The gender gap in labour force participation at older ages: a comparison across the European region

Master thesis

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Abstract

Across the European region, women's employment rates have rapidly increased over the past decades. However, these rates still lag behind men's, and gender gaps in employment persist. Further, many countries have implemented policies to increase labour force participation in light of demographic changes such as an ageing society. Understanding gender differences across the European region is needed to achieve these policy goals of higher employment rates, longer working lives and a smaller employment gender gap. The still persistent gender gap in employment at older age calls for an explanation because, over the past decades, many developments have been associated with higher labour force participation among women. A few examples are increased educational opportunities and policies (by companies or states) aimed at keeping women in the workforce, including (paid) maternity leave, formal childcare, and part-time work. Additionally, there are still significant cross-national differences across the European region. Therefore, this thesis aims to better understand different macro-level mechanisms that can help explain older women's labour force participation and the related gender gap in employment, mainly: care policies, gender norms, and retirement culture.

To examine these macro-level indicators, hypotheses were developed based on the welfare state regime theory and the defamilialisation framework. These hypotheses predicted that countries with higher access to formal childcare, more use of elder care, equalitarian gender norms and a late exit culture from the labour market have a higher labour force participation rate among older women and a lower gender gap in employment. On the other hand, countries with less access to childcare, high child benefits, traditional gender norms and an early-exit culture are expected to lower labour force participation rates among older women and a higher employment gender gap. To test these hypotheses, a descriptive analysis is performed with a focus on cross-national differences, using the Gender and Generation Survey and the Contextual Database. In this context, fifteen countries in the European region are examined, including a cluster of eastern European countries, a geographical region frequently overlooked in the literature. These countries comprise Belgium, Bulgaria, the Czech Republic, Estonia, France, Georgia, Germany, Hungary, Italy, Lithuania, Netherlands, Poland, Romania, Russia, and Sweden.

The results indicate that primarily the availability of formal childcare, use of formal elder care and egalitarian gender norms are positively associated with the labour force participation of older women across the European region. In addition, this study hints at the positive effects of formal childcare and egalitarian gender norms on creating a smaller gender gap in employment at older ages. These findings highlight the gendered aspect of care responsibilities and, therefore, how important the availability of formal childcare and elder care is in increasing older women’s employment rates. That availably of childcare also impacts older women can be explained from a life course perspective. In this regard, women with little access to formal childcare when they first experienced motherhood may have fragmented careers and, thus, a weaker link to the labour market. Thereby indicating that policymakers should not underestimate the impact of formal childcare on older

women's employment rates and the related gender gap. Additionally, providing state-organised childcare can also positively contribute to the norms regarding using formal and informal care. Although personal and societal values are difficult to change, childcare availability may be essential in shaping positive attitudes towards formal care. This could also be an effective step in reducing traditional gender norms.

Furthermore, the findings present significant differences in policy backgrounds between countries regarding gender norms and retirement policy. These policy differences are evident in the lower and diverging retirement ages for men and women in Eastern Europe, while in Western Europe, retirement ages are higher and equal for men and women. Although policies in this regard are changing, the findings underscore the importance of the country's context in achieving policy goals, such as higher labour force participation and longer working lives among older people.

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1. Introduction

Recent news reports paint a picture of workforce shortages across Europe in nearly all sectors, from airport staff and teachers to healthcare personnel (Pelgrim, 2022). In addition, the unemployment rate throughout the European Region is at an all-time low (Eurostat Statistics Explained, 2022). This is due to recent developments such as the economic recovery following the Covid pandemic but is also driven by long-term trends such as low fertility rates and an ageing society. These long-term trends have received widespread attention for years in political, policy and academic fields (Pilgrim, 2022). Considering the demographic change of an ageing society, it is indicated that by 2030 people aged 65 and older will make up more than one-fifth of the total population in the European region (Economic and Social Council, 2017). A consequence of an ageing population is the increasingly smaller workforce that finances and cares for an increasingly large group of older people. This has many social and financial implications, including staff shortages, a growing healthcare system and rising government spending.

To face these challenges, governments around Europe have implemented and changed a variety of retirement, care, and labour policies (Department of Economic and Social Affairs, 2020). Two policy goals across the European region stand at the heart of this. First, governments are trying to increase labour force participation. By doing so, they are taking advantage of two groups that historically have lower labour force participation rates: women and older workers. Second, many governments are focusing on raising the retirement age. This policy change aims to keep the labour force sufficiently large. In addition, this shortens the period in which people receive their old-age pensions. These policy choices are required because people are getting increasingly older, which means that the funding of pensions and the period during which people receive their pensions are no longer in proportion (Anxo et al., 2007; European Commission, 2021).

To achieve these policy goals of creating higher labour force participation and longer working lives among older people, an understanding of gender differences across the European region is needed. This is because reducing the gender gap in employment, which is still persistent, is essential in achieving higher and more equal employment rates. In this context, the focus is mainly on women since they generally have lower labour force participation due to life events such as experiencing motherhood. In contrast, male employment rates are naturally high and tend to be less affected by such life events (Anxo et al., 2007; Nieuwenhuis et al., 2012). The remaining gender gap in employment is an interesting phenomenon, given developments associated with higher labour force participation among women, such as increased educational opportunities and policies (by companies or states) aimed at keeping women in the workforce, including (paid) maternity leave, formal childcare, and part-time work (Haaland et al., 2018). Additionally, there are still significant cross-national differences across the European region. For example, the difference in the employment rate between men and women is only 4,1% in Sweden, while it is 13% in Poland and 17,7% in Italy (OECD, 2022a).

Therefore, the central question of this thesis is: *how much does the gender gap in labour force participation at older ages differ across the European region, and to what extent can these country differences be explained by institutional factors such as welfare state policies and gender norms?* This thesis emphasises the role of macro-level factors in explaining cross-national differences in women's labour force participation at older ages and the related gender gap. Data from the Gender and Generation Survey and the Contextual Database is used to explore this. These data sources were chosen because the survey data are linked to the policy indicators in the Contextual Database, allowing for comparative cross-national research at the macro level.

1.1. Gender differences across the European region

Even though countries may face the same demographic problems and, at times, apply similar policy strategies, the context differs per country. These differences should not be surprising since people within the European region have different historical backgrounds, customs, and cultures. An example of this is the prominent historical difference in the political divide between the capitalistic approach in Western Europe and the Communistic system in Eastern Europe, which lasted until the end of the Cold War in 1991 (Leopold & Skopek, 2015a). As a result, people's life courses vary widely within the European region, especially among women.

This is also reflected in the cross-national variations regarding employment rates and the employment gender gap. In this respect, women's labour force participation started to increase around the 1960s and 1970s because of improving educational opportunities and the expansion of sectors traditionally in high demand for women, such as early education, care services and public service (Genre et al., 2010; Haaland et al., 2020). As a result, the gender gap in employment began to narrow (Haaland et al., 2020). In addition, the changing structure of the labour market since the end of the 20th century has offered women, primarily in Western Europe, increased opportunities to enter the labour market (Del Boca & Locatelli, 2006; Kim & Rizzi, 2020; Nieuwenhuis et al., 2012). In particular, the increased flexibility of labour market institutions, such as decreasing employment protection, decreasing unemployment benefits, individual income taxes and the possibility of working part-time, positively affects women's labour force participation (Genre et al., 2010; Kim & Rizzi, 2020). This flexibility can benefit women's labour force participation by making it easier for workers to enter and exit the workforce and is made possible by legislation, labour unions and organisations (Chung & Van der Lippe, 2018; Genre et al., 2010). As a result, social roles and participation preferences within Western Europe started to change. Therefore, the male breadwinner model, where the woman stays home with the children while the man provides an income, became less preferable. This made the dual-earner or the one-and-a-half-earner model more common among families (Balleer et al., 2014; Haaland et al., 2018). However, norms and customs do not change overnight. Therefore, it seems plausible that these norms still have an effect, especially among older women, since they grew up during this change in gender norms.

The opposite is true for women in Eastern Europe, where it used to be expected for women to work under the socialist regime and where the breadwinner model became the preferred division between men and women only after the end of the communist era in 1989 (Anxo, 2011; Florence, 2004). After this change, there has been a declining trend in labour force participation for both men and women (Organisation for Economic Co-operation and Development [OECD], 2005). Even though women in these countries still feel the financial need to work, the opportunities and support are fading (Gauthier et al., 2016). This can also be seen in the state's role. Whereas previously, the focus was on supporting women in their working lives, after the collapse of communism, many eastern European governments opted for a shift towards a male-breadwinner model. As a result, the support for women in their working lives became less with the withdrawal of financial aid and the closure of many daycare centres, mainly for children under three (Gauthier et al., 2016; Szelewa & Polakowski, 2008). This transition is also seen as the re-familialisation process (Saxonberg & Sirovátka, 2007). This means that the focus of care policies in these welfare states changed from policies aimed at reducing family care tasks through accessible formal care to a policy framework aimed at shifting care tasks back to within the family (Floridi, 2020; Saraceno & Keck, 2010).

However, in recent years, Eastern and Western countries have been moving more in the same direction. This is because there have been increasingly similar policy strategies to address demographic change (European Commission, 2021). Yet, the starting point of these policy changes is vastly different due to former policies (Haas et al., 2006). This is also evident in the remaining gender gap in employment since women's labour force participation still lags behind men's (Gauthier et al., 2016). For example, in the European Union, the labour force participation rate for men (15-64) in 2021 was 73%, while for women, it was only 63% (OECD, 2022a). In addition, the gender gap in employment is even more significant among older workers, where 67% of men and 54,3% of women were still active in 2021 within the European Union (Eurostat, 2021). This illustrates that achieving policy goals such as a higher employment rate among females and older workers is impacted by the context of a country, such as previous policies, customs, and norms (Howlett, 2019).

1.2. Exploration of existing literature

These developments in labour force participation and ageing have also received considerable attention in social science. That this is an extensively researched topic is not surprising since it offers many different facets and perspectives: across age groups, from the micro level to macro level, from single-country studies to multiple country studies and from cross-national studies to longitudinal studies (Anxo et al., 2007; Gauthier et al., 2016; Genre et al., 2010; Haaland et al., 2018; Leopold & Skopek, 2015a; Leopold & Skopek, 2015b; Moussa, 2019). Therefore, explanations of gender differences in employment rates across all ages and retirement norms are diverse but can be generality divided into micro and macro level factors.

Micro-level studies emphasise the role of shifting demographics among women. These studies show that having children, education level, earnings, marriage, and birth cohort influence women's employment rates. In addition, the micro-level factors are accompanied by demographic changes such as an increase in union

dissolution, a decrease in fertility rates and an increasingly well-educated population (Cipollone et al., 2014; Gauther et al., 2016; Nieuwenhuis et al., 2012). Further, these studies show that entry into motherhood tends to hold the most explanatory power of women's employment, as many women traditional withdrew from the labour market after childbirth and often re-entered only when the children were older (Van der Lippe & Van Dijk, 2002; Nieuwenhuis et al., 2012). These micro-level explanations have less effect on male employment since their labour participation rate is generally already high. Moreover, men's employment tends to be less affected by life events such as having children (Anxo et al., 2007). In addition, micro-level indicators are quite universal throughout the European region for both men and women and do not explain country differences (Anxo et al., 2011). To examine these differences between countries, macro-level indicators should be considered.

Macro-level explanations focusing on country differences have also addressed persistent gender differences in labour force participation. Three lines of literature stand out: the role of care policies, gender norms, and retirement culture (Chung & Van der Lippe, 2018; Haaland et al., 2018; Koreshi & Alpass, 2022; Leopold & Skopek, 2015a; Moussa, 2019; Radl, 2012). First, care policies affect the labour force participation in a country. Care policies reflect the range of formal care (provided by the state or market) and informal care arrangements (provided by family or friends) in a country (Bertogg et al., 2020). Currently, the literature often views policies focusing on children (e.g., childcare, parental leave, and child benefits) as influential for the labour force participation of younger women with small children (Floridi, 2022; Kleider, 2015; Mandel and Semyonov, 2006). However, some studies also point to the effect of these choices on labour force participation later in life (Anxo et al., 2011; Hank & Korbmacher, 2013; Stafford et al., 2019). In addition, policies that focus on elder care (e.g., help at home, nursing homes and care benefits) are viewed as more significant for the labour force participation of middle-aged women (Bertogg & Strauss, 2018; Kotsadam, 2011; Le Bihan et al., 2019) A distinction can also be made between research focusing on a specific policy (Floridi, 2022; Bertogg & Strauss, 2018; Kotsadam, 2011) or a combination of different care arrangements (Bertogg et al., 2020; Kleider, 2015). These results indicate that policies that reduce caregiving responsibilities for the family (e.g., formal childcare or organisations that offer at-home care elderly) encourage women's labour force participation (Brandt et al., 2009; Kleider, 2015; Le Bihan et al., 2019). In contrast, policies that focus primarily on care within the family, such as family allowance or child support, in combination with providing little formal care, are indicated to have a reducing effect on the labour force participation rate of women (Gornick, 2004; Floridi, 2022; Igel & Szydlik, 2011). However, research in this area remains relatively limited, and the effect of institutional care policies on labour force participation in later life remains unclear.

