški. Na Nizozemskem in v Veliki Britaniji so razlike v proizvodnji med spoloma manjše.

Da lahko potrdim oz. ovržem prvo hipotezo, se dodatno osredotočim na proizvodnjo skupnega dela (seštevek plačanega in neplačanega dela) skozi čas. Prva hipoteza pravi, da se skupno delo povečuje (predvsem na račun prostega časa) ter da je ta sprememba bolj izrazita za ženske kot za moške. Na podlagi svoje analize lahko zavrnem prvo hipotezo. Namreč, v Italiji je bila v preučevanem časovnem obdobju sprememba skupnega dela zanemarljiva. Na Nizozemskem je količina skupnega dela sicer narasla predvsem na račun prostega časa, vendar pa je bila ta sprememba bolj občutna za moške kot za ženske. V Veliki Britaniji se je količina skupnega dela povečala za ženske, vendar ostala dokaj nespremenjena za moške, ki so na koncu preučevanega obdobja uživali celo več prostega časa kot na začetku.

S pomočjo analize raziščem tudi vprašanje obstoja 'dvojnega bremena' (angl. *dual burden*) in 'časovne stiske' (angl. *time-squeeze*). V treh izbranih državah ženske ne nosijo dvojnega bremena, saj je skupna količina dela primerljiva med spoloma. Količina prostega časa v preučevanem časovnem obdobju se je zmanjševala (razen v Veliki Britaniji v prvih letih 21. stoletja, ko so ljudje začeli uživati več prostega časa), kar nakazuje obstoj časovne stiske. Le-ta je bila v prvih letih 21. stoletja najhujša za italijanske ženske, ki v delovni starosti ogromno količino časa namenjajo neplačanemu delu, poleg tega pa se (sicer v občutno manjšem obsegu) udejstvujejo tudi na trgu dela. Nasprotno so Britanci uživali veliko več prostega časa. V vseh treh državah velja, da je časovna stiska največja za delovno aktivno prebivalstvo ter večja za ženske kot za moške (razen na Nizozemskem, kjer je količina prostega časa primerljiva med spoloma).

Po analizi proizvodnje neplačanega in skupnega dela se osredotočim na potrošnjo neplačanega dela. Ocena starostnega profila potrošnje temelji na nekaj ključnih predpostavkah. Celotno količino neplačanega dela, ki ga gospodinjstvo proizvede, enakomerno razdelim med vse člane gospodinjstva. Izjema je nega otrok, ki jo pripišem le osebam, mlajšim od 18 let. Vzorci potrošnje so si med državami, pa tudi med spoloma, zelo podobni. Starostni profil je v obliki

črke 'U', kar pomeni, da je potrošnja neplačanega dela najvišja pri otrocih in starejših osebah. Prebivalstvo v delovni starosti troši najmanjše količine neplačanega dela v celotnem življenjskem ciklu. V mlajših letih je prevladujoča komponenta potrošnje 'nega otrok', po 18. letu starosti pa posamezniki trošijo ostale neplačane aktivnosti (kot npr. čiščenje, nakupovanje za dom, kuhanje ipd.). Vpliv različnih institucionalnih okolij držav na potrošnjo je majhen.

Primanjkljaj življenjskega cikla je definiran kot razlika med potrošnjo in proizvodnjo. Ko je primanjkljaj življenjskega cikla pozitiven, pomeni, da posameznik določene starosti troši več neplačanega dela kot ga sam proizvede. Negativen primanjkljaj, imenovan tudi presežek življenjskega cikla, pomeni, da posameznik določene starosti proizvede več kot potroši. Tako lahko del svoje proizvodnje v obliki transferjev prenese drugim osebam. V tem primeru je vrednost neto transferjev negativna. Oseba, ki transferje v obliki neplačanega dela prejme, zabeleži pozitivno vrednost neto transferjev.