Second, a line of research that holds close connections to the effect of care policies on the labour force participation of women across countries is gender norms. This is because this forms women's role in society (Bertogg et al., 2020; Radl, 2012). Although the image of the traditional family with a man as the breadwinner

and a woman as the caregiver no longer holds, the division between work and family is still strongly gendered among most couples (Aarntzen et al., 2021; Balleer et al., 2014). The literature suggests that gender differences are often magnified after becoming parents (Avram & Popova, 2022). Thereby creating gender-related opportunity costs, such as the number of hours that can be dedicated to paid work. This can have long-term effects on women's lives (Avram & Popova, 2022; Kim & Rizzi, 2020). Alternatively, studies examine the state's role in reinforcing traditional gender norms (Anxo, 2011; Haaland et al., 2018; Petrongolo & Ronchi, 2020). This includes examining policies that encourage conventional gender norms, such as the ability of women to take long-term parental leave when children are small. While at the same time, these arrangements are minimal for fathers (Petts & Knoester, 2018). In addition, a growing literature suggests that gender norms shape the gender gap in the labour market passed down from earlier generations (Haaland et al., 2018; Olivetti et al., 2013). This perpetuates the idea that it is in women's nature to devote themselves to housework and caring for children, while it is in men's nature to care for their families (Haaland et al., 2018). The significant and persistent gender differences are especially impressive considering the legislation on equal educational opportunities and equal pay that has been gradually introduced in most countries over the years (Petrongolo & Ronchi, 2020). Thereby, scholars find consistent evidence that higher levels of education lead to more equal gender norms and higher participation in the labour market among women (Haaland et al., 2018; Petrongolo & Ronchi, 2020; Rivera-Garrido, 2022).

Lastly, a country's retirement policies affect labour force participation at later ages (Billari & Liefbroer, 2007; Hank & Korbmacher, 2013; Radl, 2012). In this context, access to early retirement schemes and differences in the official pension age are most often used to explain country differences (Dingemans, 2017; Ebbinghaus, 2020; Genre et al., 2010). This is because statutory and early retirement ages differ across Europe. Since only a small percentage of workers continue to work after retirement, differences in statutory retirement ages lead to significant differences in employment at later ages. In addition, some countries offer more generous early retirement schemes than others which has an increasing effect on differences across the European region in retirement ages (Dingemans, 2017; Genre et al., 2010). Yet, retirement policies do not paint the whole picture. Recent literature argues that retirement norms also need to be considered when explaining employment rates across countries at an older age (Jansen, 2018; Medero-Cabib et al., 2021). Thereby highlighting that the transition from work to retirement is shaped not only by legal and organisational rules but also by normative rules. However, few studies consider retirement culture as an explanation for labour force participation at older ages (Jansen, 2018). This is remarkable given that researchers generally agree that age norms differ per country and may also differ between men and women (see, among others, Radl, 2012). Existing studies on the effect of culture show that people's behaviour, such as the decision to retire, is mainly shaped by societal norms and fits within the framework of institutional policies (Jansen, 2018; Pfau-Effinger, 2005; Radl, 2012). Therefore, it seems essential to include institutional policies and norms when examining labour force participation.

In conclusion, by focusing on macro-level factors associated with women's labour force participation at an older age and the related gender gap, this thesis contributes to the existing literature in three ways. First, it does not restrict the analysis to one macro-level factor but considers three main distinct macro-level factors that may help explain the labour force participation rate of older women and the gender gap in employment at older ages, mainly: care policies, gender norms, and retirement policies. In doing so, it aims at understanding different mechanisms and providing a more complete picture that can help explain the cross-national difference in women's employment rates and the gender gap. This complements the existing literature because the literature focused on macro-level factors in labour force participation is considerably smaller than the literature concentrating on micro-level factors in labour force participation (Anxo et al., 2007; Cipollone et al., 2014; Gauthier et al., 2016; Haaland et al., 2018; Leopold & Skopek, 2015a; Moussa, 2019; Nieuwenhuis et al., 2012). Therefore, the effect of macro-level factors on labour force participation does not yet provide a unified picture. This thesis adds to this knowledge.

Secondly, it provides insights into the effect of care policies on European labour force participation. Unlike other studies, this thesis considers the totality of care policies by looking at care policies aimed at helping parents (e.g., childcare) and the elderly (e.g., in-kind care). This is because most studies focus on one of these groups or a single policy (Floridi, 2022; Bertogg et al., 2020; Bertogg & Strauss, 2018; Kleider, 2015; Kotsadam, 2011). Moreover, it includes care factors for which a positive effect (i.e., formal care arrangements) on labour force participation is expected and an adverse effect (i.e., family or care benefits). In this regard, indicators that reduce labour force participation are often disregarded (Kleider, 2015). However, researchers argue that these policy indicators should also be included to paint a more complete picture of the effects of care policies (Kleider, 2015; Nieuwenhuis et al., 2012). Therefore, to develop a comprehensive view of the impact of caregiving policies on the labour force participation of older women, I consider both childcare and elder care policies, as well as policies that are expected to have a positive and a negative impact.

Third, a range of Eastern European countries is included in the analysis (Bulgaria, Czech Republic, Estonia, Georgia, Hungary, Lithuania, Poland, Romania, and Russia). In this way, this thesis contributes to the gap that exists in cross-national comparative studies, which often include only Western European countries. This shortcoming is reflected in the literature focusing on care policies, where only a few articles include Eastern European countries in their analysis. These studies focus only on the link between care policies and their effect on individual care responsibilities but not on the connection with labour force participation (Bertogg et al., 2020; Floridi, 2022; Szelewa & Polakowski, 2008). In addition, studies also rarely consider eastern European countries when studying early retirement options and differences in the official pension age (Aidukaite, 2009; Ebbinghaus, 2021; Bertogg & Straus, 2018) compared to the bulk of studies that consider western European countries (see, e.g., Engelhardt, 2012; Medero-Cabib et al., 2021; Möhring, 2015; Stafford et al., 2019). Moreover, even fewer studies consider Eastern Europe when examining the effect of retirement policy on employment (Avram & Popova, 2022; Jansen, 2018; Kim & Rizzi, 2020).

2. The welfare context

One of the main mechanisms to explain differences between countries is the different types of welfare state regimes (Arts & Gelissen, 2002; Nakray, 2019; Saraceno and Keck, 2010). This is because the welfare state of a country indicates the extent to which social security (e.g., unemployment allowances or pensions), social services (e.g., childcare, health care, and elder care) and the distribution of wealth (e.g., taxes and benefits) are regulated in a country (Aidukaite, 2009).

Most social policy researchers agree that the foundation of a welfare state is a democratic system, the pursuit of a high standard of living and a welfare system (Aidukaite, 2009; Arts & Gelissen, 2002; Esping-Andersen, 1994). Therefore, the welfare state can be defined as: "the state's involvement in the distribution and redistribution of welfare in a given country, taking, however, democracy and the relatively high standard of living as a basis for the welfare state" (Aidukaite, 2009; p24). In this definition, social policy is seen as one of the components of the welfare state. Yet social policy is also used as a synonym for the welfare state. This is because social policy refers to realising a welfare state through regulating education, social insurance, pension programs and health care systems (Aidukaite, 2009).

Therefore, these policies also influence the way people within a country live their lives. This happens through, for example, adopting policies that have a supportive or unsupportive effect on women's labour force participation or determining at what point men and women can retire. In addition, the welfare state's culture influences individuals' lives and accounts for differences between countries. This arises from customs, values and ideas embedded in society (Dingemans et al., 2017). Examples are age norms (e.g., when is it customary to have children or retire) or gender norms (e.g., what is a typical gender role distribution in a country). These cultural values and ideals which are present in the welfare culture, in turn, also limit the possible policy measures of a welfare state (Anxo et al., 2011; Pfau-Effinger, 2005).

2.1. The typology of welfare states

In recent decades, many researchers have attempted to distinguish and empirically test different welfare state typologies based on the decommodification level. This has resulted in five different typologies, of which a summary is presented in the first three columns of Table 1. In describing welfare state typologies, the most cited theory is 'The Three Worlds of Welfare Capitalism' by Gøsta Esping-Andersen (1990), which presents three welfare state regimes: the Liberal; the Christian-Democratic and the Social-Democratic regimes. The liberal government is characterised by individuality and market functioning. It is most similar to policies found in the United Kingdom and Ireland. The Christian Democratic regime is a conservative model that focuses not on equality but security and traditional policies based on occupational status, family composition and gender. This typology closely relates to European countries like Germany, France, and Belgium. The social-democratic regime, most often found in Nordic European countries, is characterised by its inclusive approach and a high degree of decommodification.

Later, researchers presented two more welfare state typologies, the Mediterranean and Post-Communism welfare states (Aidukaite, 2010; Baranowski & Jabkowski, 2022). The Mediterranean model, which consists of southern European countries such as Spain, Italy, and Portugal, is characterised by a fragmented social welfare system composed of various income schemes ranging from meagre to generous and a health care system that provides only limited coverage. As a result, reliance on the family and voluntary sectors is a key feature of the Mediterranean welfare state model (Bambra, 2007; Baranowski & Jabkowski, 2022). In contrast, the Post-Communism welfare state, embedded in most east European countries, is characterised by a combination of liberal and socio-democratic regimes and a few key elements of Post-Communism societies, namely: a high level of social security, low benefit levels, and low public confidence in state institutions (Aidukaite, 2009). In addition, Eastern European countries differ considerably on a country level. These variations can be seen in, for example, different pension schemes, healthcare systems and different levels of economic growth. Such differences can be primarily explained by the extent to which the state provides and finances these facilities or whether this has been privatised by the market (Broka & Toots, 2022; Lauzadyte-Tutliene, 2018). However, the Eastern European countries display enough similar characteristics to be classified under one type of welfare state: the Post-Communism regime. This is due to an equal history and a welfare system where the state facilitates social security through universal benefits. Yet, through low benefit levels, most people rely primarily on their family and means-tested benefits available through their work to maintain an acceptable standard of living (Aidukaite, 2009; Lauzadyte-Tutliene, 2018).

2.2. The defamilialisation framework

The welfare state typology does, however, not consider unpaid work. Thereby creating a gendered perspective on the role of welfare states since policies that mainly affect women are omitted. The defamilialisation view is applied to create a more extensive focus on the impact of state policies on women (Arts & Gellissen, 2002; Kleider, 2015; Lewis, 1992). In this regard, four different typologies can be distinguished, of which an overview is presented in the last three columns of Table 1. This focuses on another aspect of welfare states. For instance, Social-Democratic and Christian-Democratic welfare states, which in the decommodification typology are quite similar, become opposites (Kleider, 2015). This is because social-democratic welfare states, which are most similar to state policies in Northern European countries, are characterised by extensive state support for women's labour force participation by formalising childcare and eldercare *(service de-familialism)*. In comparison, two frameworks represent Christian Democratic welfare states. As in the case of Germany, the welfare state focuses primarily on encouraging families to take on caring tasks within the family for children and the elderly by providing family benefits (*supported familialism*). Countries with this system do not encourage women to participate in the labour market by funding care at home. Other Christian Democratic welfare states focus more on an *optional familialism* approach which means that a citizen can choose between receiving benefits to care for children and relatives or utilising state-funded formal care (i.e., childcare or elder care). This type of defamilialisation can be found in countries such as Belgium, France, and The Netherlands and has a more positive impact on women's labour force participation.