V vseh treh državah je oblika starostnega profila neto transferjev podobna. Ker otroci ne proizvajajo oz. proizvajajo le majhne količine neplačanega dela, je njihova proizvodnja manjša od potrošnje. Tako je velik del njihove potrošnje financiran preko transferjev neplačanega dela, ki jih prejmejo od drugih, predvsem od svojih staršev. Po približno 20. letu starosti se vzorci med spoloma začnejo spreminjati. Ženske začnejo proizvajati več kakor trošijo, tako da je del njihove proizvodnje namenjen drugim. Transferji so največji v letih, ko imajo otroke, nato pa začnejo postopoma padati. Pri približno 80. letu starosti razlika med proizvodnjo in potrošnjo ne obstaja več, saj ženske potrošijo celotno neplačano delo, ki ga proizvedejo. Kljub podobnim vzorcem pa med državami prihaja do razlik v dolžini primanjkljaja življenjskega cikla in velikosti transferjev. Ženske v Veliki Britaniji prve dosežejo obdobje, ko njihova proizvodnja presega potrošnjo, torej so najdlje neodvisne. Poleg tega tudi prve dosežejo starost, pri kateri so njihovi transferji največji, kar je najverjetneje povezano z najnižjo povprečno starostjo pri rojstvu otroka. Najbolj izstopajo italijanske ženske, saj so njihovi transferji – še posebej od 40. leta naprej – občutno večji kot pri Nizozemkah in Britankah, kar je možno pojasniti s tradicionalno delitvijo dela v Italiji.

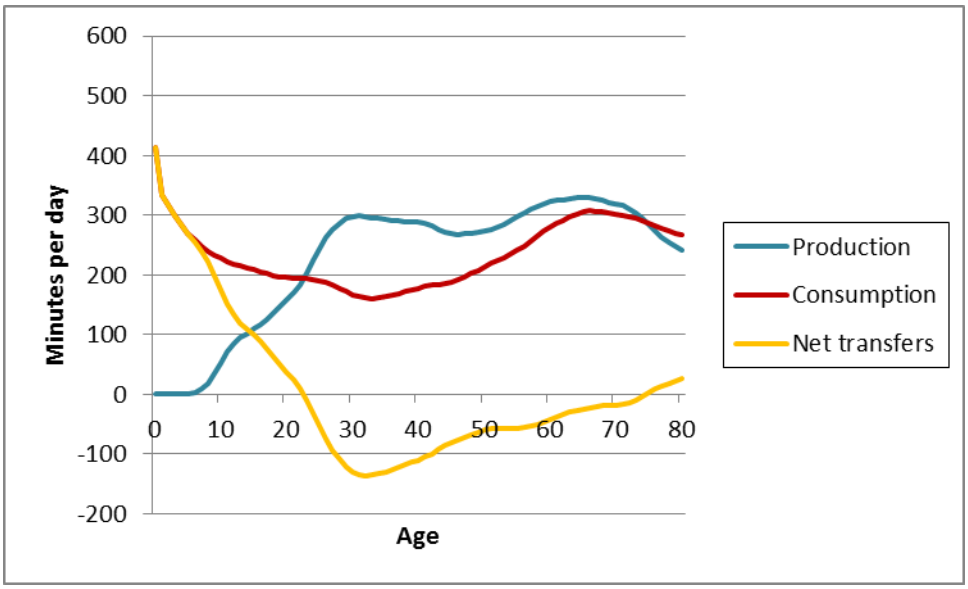
Medtem ko so ženske svojo potrošnjo neplačanega dela sposobne financirati skozi skoraj celotno življenje, to ne velja za moške. Nedenarni transferji med spoloma tečejo v smeri od žensk k moškim. V Italiji so moški odvisni od transferjev neplačanega dela skozi celotno življenje, saj njihova potrošnja presega proizvodnjo v vseh starostih. Moški iz Nizozemske in Velike Britanije so se sposobni sami financirati le približno od 30. do 50. leta, dokler njihova potrošnja ponovno ne preseže proizvodnje. Od 50. leta naprej so tako moški v vseh treh državah delno odvisno od transferjev neplačanega dela, čeprav so le-ti veliko nižji kot transferji otrokom. Ta odvisnost je najmočnejša pri Italijanih, sledijo pa jim Nizozemci in Britanci. Tako lahko potrdim drugo hipotezo, ki pravi, da so med državami občutne razlike v dolžini in velikosti primanjkljaja življenjskega cikla.

Appendix B: List of abbreviations

DE	Germany
ES	Spain
EU	European Union
EU-SILC	European Union Statistics on Income and Living Conditions
FR	France
GDP	Gross Domestic Product
IT	Italy
MTUS	Multinational Time Use Study
NTA	National Transfer Accounts
NTTA	National Time Transfer Accounts
NL	The Netherlands
OECD	Organisation for Economic Co-operation and Development
SNA	System of National Accounts
UK	The United Kingdom