In addition, most Southern and Eastern European countries can be classified into an approach of *supported familialism* (Spain, Portugal, Czech Republic, Hungary, and Lithuania) or *unsupported familialism* (Italy and Poland). Countries with a *supported familialism approach* offer long and paid parental leave systems, allowances for care responsibilities and privatisation of childcare. States that implement *unsupported familialism* provide little support for publicly funded formal care and financial support for families. Thereby, they neither facilitate employment nor inactivity among women. However, by not supporting either role, it is difficult for younger and older women to reconcile work and family responsibilities (Arts & Gellissen, 2002; Floridi, 2022; Kleider, 2015; Lewis, 1992; Saraceno & Keck, 2010).

Moreover, considerable ambiguities still exist in the classifications of countries according to the defamilialisation framework. For example, some studies place Southern Europe within a care regime that offers no support to families in their care responsibilities (Schmid et al., 2012), while others present Southern Europe under a care regime that provides substantial benefits for taking care of family members (Kleider, 2015; Saraceno & Keck, 2010). Furthermore, categorising Eastern Europe is difficult because these welfare states have less robust care policies, and there are significant differences between countries. Szelewa and Polakowski (2008) present that Poland corresponds most to a care regime where no care responsibility is taken by the state, while the Czech Republic and Hungary are mainly characterised by state support for care within the family. In addition, the Baltic states correspond mostly with service de-familialism, meaning care is mostly arranged through services provided by the state. This illustrates that different measures of policies allow for another distribution of defamilialization across countries (Kleider, 2015). To deal with this ambiguity, this thesis presents the results of each country. Therefore, countries that fall under the same defamilialisation cluster are not taken together in the analysis. In this way, the results regarding care policy illustrate the extent to which the countries correspond to the original classification of Saraceno and Keck (2010) and the degree to which they deviate.

Table 1: an overview of the welfare state and defamilialisation typology

Welfare state theory			Defamilialisation framework		
Typology	Characteristics	Countries	Typology	Characteristics	Countries
Social Democratic	Inclusive approach, high social security and social services	Northern European countries: e.g., Norway, Sweden	Service de-familialism	States offer high availability of formal child/elder care and provide moderate benefits levels	Norway, Sweden,
Christian Democratic	Conservative approach, social security and services based on employment	Western European countries: e.g., Germany, The Netherlands France, Belgium	Optional familialism	States offer the option of receiving care/family benefits or using formal child and eldercare	The Netherlands, France, Belgium
Liberal	Individuality approach, market functioning, low social security and social services	Western European countries: e.g., The United Kingdom, Ireland	Supported familialism	States providing family benefits and offer less formal child and eldercare	Germany, Spain, Portugal, Czech Republic, Lithuania, Hungary

Mediterranean	Fragmented system of social security, social services, and benefits levels	Southern European countries e.g., Spain, Italy, Portugal	Unsupported familialism	States offer little support for publicly funded formal care and care/family benefits	Italy, Poland
Post-Communism	High level of social security, low social services and benefit levels	Eastern European countries: e.g., Estonia, Poland, Bulgaria			

Note: Own illustration.

2.3. The retirement context

In addition to the institutional aspects of welfare states and their effect on the lives of citizens, it is essential to include pension policy when looking at gender differences in labour force participation in later life. Therefore, insight is needed into the developments of pension systems across Europe and the extent to which their policies create pull factors from the labour market. To describe this, groups of countries are aligned in the form of typologies of welfare states. In this regard, I have constructed Table 2, which presents the statutory, early, and effective retirement ages and the social security level at older ages. The table shows that from 2005 to 2020, the statutory retirement age in most countries (except Italy) increased. In addition, the gap in the statutory retirement age between men and women in Eastern Europe has become smaller. However, most welfare states still offer early retirement schemes. Therefore, the pull factors for leaving the labour market early are still present (Bertogg et al., 2020).

Table 2: summary of statutory, early, and effective retirement ages and social security levels at older ages

Welfare state	Country	Statutory retirement age in 2020 *Men/women*	Statutory retirement age in 2005 *Men/women*	Early retirement age in 2020 *Men/women*	Early retirement age in 2005 *Men/women*	Effective retirement age in 2004 *Men/women*	Level of minimum social security in old age in 2004 (Share of average net income)
Post-Communism	Bulgaria	65/63	63/59	n/a	n/a	57/54	29,8
	Czech Republic	63,7	63/59	60	60/56	61/58	34
	Estonia	63,8	63/59,5	60,8	n/a	61/61	18
	Georgia	-	-	-	-	-	-
	Hungary	64,5/62	62	n/a	n/a	58/56	24,5
	Lithuania	64/63	62,5/60	59/58	n/a	64/60	26,6
	Poland	65/60	65/60	n/a	n/a	61/59	28,3
	Romania	-	-	-	-	68/66	-
	Russia	-	-	-	-	-	-
Christian Democratic	Belgium	65	65	63	60	59/57	44.3
	France	63,5	60	62	n/a	59/59	33,8
	Germany	65,7	65	63,7	63	61/61	16,9
	Netherlands	66,3	65	n/a	60	60/59	40,8
Mediterranean	Italy	62	65	62	60	60/62	31,1
Social Democratic	Sweden	65	65	n/a	61	64/62	40,7

n/a: not applicable
-: information not available
Notes: Own illustration. The data points of 2005 and 2020 were chosen because the data used in this study is from around 2005, and the most current numbers available on retirement policy stem from 2020. The parameters for the statutory retirement age and early retirement age are based on table 2.1. of the OECD Pension at Glance 2005 for the numbers from 2005 and on table 3.5 of the OECD Pension at Glance 2021 for the numbers from 2020. The parameters for the effective retirement age and the minimum social security level in old age are based on the Multilinks Database on Intergenerational Policy Indicators (2011), which were obtained through the Generations and Gender Contextual Database.

First, Christian Democratic (Belgium, France, Germany, and the Netherlands) and Mediterranean regimes (Italy) promote an early transition from work to retirement. This is reflected in the effective retirement age in table 2 (column 7), which indicates the actual retirement age in 2004 is a few years lower that the statutory retirement age in 2005 and even a bit lower that the early retirement age in 2005. In addition, high pension benefits constitute a solid replacement of income from work (European Commission, 2021; Worts et al., 2016). Table 2 also reflects this since the level of minimum social security at old age is higher in Christian Democratic and Mediterranean states (apart from Germany) than in most Eastern European (Post-Communism) states. Further, attractive early retirement rules are persistent. Although the early retirement age in 2020 is higher in all Christian Democratic and Mediterranean states than in 2004, it still incentivises older people to leave the labour market earlier than the statutory retirement age (Möhring, 2015).

Second, Social Democratic states (Sweden) have implemented policies to keep older workers in the labour market. The state promotes employment by pursuing an active labour market policy through, for example, the possibility of retraining or protecting jobs and by providing generous pensions funded by the state and limited opportunities for early retirement (Worts et al., 2016). This is also reflected in table 2, which shows that the statutory retirement age is set at 65 and that the effective retirement ages are among the highest for both men and women across the European region. That said, relatively easy access to disability benefits and some early retirement options in Sweden can provide older workers with an early exit from the labour market (Lindquist, 2006).

Third, Eastern-European countries typified by Post-Communism welfare states (Bulgaria, Chez Republic, Estonia, Georgia, Hungary, Lithuania, Poland, Romania, and Russia) promote an early transition from work to retirement (Aidukaite, 2009). This is mainly because the statutory and effective retirement age in these counties is often lower than the standard of 65 set by the European Union (OECD, 2005). Additionally, Table 2 shows that the statutory retirement age is increasing in Eastern Europe. This indicates that the countries in the European region are increasingly becoming closer together in retirement age. Yet, due to Eastern European countries' historically lower retirement ages, more time is needed to bridge to higher and more equal retirement ages (OECD, 2021). Moreover, most Eastern European countries operate a "pay as you go" system, with additional mandatory state-funded pensions. This may lead to more financial insecurity in Eastern Europe, as the amount of publicly funded pensions is lower than in Western European countries (Ebbinghaus, 2020; European Commission, 2021). This is also reflected in the level of social security in later life, which is much lower in Eastern European countries than in Western European countries (see Table 2). As a result, one could argue that working longer is necessary for people in Eastern countries. However, as displayed in table 2, the effective retirement age in 2004 paints a different picture because the retirement ages in Eastern Europe are lower or the same as in Western countries apart from Romania (Aidukaite, 2009; Ebbinghaus, 2020; Möhring, 2015).

3. Theoretical framework

To explain how different institutional policies and norms affect people's individual choices, the macro-micro-macro action model can be used (Coleman, 1990). This theory is based on the idea of bounded subjective rationality. This implies that a person acts from their assessment of a situation and possible choices from their assumptions, personal motives, and individually internalised values (Dingemans et al., 2017). By doing so, a person chooses the option they believe will lead to the best outcome while acting in the context of the social environment, formal regulations, and cultural embeddedness (Jansen, 2018). Furthermore, Coleman's (1990) model indicates that individuals embedded in the same society often arrive at the same decisions. Therefore, this model can be used to disentangle the effects of different policies on the labour force participation rates of older women and the related gender gap in employment.

3.1. Institutional care arrangements

Research on institutional explanations argues that women can more easily combine motherhood, housework, and other care responsibilities with work by introducing institutional arrangements such as formal childcare (Del Boca & Locatelli, 2006; Esping-Andersen, 1999). The focus on women comes from the fact that women still have the primary responsibility for unpaid work, such as caring for children or relatives and household chores (Anxo et al., 2011; Kim & Rizzi, 2020). However, this does not reveal how policies around formal care affect women's individual choices. For that, individual-level mechanisms triggered by policies and how these result in an increase in women's labour force participation need to be considered.

3.1.1. Childcare and child-benefits

State-organized formal childcare affects women's labour force participation because these institutions take over some of the care responsibilities mainly performed by women (Kleider, 2015). This creates the time that allows women to combine caring for children with work responsibilities. Especially when childcare is easily accessible and affordable, the disadvantages of being employed (e.g., spending less time with children) become less and the advantages of working more significant (e.g., income and financial independence). This, in turn, will lead women to participate in the labour market more often and with fewer career interruptions (Anxo et al., 2011; Worts et al., 2016). In addition to formal childcare, states often provide child allowances and family benefits. However, while some states offer access to formal childcare and benefits, others facilitate only one of these policies, and some offer little of both (Floridi, 2022). When a state provides generous child benefits and offers less access to state-funded childcare, the disadvantages of being employed become more persistent. This is due to fewer financial incentives to work and a lack of time to take on a job (Chung & Van der Lippe, 2018). Therefore, countries focusing on financial support facilitate mothers' care roles for children but do not facilitate women's working lives because of the lack of state-supported childcare. This will lead to more extensive career breaks and lower levels of labour force participation among women (Floridi, 2021; Kleider, 2015).

Moreover, the impact of childcare and child benefits not only affects young mothers' labour force participation, but these mechanisms continue into later life (Kim & Rizzi, 2020; Hank & Korbmacher, 2013; Stafford et al., 2019). This is because women who experience more work interruptions and inactivity in the labour market due to a lack of state support have weaker ties to the labour market than women who experience fewer work interruptions. In addition, this more fragile connection to the labour market complicates the process of finding a job in the absence of recent work experience. (Chung & Van der Lippe, 2018). Therefore, the more prolonged career interruptions are, the more difficult it is to return to the labour market (Hank & Korbmacher, 2013; Stafford et al., 2019).

In addition, child-related policies not only affect women's employment later in life but also reinforce the gender gap in labour force participation. This is because men's labour force participation rates are generally higher, creating a more significant gender gap in labour force participation when women stop working or have a more fragmented employment history. Furthermore, countries that do not support working women with children indirectly steer more toward traditional gender relations. In which the woman stays at home with the children and the man is responsible for the income (Aarntzen et al., 2021; Anxo et al., 2011; Worts et al., 2016). Taking these considerations into account, I expect that:

H1a: Countries that facilitate childcare have higher female labour participation rates and a lower gender gap in employment, while countries that offer less formal childcare and only focus on childcare benefits have lower female labour participation rates and a higher gender gap.

3.1.2. Formal and informal elder care

In addition to the impact of policies related to the care for small children, policies regarding elder care directly affect the labour force participation of older adults. This is because middle-aged adults most often have care responsibilities towards a parent or a spouse/ partner (Bertogg et al., 2020; Kotsadam, 2011; Le Bihan et al., 2019). Therefore, how countries organise care for older adults is essential in determining the possibility of working at an individual level (Moussa, 2019). Countries focus their elder care policies on two pillars: formal and informal care. In this respect, formal care refers to care carried out by care institutions, and informal care refers to the care provided by family and friends (Bertogg & Strauss, 2018).

The literature suggests that in welfare states that leave care responsibilities primarily to the family, labour force participation is lower among women than in countries that focus mainly on organising formal care (Brandt et al., 2009; Bertogg et al., 2020; Le Bihan et al., 2019). Indeed, when a family member needs care, and formal care options are less accessible, families rely on each other to meet these needs. In this process, the person with the weakest link to the labour market, which is more often a woman than a man, adapts to the (additional) care responsibilities. In some countries, this is incentivised by the compensation one receives for caregiving (Bertogg & Strauss, 2018; Le Bihan et al., 2019). Moreover, care tasks are often intensive and time-consuming, which leaves less time for paid employment (Bertogg et al., 2020). In addition, the focus on

informal care stimulates existing gender gaps in employment rates since women are encouraged to take on more care responsibilities, which can lead to an early exit from the labour market (Schmid et al., 2012).

In contrast, formal care has the opposite effect. Countries that enable easy access to formal care arrangements, such as care at home, cleaning services, food services or nursing homes, generally have a higher labour force participation rate, especially among women. This is because formal care arrangements do not 'crowd out' caregivers from the labour market. Although formal care, in most cases, does not take over all care responsibilities, it reduces the intensity of caregiving considerably (Bertogg & Strauss, 2018; Moussa, 2019). This enables caregivers to combine care and work responsibilities (Bertogg et al., 2020; Kostedam, 2011). Therefore, it seems likely that caregivers in countries that offer generous formal care stay employed, which leads to a higher overall employment rate. In addition, formal care arrangements reduce gender inequities in caregiving and employment since it offers women more opportunities to participate in the labour market and reduce care responsibilities (Schmid et al., 2012). Combining the arguments towards formal and informal care, I expect that:

H1b: Countries that focus on facilitating formal care have higher female labour participation rates at older ages and a less significant gender gap in employment than countries that leave care responsibilities to the family.

3.2. Gender norms

Social norms play an essential role in the trade-off between the expected benefits of participating or not participating in the labour market, as social norms influence the division of labour within a family. This determines how much time is left for paid work (Anxo, 2011; Haaland et al., 2018). In this context, two types of division of labour within a family can be distinguished. First is the traditional division of roles, where the man is fully responsible for the income and the woman for the household and children. This often leads to a full-time job for the man and inactivity or part-time work for the woman. The second form is an egalitarian division of roles, where men and women take on an equal amount of family responsibilities and participate in the labour market (Leopold and Skopek, 2014). This division of labour is maintained by social norms that are internalised on the one hand through mechanisms such as guilt or suffering and on the other hand through social mechanisms such as feelings of social approval and wanting to conform to others in one's social environment (Coleman, 1990; Jansen, 2018).

The internal mechanisms of someone's work-family guilt are mainly based on individual norms and gender role beliefs. Therefore, fathers who have more equalitarian gender views (i.e., parents should divide care responsibilities for children equally) may experience more work-family guilt when working full-time than a father who has more traditional gender views (i.e., mothers should be the primary caregivers of children) because he meets his norms by fulfilling a male breadwinner role (Aarntzen et al., 2021). The opposite will be true for women, where women with more equalitarian gender views will experience less work-family guilt

when working full-time than women with more traditional gender views. Therefore, it seems plausible that these gender roles influence labour force participation to reduce perceived work-family guilt and meet their gender norms and beliefs (Aarntzen et al., 2021).

Moreover, decisions towards employment do not come about entirely through one's values, and norms since these norms are formed within the cultural framework of the community in which a person lives. In this regard, people often want to match their behaviour to others in their social community (Haaland et al., 2018; Jansen, 2018). Therefore, mothers who live in a country with more traditional gender norms often experience more work-family guilt about being away from home than mothers who live in the same country but adhere to the social norm by being a stay-at-home mom or working part-time (Aarntzen et al., 2021; Gauthier et al., 2016). It can be expected that this negatively affects labour force participation among women, which results in hypothesis 2a:

> *H2a: In countries with more traditional gender norms, women have a lower labour force participation rate than in countries where people have more egalitarian gender norms.*

In turn, this will create a more persistent gender gap in employment in countries with more traditional gender views. This is because when men and women in countries with traditional gender views act upon these views, employment rates among men will be high, while women's employment rates will be low. In contrast, countries with more equalitarian gender views and an equal division of family tasks will also lead to similar employment patterns for men and women (Anxo et al., 2011; Haagland et al., 2018). This is reflected in hypothesis 2b:

> *H2b: In countries with more traditional gender norms, the employment gender gap at older ages are more extensive than in countries where people have more egalitarian gender norms.*

3.3. Retirement policies and norms

To understand how retirement cultures and laws surrounding pensions affect a country's labour force participation at older ages, it is essential to know how these factors influence retirement decisions at the individual level. Culture can be defined as "the entirety of norms, values, beliefs, preferences and stocks of knowledge collectively shared in the respective society and forming an essential but not deterministic part of the individual reasoning" (Jansen, 2018, p.1531). Therefore, someone's decision to retire is based on individual factors and their embeddedness within society (Dingemans et al., 2017). This combination of personal factors and norms determines the range of expected benefits of continuing to work versus the anticipated benefits of transitioning to retirement (Jansen, 2018). These individual factors can entail health status, level of education, care responsibilities, or wanting to retire simultaneously as someone's spouse or partner (Anxo, 2011; Medero-Cabib et al., 2021; Radl, 2013). In addition, norms can refer to standards set by the government or a social environment which are embedded in someone's beliefs and values (Dingemans et al., 2017). Standards set by the government have an effect since in countries where early retirement schemes

were encouraged, such as Italy, the desired retirement age also tends to be lower than in countries where such systems are less present (e.g., Nordic countries). Furthermore, early retirement policies have long-lasting effects since, in countries where early retirement schemes used to be possible (e.g., France and Germany), the preferred retirement age is often still lower than the actual retirement age (Madero-Cabib et al., 2021; Radl, 2013).

Moreover, individuals often want to retire at an age that is seen as 'age-appropriate' within their community. This means wanting to retire around the same age as colleagues, friends, and people in their social environment (Lyberaki et al., 2013; Radl, 2012). Therefore, in countries where early retirement is or used to be possible, people still want to retire early because they have seen many people retire at this age which could have resulted in the internalised norm that working after this is age not common or desirable (Jansen, 2018; Radl, 2012). After considering all these factors, an individual will choose to retire or to remain in the labour market. In this respect, the customs in a social community and the age-related norms in a country will not be far apart since all people in a country are embedded in the same society with the same laws and regulations (Jansen, 2018; Dingemans et al., 2017). Hence, it seems plausible that individuals within a country will not differ much in what they consider to be the desired retirement age. Therefore, retirement culture can be seen as a combination of a country's institutional framework around pensions and the norms, values, and beliefs (e.g., appropriate age to retire) shared by a country's society (Jansen, 2018; Radl, 2012). Based on this reasoning, hypothesis 3a is formulated:

> *Hypothesis 3a: countries with an early-exit culture have lower labour force participation rates than countries with a late-exit culture.*

Furthermore, there are gender differences in both the state-set retirement age and retirement culture. First, in some countries, particularly in Eastern Europe, there is a different retirement age for men and women. For example, Poland's official retirement age in 2020 is 65 for men and only 60 for women (OECD, 2021). These differences in the legal retirement age for men and women show that in some countries, there are different standards towards men than towards women. In this regard, gender and age norms play an essential role, whereby early retirement is viewed as more appropriate for women than men (Jansen, 2018). This may be because when many women in a country retire earlier than men, this can create an age norm where women are expected to retire earlier to conform to this norm (Lyberaki et al., 2013; Radl, 2012). Additionally, in counties with more traditional gender norms, women might leave the labour market early to take on family responsibilities that occur later in life, such as caring for parents or grandchildren (Bertogg et al., 2020). Since they feel it is their responsibility to take on this caring role and, to a lesser extent, feel it is their role to participate in the labour market (Radl, 2013; Jansen, 2018). Therefore, I expect that:

> *H3b: the employment gap between men and women is more substantial in countries with an early exit culture than in countries with a late-exit culture.*

4. Data & Methods

4.1. Data

This research is quantitative in nature, using two existing datasets from around 2005. To test the research question and hypotheses, data is used from round one of the Gender and Generations Survey (GGS) and the Gender and Generations Contextual Database. The GGS collects information on various demographic, social and economic issues, such as work histories and attitudes. In addition, the Contextual Database, along with the GGS, is part of the Generations & Gender Program (GGP) research infrastructure. The Contextual Database provides access to comparable, aggregated contextual data, which can be linked to individual-level data from the national Generations & Gender Surveys. This relatively older dataset was chosen because analysing older data and policy indicators is essential to understanding the overall impact of past policies in a country. Policies can have long-lasting effects on people's life courses. Therefore, examining older data contributes to a better understanding of the mechanisms at play in attempts to increase labour force participation and retirement age among older people.

4.1.1. The Gender and Generations Survey (GGS)

The GGS is a longitudinal and cross-national survey that is part of a broader research programme initiated in 2000 under the umbrella of the UNECE (Gauthier, 2016). The goal of the GGS is to create an understanding of what factors influence family formation, having children, and the relationships between younger and older generations. In this regard, information on nine key elements can be distinguished: household, children, partnerships, parents and parental home, fertility, well-being, activity and income of respondents and their partner, Household Possessions and Attitudes.

The questionnaire is administered every three years, asking the same respondents to complete the (follow-up) questionnaire. After three waves of data collection, a new round begins with new respondents. The first wave of data collection for the second round is currently only available for a few countries. Therefore, I am using the first wave of data collection in round one, which was collected in 19 countries between 2002 and 2013. In addition, the survey data can be linked to the Contextual Database. This is because the Contextual Database provides policy indicators from 2004 and 2009, which is around the same time as the data collection of the GGS. This study looks at the 15 European countries: Belgium (BE), Bulgaria (BG), Czech Republic (CZ), Estonia (EE), France (FR), Georgia (GE), Germany (DE), Hungary (HR), Italy (IT), Lithuania (LT), Netherlands (NL), Poland (PL), Romania (RO), Russia (RU), and Sweden (SE). Australia and Japan are excluded because of geographical location, Austria because the age range (18-45) is insufficient, and Norway because merging the Norwegian data with the existing dataset, including all other countries, is beyond the scope of this thesis.

In general, three rules are applied while collecting data amongst different countries 1) In general, the reference population in a country refers to all residents who are not institutionalised between the ages of 18 and 79

during the first wave. 2) The realised sample size includes at least 10,000 observations in the first wave. 3) A probability sample is drawn in each country. However, the exact method may vary from country to country. This depends on the availability and cost-effectiveness of different sampling frames (Fokkema et al., 2016).

Table 3 gives more information about how each country has conducted the fieldwork. Also presented in the table is the sample size used in this study which refers to the number of completed surveys from respondents between 45 and 65. The age range of 45 until 65 was chosen because this thesis focuses on employment among older workers and considers retirement standards. Thereby, the starting age of 45 was selected because the questions on retirement in the GGS survey are asked of respondents aged 45 or older. In addition, a range until 65 was chosen since most people at the time of data collection (primarily around 2005) retired at 65 or before. This resulted in a total sample size of 59,705 respondents for this study. Furthermore, the response rate is featured. The interviewer attempted contact at least three times to increase response rates in each country. Also, in some countries, an incentive was given to respondents (Fokkema et al., 2016). This was the case in Germany (Lottery ticket, €10), Hungary (Small gifts, €1 per person), and the Netherlands (Gift voucher, €10).