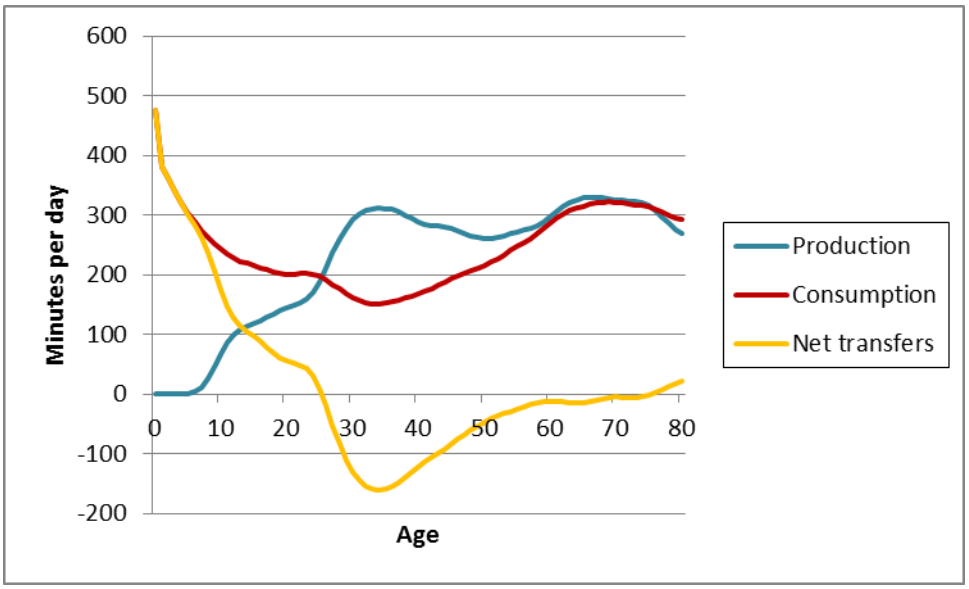
Appendix C: Age profiles of production, consumption and net transfers

Figure C-1. Smoothed age profiles of production, consumption and net transfers for both genders combined, Austria, 1992



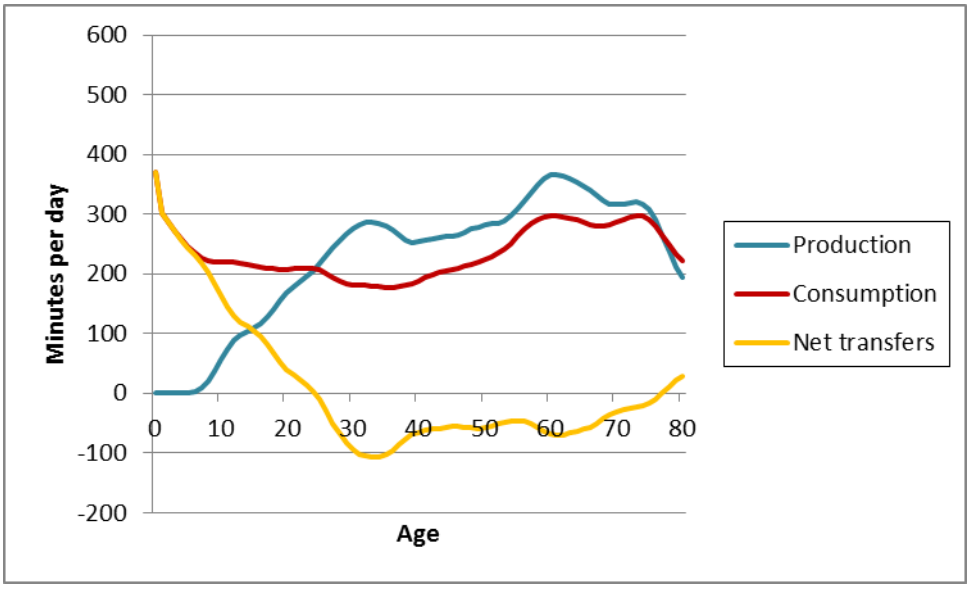
Source: Centre for Time Use Research, *Multinational Time Use Study for Austria for year 1992: On-demand micro data*, 2015; Eurostat, *Population on 1 January by age and gender*, 2015e.

Figure C-2. Smoothed age profiles of production, consumption and net transfers for both genders combined, Germany, 2001



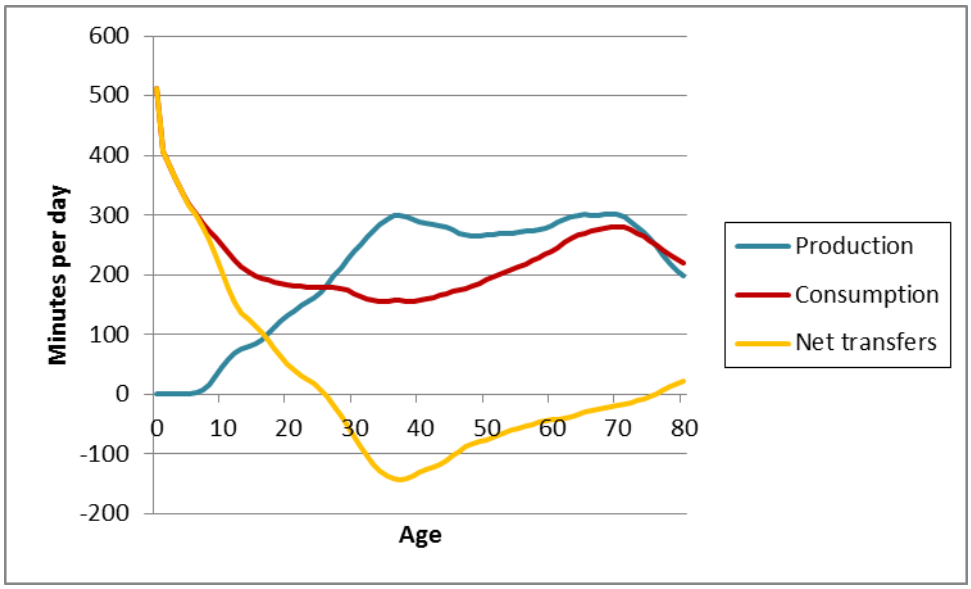
Source: Centre for Time Use Research, *Multinational Time Use Study for Germany for year 2001: On-demand micro data*, 2015; Eurostat, *Population on 1 January by age and gender*, 2015e.

Figure C-3. Smoothed age profiles of production, consumption and net transfers for both genders combined, Slovenia, 2000



Source: Centre for Time Use Research, *Multinational Time Use Study for Slovenia for year 2000: On-demand micro data*, 2015; Eurostat, *Population on 1 January by age and gender*, 2015e.

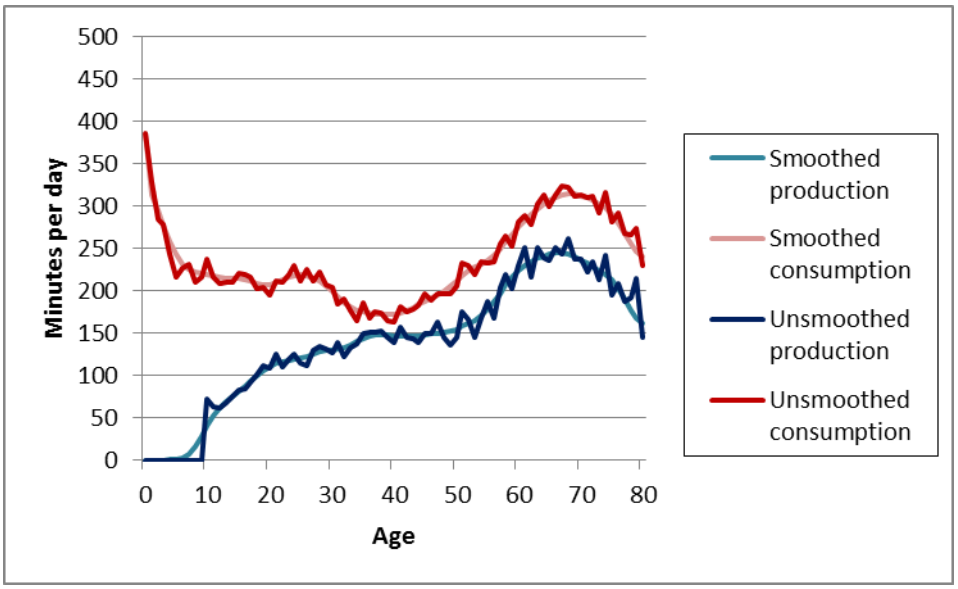
Figure C-4. Smoothed age profiles of production, consumption and net transfers for both genders combined, Spain, 2009



Source: Centre for Time Use Research, *Multinational Time Use Study for Spain for year 2009: On-demand micro data*, 2015; Eurostat, *Population on 1 January by age and gender*, 2015e.