Table 3: information on the data

Country	Sample size in this study	Age range	Data collection	Mode	Response rate
Belgium	2,868	18-79	2008/2009/2010	CAPI	41,8
Bulgaria	3,479	18-79	2004	PAPI	78,1
Czech Republic	3,398	18-79	2005	PAPI	49,1
Estonia	2,847	18-79	2004/2005	PAPI, SAPQ	70,2
France	3,694	18-79	2005	CAPI	66,8
Georgia	3,252	18-79	2006	PAPI	78,2
Germany	3,605	18-79	2005	CAPI	55,4
Hungary	5,257	18-79	2004/2005	PAPI	*
Italy	4,497	18-64	2003	PAPI	*
Lithuania	3,321	18-79	2006	PAPI	35,6
Netherlands	3,070	18-79	2002/2003/2004	CAPI, SAPQ	44,6
Poland	8,132	18-79	2010/2011	PAPI	*
Romania	4,662	18-79	2005	PAPI	83,9
Russia	3,983	18-79	2004	PAPI	49,7
Sweden	3,640	18-79	2012/2013	CATI, SAPQ, Register	54,7

* CAPI = Computer-Assisted Personal Interviewing, PAPI = Paper-and-Pencil Personal Interviewing, SAPQ = Self-Administered Paper Questionnaire
* It was not possible to estimate the response rates for Italy, as their data were implemented as an add-on to an existing household panel survey (HILDA and FSS, respectively), nor for Hungary and Poland, as the GGS wave, 1 data is derived from combining data from two national panel waves. (Fokkema et al., 2016).
Notes: the numbers presented in the category sample size are based on my calculations of GGS data, while the other information in the table is retrieved from a paper by Fokkema et al. (2016).

4.1.2. The Contextual Database

The Contextual Database was established in the early 2000s and contains information on demographic, economic and policy indicators for about 60 countries (Caporali et al., 2013). The data was collected by partner institutions in the countries participating in the GGS and forms a combination of national-level data, regional-level data, and descriptions of national-level policies. This thesis uses the Multilinks Database on Intergenerational Policy Indicators, which is part of the Contextual Database. The database is intended to

identify European states' different approaches to defining, regulating, and supporting intergenerational responsibilities (Keck & Saraceno, 2011). The Multilinks Database contains information on policy indicators for 2004 and 2009. This corresponds to the period in which the GGS data was collected. The theoretical framework behind the Multilinks Database is the defamilialisation framework, which fits nicely with the aim of this thesis. To mirror the defamilialisation framework, the database includes information on four domains: (a) responsibilities to care for children; (b) responsibilities to provide financial support for children; (c) responsibilities to care for frail older people; (d) responsibilities to provide financial support for older people (Keck & Saraceno, 2011).

4.2. Operationalisation

4.2.1. Dependent variables

I consider two dependent variables: (1) labour force participation rates at older ages and (2) the gender gap in employment at older ages. First, the *labour force participation rate* in a country is measured using the GGS data. There are two measurements for labour force participation used in this thesis. The first measurement is a dummy variable where a score of one indicates someone is working, and a score of two means someone is inactive. To create this variable, the question “which of the items on the card best describes what you are mainly doing at present?” is used. Respondents could choose from ten categories to answer this question, such as employed, self-employed, unemployed, retired or ill/disabled for a long time. This data was then aggregated to a macro level by looking at the average percentage of employed individuals across all respondents in a country.

The second indicator of labour force participation is used to see how labour force participation changes in a country as people age. To measure the main activity in a country for each age (45 to 65), a categorical variable of four categories is created: (1) part-time work, (2) full-time work, (3) retired or (4) inactive. This is created by using the same question on the main activity of the respondent. In addition, a distinction is made between part-time work (less than 30 hours) and full-time employment (more than 30 hours), which is in line with the definition of the OECD (2022b). This is calculated by asking, "how many hours per week do you usually work in this job or company, including overtime?" where respondents could enter the number of hours worked per week. Lastly, to see if people who say they are retired also worked until shortly before they retired, the question: “In what year did you retire?” is considered. This question is asked of respondents 45 or older. Therefore, when respondents answered that they retired before the age of 45, they are considered inactive rather than retired. This is because people are unlikely to retire before the age of 45, given the European region's statutory and early retirement schemes. In this regard, 819 cases are switched from retired to inactive.

In addition, the employment gender gap in a country was based on the first described measurement of labour force participation. This is a dummy variable whereby a score of one indicates someone is working, and a score of two means someone is inactive. The variable is used to derive the percentage of working women and

men in a country. Next, the difference between the percentage of women and men active in the labour market is used to calculate the gender gap. The full description of all operationalisations is described in Appendix I.

4.2.2. Independent variables

In this thesis, five independent variables are considered: (1) availability of childcare, (2) the level of child benefits, (3) availability of formal care for the elderly, (4) gender norms and (5) retirement culture. The GGS data is used to measure gender norms. The other independent variables are retrieved from the Contextual Database.

First, an indicator from the Contextual Database is used to measure the *availability of formal childcare* in a country. Thereby, the indicator of the coverage rate in childcare for children under three years of age was used. This indicator is defined as the number of places in public (or government subsidised) childcare facilities as a percentage of the number of children aged 0 to 2 years (Keck & Saraceno, 2011). The reference year for the data is 2004 since the Contextual Database contains policy information for 2004 and 2009. However, the data on childcare for 2009 was unavailable. In addition, there is no information available for Romania for 2004. Moreover, theory indicates that formal childcare in the years before school age affects women's labour force participation most significantly (Neuberger et al., 2022; Thevenon, 2016). Therefore, this study considers coverage rates in childcare for children until three years old and not for children between three and five years of age since the coverage rates for this age group are higher and deviate less.

In addition, an indicator of the *level of child benefits* is used to examine to what extent a country stimulates childcare within the family. Kleider (2015) suggests that child benefits are best presented as a percentage of average monthly earnings to make them comparable across time and countries. In the Contextual Database, this indicator is measured by the monthly child allowances for a family with an average net labour income and two children as a share of average income in a country. If the child allowances vary by household income, the benefit level is calculated assuming a household with an average labour income of one person (Keck & Saraceno, 2011). The reference year for the data is 2009 since the 2009 data contains information on more countries than the 2004 data. However, there is no information available for Georgia and Russia.

Furthermore, the *availability of formal care for the elderly* is measured by two indicators of the Contextual Database: care recipients living at home and persons residing in care facilities. The former is defined as the percentage of home care recipients in the population aged 65 and over. The latter is presented as the portion of the population aged 65 and older residing in institutional care (Keck & Saraceno, 2011). To measure the use of formal care for the elderly, the two indicators are grouped to create one measurement. This is consistent with other studies (an example is Floridi et al., 2021). In addition, the measures reflect the percentage of the population aged 65 or older in a country, making the indicator comparable across countries. The reference year for the data is 2004 since more countries were included here than in the 2009 data. Furthermore, the information is unavailable for Bulgaria, Georgia, Lithuania, and Russia.

Additionally, *gender norms* in a country are measured using six questions from the GGS survey: 1) When parents are in need, daughters should take more caring responsibility than sons. 2) In a couple, it is better for the man to be older than the woman. 3) If a woman earns more than her partner, it is not good for the relationship. 4) A preschool child is likely to suffer if his/her mother works. 5) If parents divorce, it is better for the child to stay with the mother than with the father. 6) When jobs are scarce, men should have more rights to a job than women. Respondents could answer on a five-point scale, whereby 1=strongly agree, 2 = agree, 3 = neither agree nor disagree, 4 = disagree and 5 = strongly disagree. These questions from the GGS survey were selected because they are most similar to those used in other studies examining gender norms (Aartzen et al., 2021; Poortman & Van Der Lippe, 2009). In addition, a reliability analysis was performed, showing that when all six questions are included, Cronbach's alpha is 0,67. This is not considered very low or very high within social science. Therefore, these questions from the GGS were used to form a gender norm scale.

Lastly, the *retirement culture* is measured using the effective retirement age, in which a distinction is made between men and women. In this regard, the effective retirement age reflects the age-norms set by society. This is measured as a weighted average of (net) withdrawals from the labour market at different ages over a 5-year period for workers aged 40 and over (Keck & Saraceno, 2011). The reference year for the data is 2004 since more countries were included here than in the 2009 data. However, the effective retirement age information was unavailable for Georgia and Russia in the Contextual Database.

4.3. Analytical method

As this study focuses on comparing countries, the results are descriptive in nature. First, attention is paid to creating a clear understanding of the cross-national variations in labour force participation during the life course (ages 45-65). Therefore, per age and country, an overview of the distribution of activities (part-time, full-time, retired, or inactive) is presented. Subsequently, the analysis strategy used to test the hypotheses involves plotting the correlations between the labour force participation rate and the employment gap by each independent variable. Thereby testing the hypothesis relating to the accessibility of childcare and level of child benefits (hypothesis 1a), accessibility to formal elder care (hypothesis 1b), gender norms (hypothesis 2a and 2b) and retirement culture (hypothesis 3a and 3b). In addition, sensitivity checks were performed for all hypotheses to test the robustness of the results. This is accomplished by verifying that the results show a similar link between indicators when outliers are removed from the data. These analyses can be found in Appendix II. This descriptive strategy was chosen since this thesis focuses on the macro level. In this regard, the data from the GGS survey is aggregated on a country level, and the Contextual Database contains macro-level indicators on a policy level. Ideally, a multi-level analysis would have been selected. However, due to the limited number of countries (<30), the conditions of this analysis are not met (Kunißen, 2019). Therefore, a good alternative analytical strategy is emphasising the significance of correlations, descriptive results, and robustness checks.

5. Results

5.1. Activity rates of men and women across the life course

The beginning of this results chapter is devoted to examining how men's and women's labour force participation rates change over the life course and to what extent this differs across countries. In this way, a general understanding of differences in labour force participation emerges before shifting the attention to the association of care policies, gender norms, and retirement culture on labour force participation and the gender gap at older ages. Therefore, Figures 1 through 4 show the primary activity of men and women ages 45 to 65 for all countries included in this study. On the y-axis, the percentage of individuals in the category of full-time work, part-time work, retired or inactive in a country for a given age is presented, while the x-axis shows the ages from 45 to 65. In this regard, all graphs show a pattern in which the group of employed (full-time or part-time) becomes gradually smaller over the life course, while the non-employed (retired or inactive) group increase over time. However, the timing and variation in categories vary by the type of welfare state.

To start with, attention is paid to the life course of women in Western countries (Figure 1). With this, Sweden (Social Democratic) shows the highest percentage of full-time employment of women in Western European countries, which is at its highest at 90% at age 48. Moreover, part-time work and inactivity are low (3% to 19%). In addition, women retire at a relatively late age which is reflected in the rising rate from 63 years of age. The Christian Democratic countries (Belgium, Germany, France, and the Netherlands) paint a different picture where patterns of relatively high rates of part-time work and inactivity are key features. Furthermore, few women work full time compared to Sweden and most Eastern European countries. Additionally, the percentage of retirees starts to increase from age 60. An exception is the Netherlands, where the rate of inactive people is high, and there are low rates of retired women. This may indicate that the low percentage of retirees stems from the high inactivity among women since retirement implies that one has worked until this point. Moreover, the pattern of labour force participation in Italy (a Mediterranean welfare state) resembles Christian Democratic countries. However, Italy exhibits even higher levels of inactivity (29% to 56%), and the percentage of retired women rises as early as age 55.

When turning the focus to women in Eastern European countries, it is notable that to even though Eastern European countries fall under the same umbrella of the Post-Communism welfare regime, significant differences in women's labour force participation can be observed across countries (Figure 2). In this regard, three clusters of countries can be specified. First, the patterns of primary activities are similar in Estonia and Lithuania. A key characteristic is the high percentage of full-time jobs, up to 80% for Estonia and up to 85% for Lithuania. Moreover, these countries have a late effective retirement age compared to other Eastern European countries, as the percentage of women retiring starts to increase at 60 rather than around 55. Therefore, Estonia and Lithuania are similar to the pattern found in Sweden. Second, Poland, the Czech Republic, Hungary and Bulgaria form a cluster with a high percentage of full-time work (around 70% at age 46) and moderate inactivity (about 30%). Poland shows a deviation in this respect since inactivity among

women is much higher here (up to 48%), and the percentage of full-time work is lower (up to 59%). In addition, these countries have a low rate of part-time employment and an early effective retirement age, where the percentage of women in retirement rises from age 56. Third, Russia and Romania are characterised by an early effective retirement age since the percentage of women in retirement from the age of 50 starts to increase and at age 60 covers 86% of women in Romania and 96% in Russia. Finally, Georgia shows an entirely different pattern than any other country. With this, Georgia has a small employment rate among women of around 30% (full-time and part-time work combined), while the percentage of inactive is exceptionally high (69% at age 54).