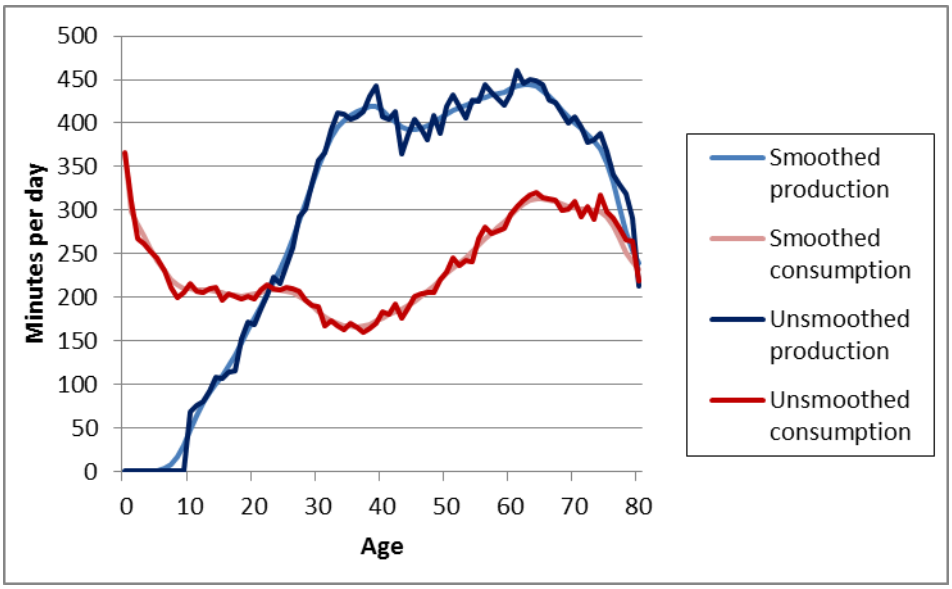
Appendix D: Smoothed and unsmoothed age profiles of production and consumption

Figure D-1. Unsmoothed and smoothed age profiles of production and consumption for men, Italy, 2002



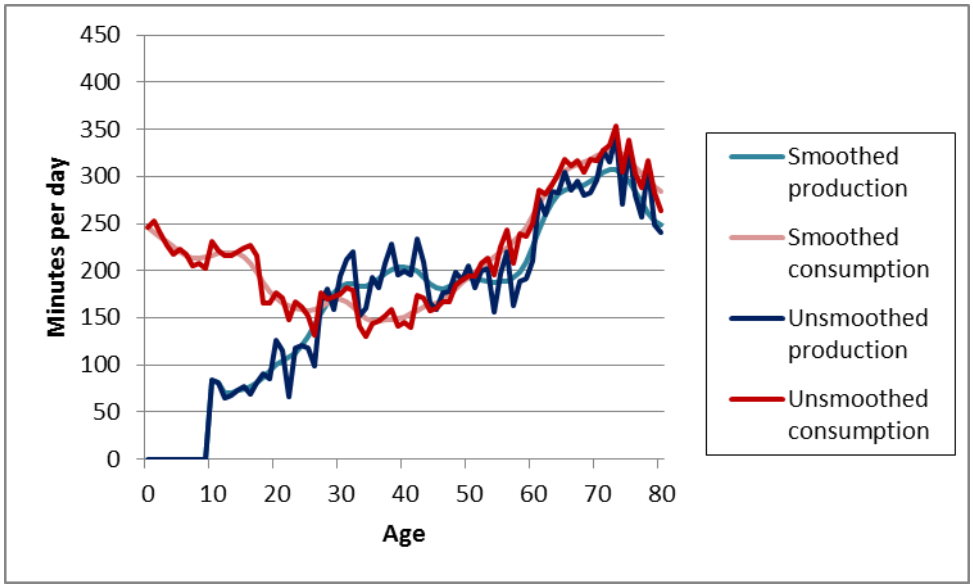
Source: Centre for Time Use Research, *Multinational Time Use Study for Italy for year 2002: On-demand micro data*, 2015; Eurostat, *Population on 1 January by age and gender*, 2015e.