Men's labour force participation shows a different story, with minor variation across countries and low rates of part-time employment in all countries. In Figure 3, the primary activity of men in Western Europe is presented. In this regard, Sweden (Social Democratic) shows the highest full-time employment level and the lowest retirement percentage of all the countries in this study. In addition, it is notable that the employment rates of men in Sweden stay high during their life course, with 77% at age 60. The Christian Democratic states (Germany, Netherlands, Belgium, and France) show relatively high full-time employment percentages and moderate inactivity rates. Furthermore, the retirement ages start to increase earlier than in Sweden, where in Belgium and France the shares rise rapidly from the age of 55 and in Germany and The Netherlands from the age of 59. Italy (Mediterranean) also shows a different pattern, with men showing high labour force participation, but this decreases relatively quickly as the percentage of retirees increases from the age of 53. Moreover, it is worth noting that a considerable portion of men continues to work full-time until later in life (18% at age 64). This is only higher in Sweden, Estonia, and Georgia.

Furthermore, Figure 4 shows the primary activity of men in Eastern European countries (Post-Communism). In this regard, Estonia and Lithuania show reasonable employment rates over the life course and a relatively late effective retirement age that increases from 63 years. It is notable that in Estonia, there is also a substantial proportion of men who continue to work full-time (36% at age 64). Moreover, Poland, the Czech Republic and Hungary resemble each other in primary activities among men. Thereby displaying relatively high labour force participation rates up to age 57. After this age, the number of retirees rises rapidly. At the same time, these countries have moderate inactivity (up to 48%). Subsequently, Russia, Romania and Bulgaria show somewhat different labour force participation and inactivity patterns. Thereby, Russia and Bulgaria have a higher percentage of inactive men. In contrast, in Romania, only a small percentage of men is inactive, which is also represented in the higher labour force participation rate. However, these countries represent an early retirement culture, where the rate of retired men increases from the age of 50 in Romania and from 55 in Russia and Bulgaria. Finally, the primary activity in Georgia shows a unique pattern in the case of men as in the case of women. With this, Georgia is characterised by low full-time employment (56% at best), relatively high part-time employment, high inactivity (66% at best), and a low percentage of retirees (56% at age 65).

In addition to the patterns in the different figures, variation between men and women in a country can be observed. Considering Western European countries, men and women in Sweden show a consistent pattern. This is not the case for other Western countries. In this regard, Germany, France, Belgium, and Italy offer similar patterns characterised by a higher percentage of part-time work and more inactivity among women than men. While men have a higher rate of retirees than women, the percentage of retirees starts to increase earlier for men than for women. This seems to be partly explained by the higher percentage of inactive women. Additionally, it is notable that Italy has an even higher rate of inactive women. Moreover, the Netherlands exhibits the same characteristics, magnified by higher percentages of inactive, more part-time work and fewer retirees among women than men.

Eastern European countries show fewer gender differences over the life course than Western Europe. Estonia, Lithuania, Bulgaria, Hungary, Poland, Czech Republic show a consistent pattern between men and women. However, women in these countries do retire earlier from the labour market and thus offer high rates of retirees at an earlier age. Romania shows a different pattern between men and women, whereby the percentage of inactive women is higher than that of men. This also leads to low employment rates among women. In addition, pension patterns are similar in contrast to other Eastern European countries. Moreover, Georgia indicates characteristics of high inactivity and part-time work for men and women. Additionally, many women report retiring around age 60, while few men report retiring. Lastly, it is noticeable in Russia that the difference in retirement age between men and women is quite significant, as it is around 55 years for women and 60 years for men.

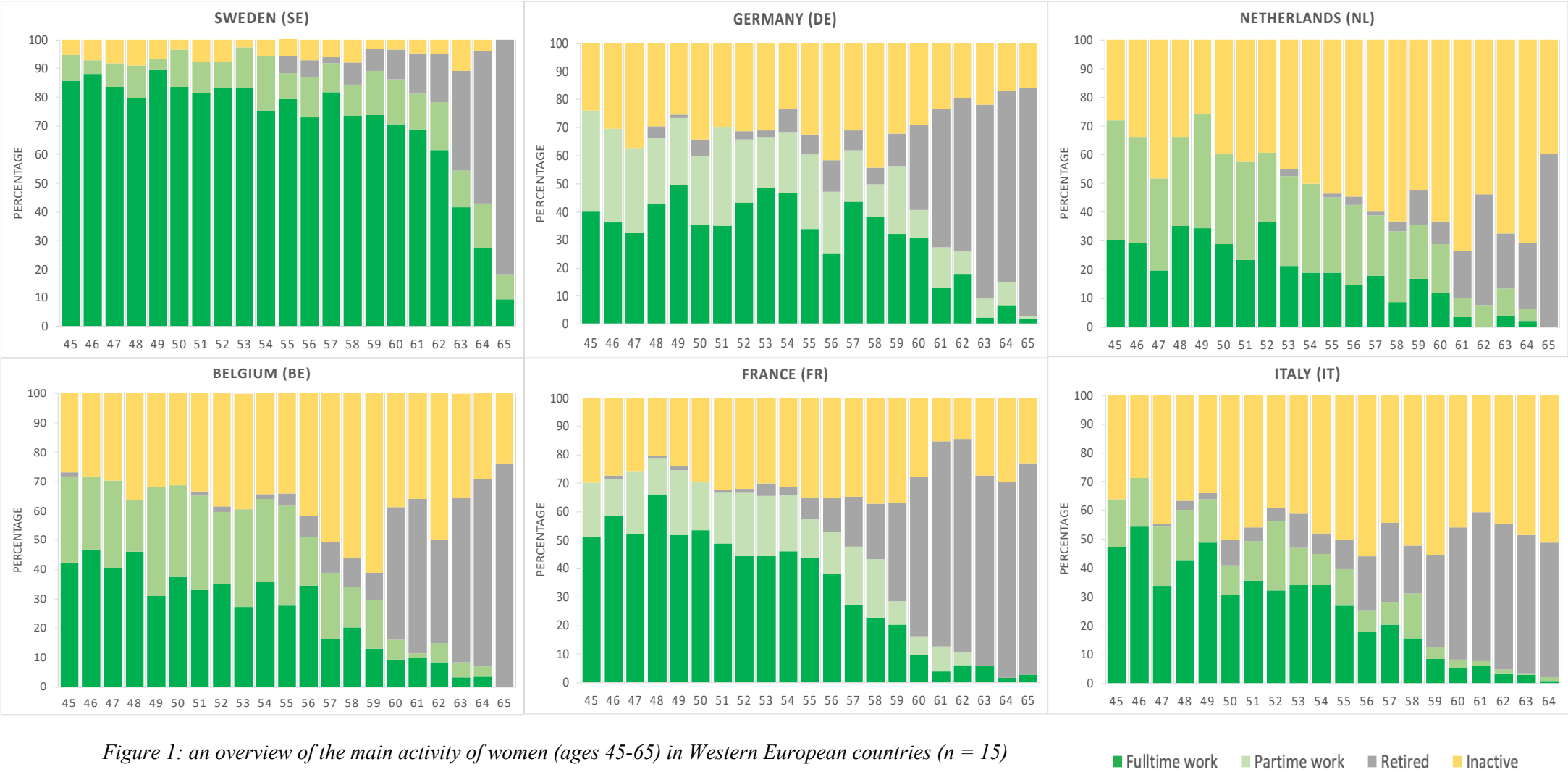

Figure 1: an overview of the main activity of women (ages 45-65) in Western European countries (n = 15)

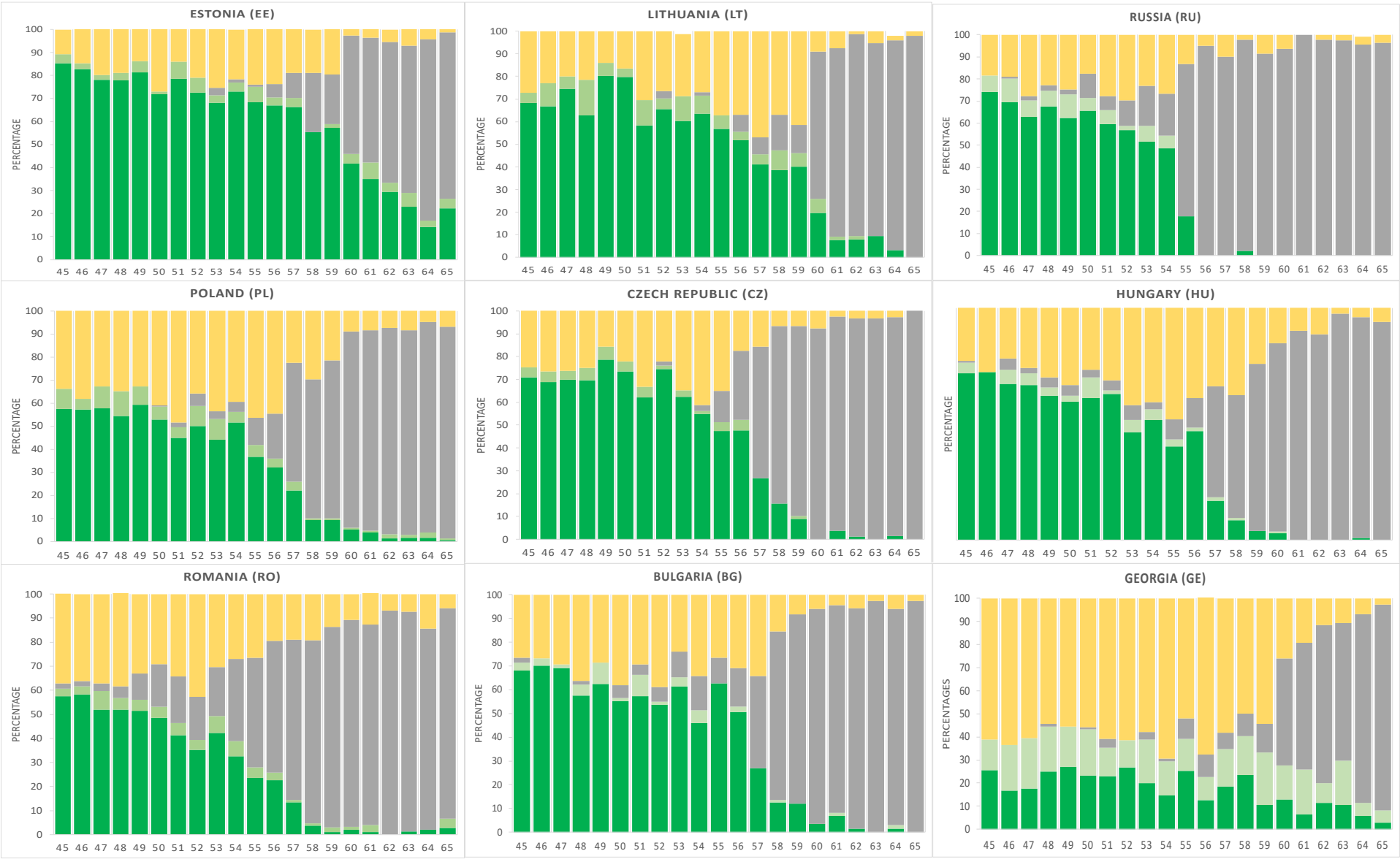

Figure 2: an overview of the main activity of women (ages 45-65) in Eastern European countries (n = 15)