Figure D-2. Unsmoothed and smoothed age profiles of production and consumption for women, Italy, 2002



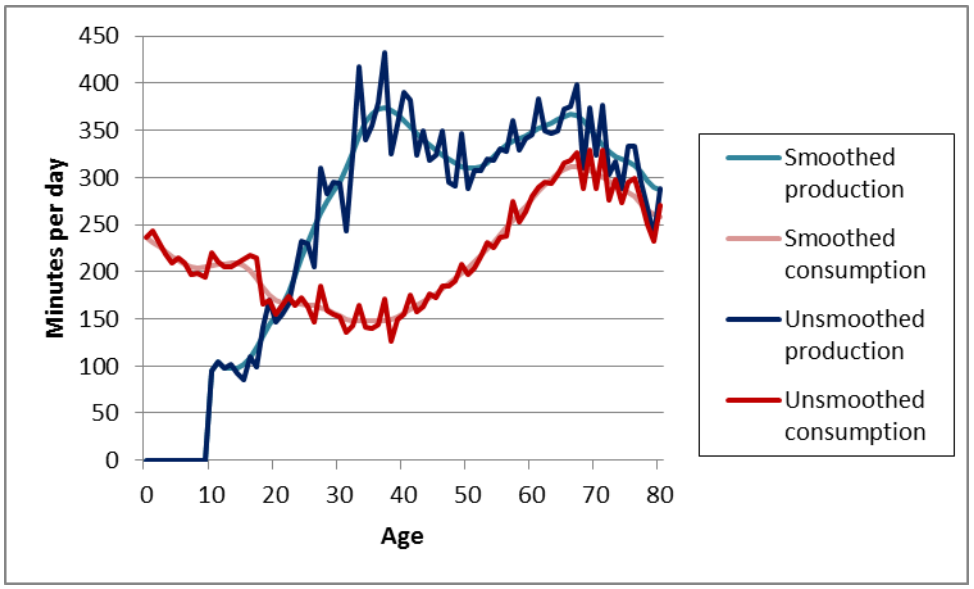
Source: Centre for Time Use Research, *Multinational Time Use Study for Italy for year 2002: On-demand micro data*, 2015; Eurostat, *Population on 1 January by age and gender*, 2015e.

Figure D-3. Unsmoothed and smoothed age profiles of production and consumption for men, the Netherlands, 2005



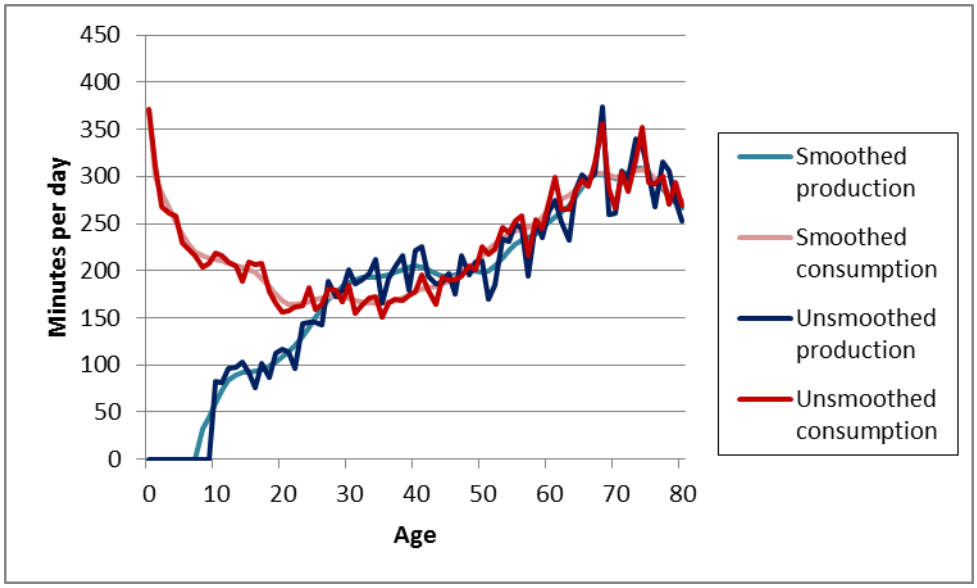
Source: Centre for Time Use Research, *Multinational Time Use Study for the Netherlands for year 2005: On-demand micro data*, 2015; Eurostat, *Population on 1 January by age and gender*, 2015e.

Figure D-4. Unsmoothed and smoothed age profiles of production and consumption for women, the Netherlands, 2005



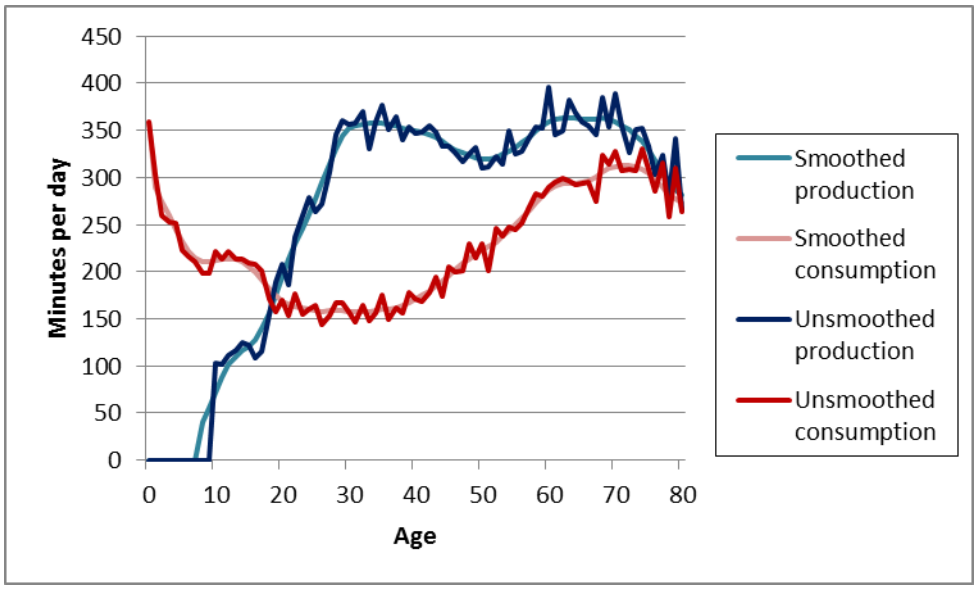
Source: Centre for Time Use Research, *Multinational Time Use Study for the Netherlands for year 2005: On-demand micro data*, 2015; Eurostat, *Population on 1 January by age and gender*, 2015e.

Figure D-5. Unsmoothed and smoothed age profiles of production and consumption for men, the UK, 2000



Source: Centre for Time Use Research, *Multinational Time Use Study for the UK for year 2000: On-demand micro data*, 2015; Eurostat, *Population on 1 January by age and gender*, 2015e.

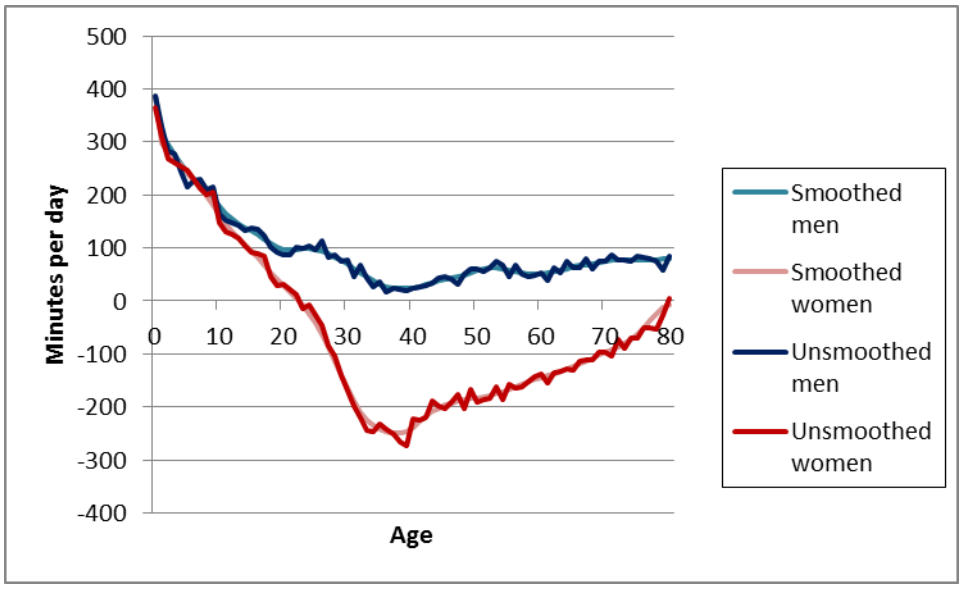
Figure D-6. Unsmoothed and smoothed age profiles of production and consumption for women, the UK, 2000



Source: Centre for Time Use Research, *Multinational Time Use Study for the UK for year 2000: On-demand micro data*, 2015; Eurostat, *Population on 1 January by age and gender*, 2015e.