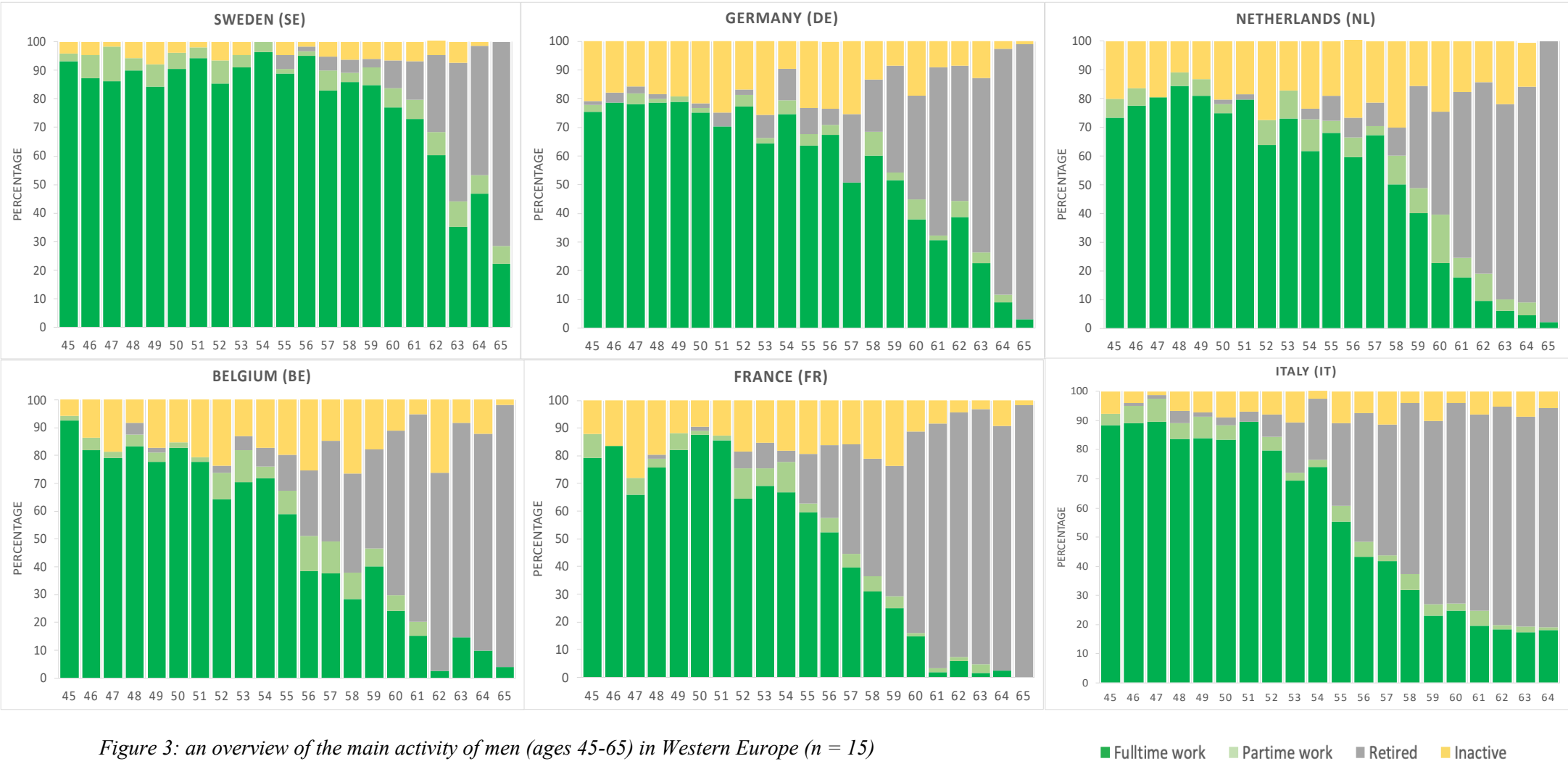

Figure 3: an overview of the main activity of men (ages 45-65) in Western Europe (n = 15)

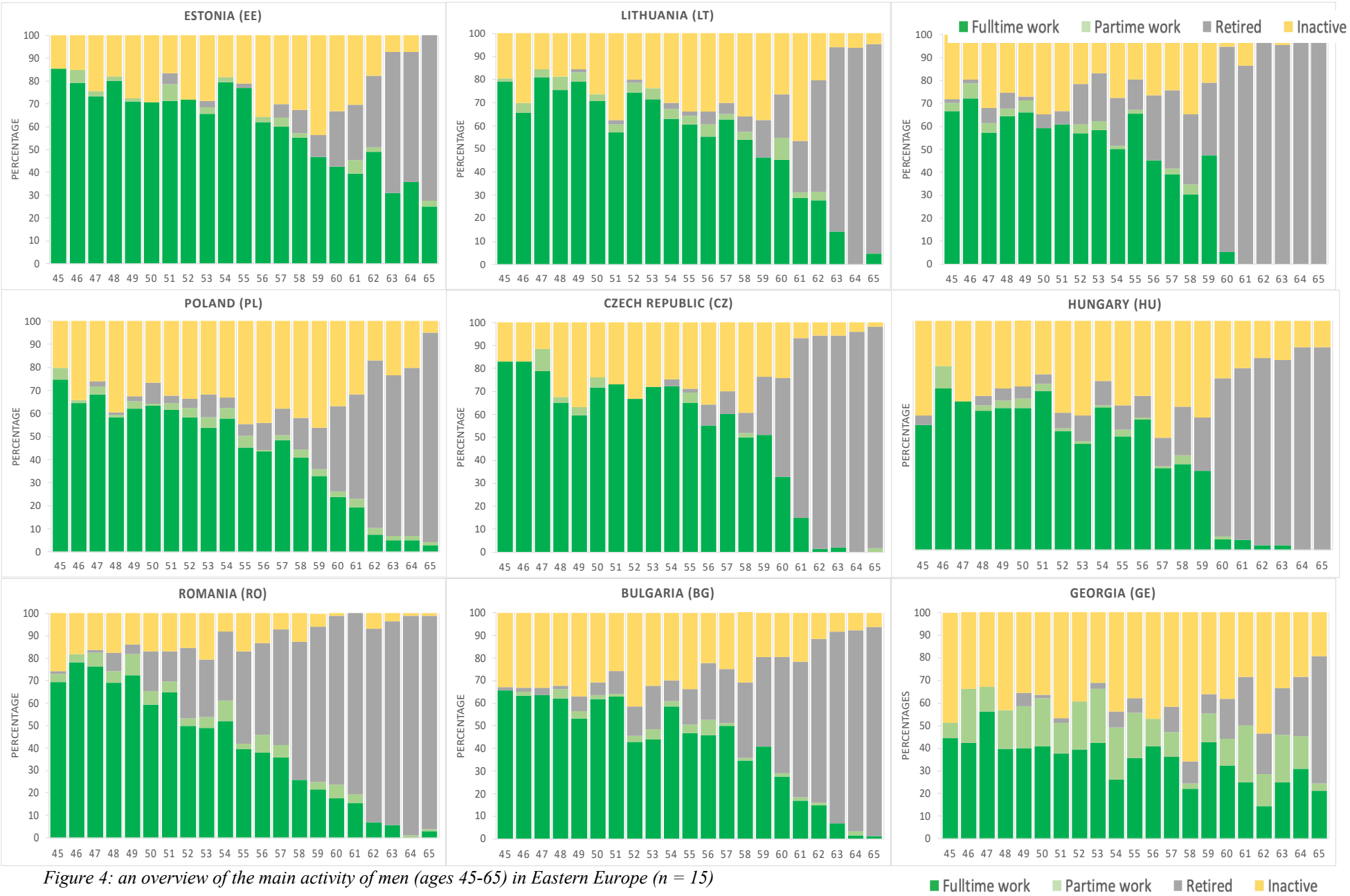

Figure 4: an overview of the main activity of men (ages 45-65) in Eastern Europe (n = 15)

5.2. Gender differences in Labour force participation

To provide further insight into how significant the gender gap in labour force participation is, Figure 5 is presented. The figure displays the employment rate of women (age group 45-65) and the percentage of the gender gap per country. In this regard, it is notable that Italy offers the most significant gender gap in labour force participation at 30,9% and one of the lowest employment rates among women (34,8%). In addition, Sweden shows the highest employment rate with 84,3% and a small gender gap of 2,2%, while Estonia shows the lowest gender gap with 1,3% and a relatively high female employment rate of 66,34%.

Looking at Western European countries, all countries (except Italy) have a reasonable labour force participation rate (48% to 58%). However, the gender gap varies significantly (5% to 20%). Among these countries, France and Germany have a moderate one (around 5%), while the Netherlands, Belgium and Italy have a high gender gap (>15%). In addition, Eastern European countries present a stratified picture in employment rates, where Estonia has one of the highest participation rates and Romania has the lowest in the European region. Furthermore, Lithuania, Bulgaria, Hungary, Russia, the Czech Republic, and Georgia show a medium employment rate (40% to 55%), while it is lower for Poland (35,2%). The graph also displays a low gender gap in Estonia (1,3%). At the same time, this is higher in Lithuania, Bulgaria, Hungary, and Russia (7% to 10%) and even higher in the Czech Republic, Poland, Romania, and Georgia (15% to 23%).

Moreover, the chart illustrates that the employment rate and the gender gap in employment appear to be closely related across the European region, despite the divergent connection within Eastern and Western Europe. Since countries in both Western and Eastern Europe with lower employment rates also have more significant gender gaps. This can be seen in the downward trend in labour force participation while simultaneously noticing an upward line in the employment gender gap from Estonia to Georgia and from Sweden to Italy.

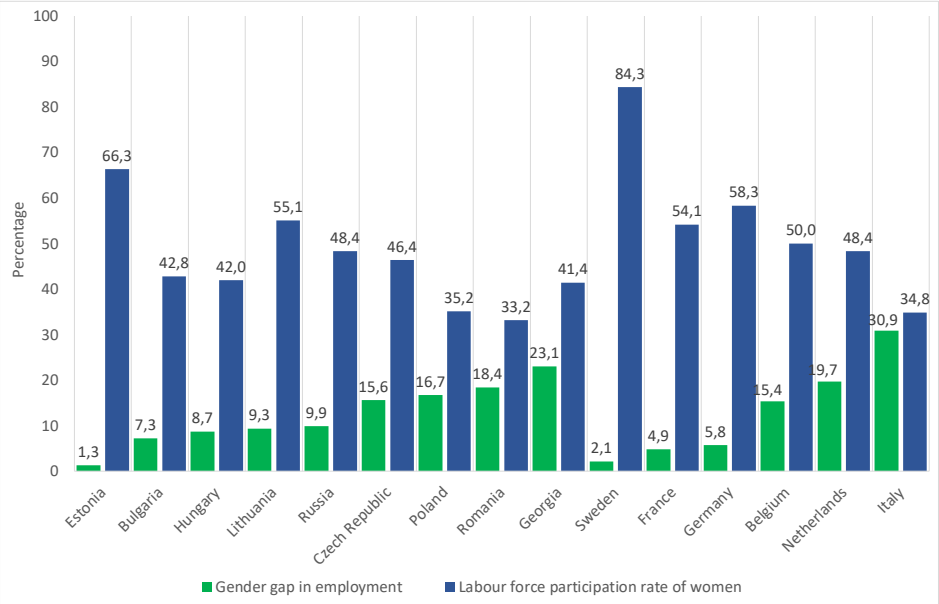

Figure 5: percentages of the labour force participation of women (ages 45-65) and the employment gender gap (n = 15)

5.3. Care policies

At the beginning of this study, I argue that different care policies affect women's labour force participation. Thereby the focus is on women because research shows that they are still responsible for most household tasks and care for the family. To test this correlation, the relationship between care policies aimed at children and the elderly on the gender gap in labour force participation and women's overall labour force participation is explored.

5.3.1. Availability of child-related policies

To test the first part of the first hypothesis, I examine the effect of childcare availability on the gender gap in employment and women's labour force participation. The results are shown in Figures 6 and 7. Whereby the y-axis displays the employment rate of women between the ages of 45 and 65 (Figure 6) or the employment gender gap between men and women (Figure 7), while the x-axis shows the number of places in public childcare (as a share of children under the age of 3).

The data support the expectation that the availability of childcare is positively linked to women's labour force participation ($r = 0{,}74$; $p < 0{,}05$). The results also support the hypothesis that the availability of childcare is negatively associated with the gender gap in employment ($r = -0{,}43$; $p > 0{,}05$). Moreover, the relationship between labour force participation and childcare is slightly affected when checked for robustness because the correlation becomes less strong and insignificant. In contrast, the effect of the gender gap on childcare stays the same. Hereby, Italy was removed for the gender gap in employment ($r = -0{,}44$; $p > 0{,}05$) and France and Sweden for the labour force participation rate ($r = 0{,}53$; $p > 0{,}05$).