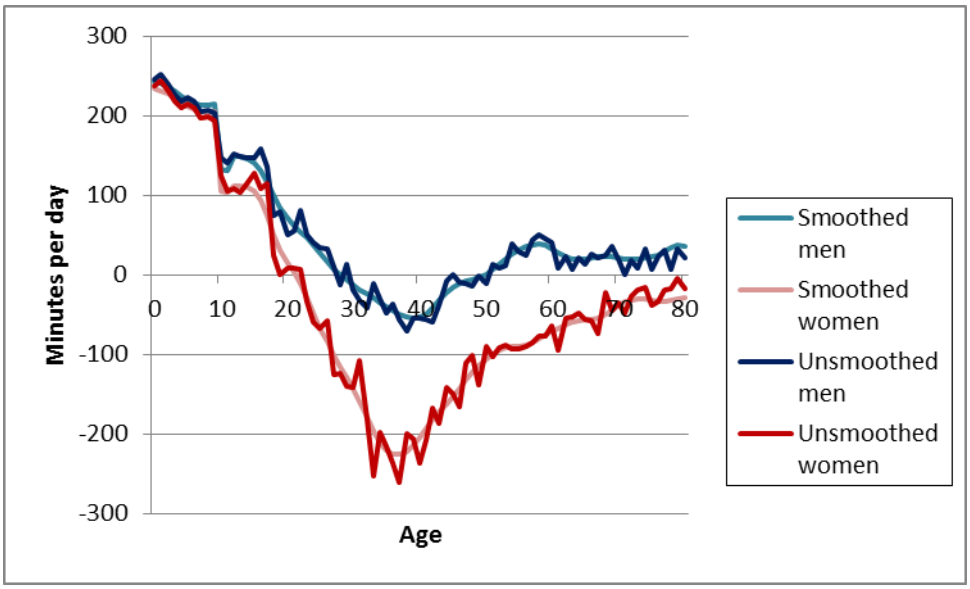
Appendix E: Unsmoothed and smoothed profiles of net transfers

Figure E-1. Unsmoothed and smoothed age profiles of net transfers for both genders, Italy, 2002



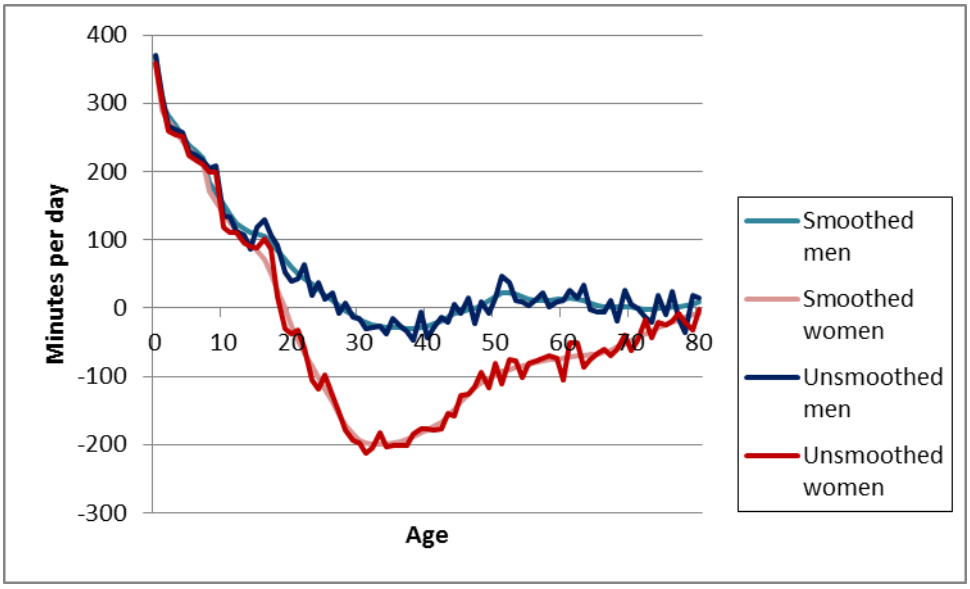
Source: Centre for Time Use Research, *Multinational Time Use Study for Italy for year 2002: On-demand micro data*, 2015; Eurostat, *Population on 1 January by age and gender*, 2015e.

Figure E-2. Unsmoothed and smoothed age profiles of net transfers for both genders, the Netherlands, 2005



Source: Centre for Time Use Research, *Multinational Time Use Study for the Netherlands for year 2005: On-demand micro data*, 2015; Eurostat, *Population on 1 January by age and gender*, 2015e.

Figure E-3. Unsmoothed and smoothed age profiles of net transfers for both genders, the UK, 2000



Source: Centre for Time Use Research, *Multinational Time Use Study for the UK for year 2000: On-demand micro data*, 2015; Eurostat, *Population on 1 January by age and gender*, 2015e.