In this regard, Figure 6 illustrates an upward trend between labour force participation and coverage rate in childcare, where the countries are closely aligned along the plotted line. Furthermore, the country dispersion becomes increasingly more prominent as the trend line rises. When focusing on county patterns, it is striking that most Eastern European countries (Poland, Hungary, Bulgaria, and the Czech Republic) have low female labour force participation and less access to public childcare. In contrast, most Western European countries (Belgium, France, and Sweden) have high access to public childcare and show much higher employment rates. In addition, it is noteworthy that Estonia has the highest childcare cover rate among Eastern European countries (22%) and has the highest labour force participation rate (66,3%). Moreover, there is a group of countries (Germany, the Netherlands, Italy, Georgia, Lithuania, and Russia) that has a moderate level of public childcare coverage (10% to 20%) and an average labour force participation rate (between 34,8% and 58,3%).

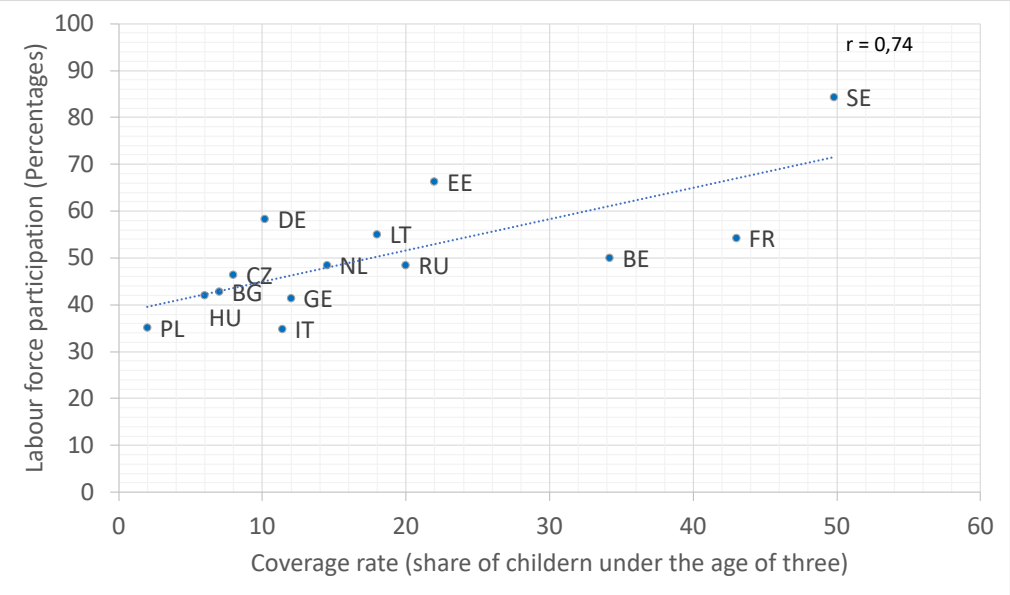

Figure 6: labour force participation rate of women (ages 45-65) by coverage rate in childcare as a share of children under the age of three (n = 14)

Furthermore, Figure 7 shows the gender gap in employment and the availability of places in public childcare. This shows a downward trend between the available public childcare and the gender gap in employment. Moreover, some clusters of countries form divergent patterns. Hungary, Bulgaria, and Germany are characterised by lower availability of public childcare and a lower gender gap than expected. In addition, in Georgia and the Netherlands, the gender gap is more extensive than anticipated (>20%). In this context, the availability of public childcare is relatively low in these countries. However, most countries with roughly the same availability of public childcare show lower gender gaps. Finally, it is notable that in Estonia, the gender gap is shallow (1,3%), while the availability of childcare is moderate (22%).

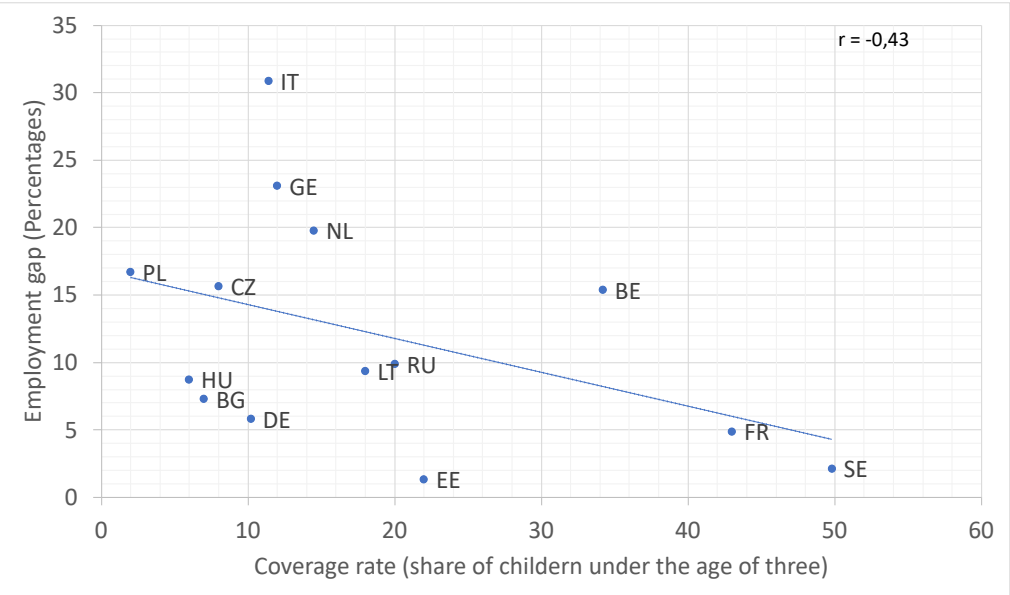

Figure 7: employment gender gap by coverage rate in childcare as a share of children under the age of three (n = 14)

To examine the second part of the first hypothesis, the effect of child benefits on the gender gap in employment and women's labour force participation is measured. This is presented in Figures 8 and 9. Whereby the y-axis displays the labour force participation rate of women between the ages of 45 and 65 (Figure 8) or the employment gender gap between men and women (Figure 9), while the x-axis indicates the level of child allowance for a family with two children as a share of the average net income.

In this regard, Figure 8 presents a slightly downward trend between the effect of childcare benefits and women's labour force participation rates at older ages. However, the countries are not closely plotted along the line. This is also represented by the moderate correlation (r = -0,34; p > 0,05). These results do not change significantly when checked for robustness. In terms of countries, Sweden is the furthest from the plotted line, with a high labour force participation rate among women and reasonably low child support. In addition, three clusters of countries can be distinguished by looking at child benefits. First, Estonia, the Netherlands, Italy, the Czech Republic, and Poland have low child benefits (3% to 6,2%). However, the range in labour force participation is significant (35,2% to 66,3%). The second cluster, Lithuania, Belgium, Italy, Bulgaria, and Germany, shows moderate child benefits (between 9,8% and 16,4%). The dispersion in labour force participation is smaller than in the first cluster (between 42,8% and 58,3%). Italy is the exception, with a labour force participation of only 34,8%. Third, Hungary and Romania are characterised by high child benefits (21,7% and 24,1%) and low labour force participation (33,2% and 42%).

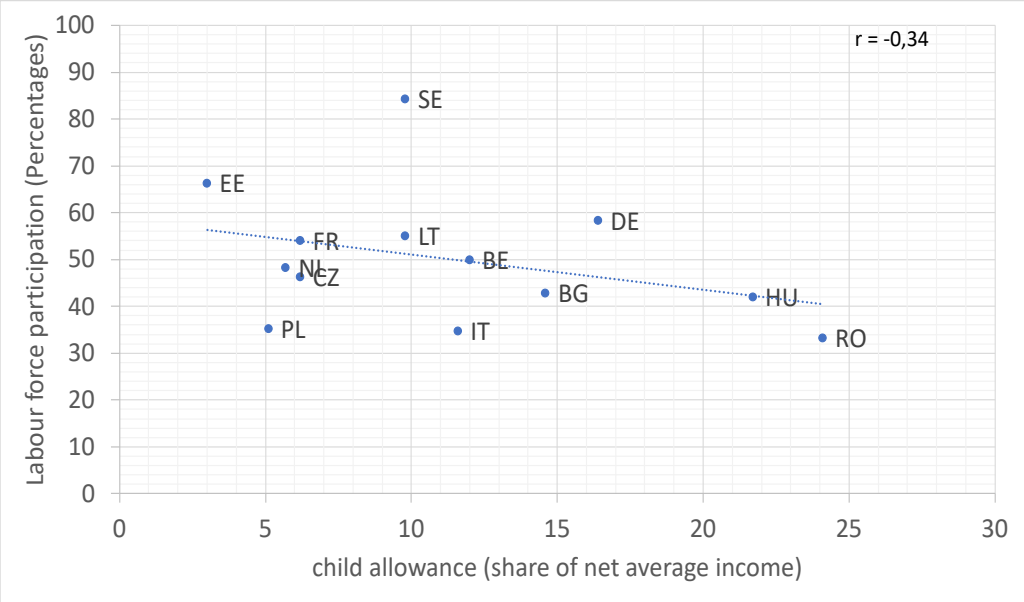

Figure 8: labour force participation of women (ages 45-65) by child allowance for two children as a share of average income (n = 14)

In addition, Figure 9 presents a scattered picture of countries. This is not in line with the expectation that child benefits are associated with the gender gap in employment (r = 0,1; p > 0,05). Furthermore, the results do not change significantly when checked for robustness. Here, Italy forms the outlier with the highest employment gender gap (30,9%) and medium child benefit (10,3%). In addition, there are only two clusters of countries to

discover. First, The Netherlands, Poland and the Czech Republic are similar regarding the employment gender gap (15% to 20%) and child allowance (5,1% to 6,2%). Second, Bulgaria and Germany are similar, with a low employment gender gap (5,8% to 7,3%) and a moderate child allowance (14,6% to 16,4%). The other countries are scattered throughout the graph, whereby some countries with a low employment gender gap offer low child benefits (e.g., Estonia). In contrast, other countries with a low employment gender gap facilitate high child benefits (e.g., Hungary).

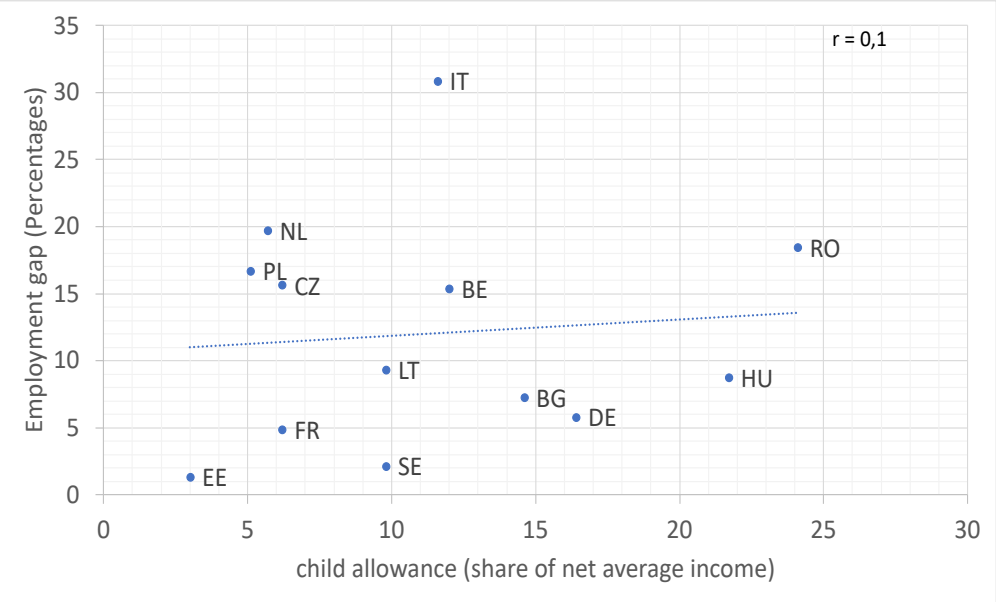

Figure 9: employment gender gap by child allowance for two children as a share of average income (n = 14)

5.3.2. Availability of formal elder care

After considering the connection between policies aimed at children, the employment rates of women and the gender gap in employment, the focus turns to elderly care policies. Elderly care is measured by the percentage of older people who use formal care (at home or in an institution) as a share of people aged 65 or over in a country. This is shown in Figures 10 and 11, where the y-axis shows the labour force participation rate and the employment gender gap, respectively, while the x-axis presents the use of formal care among the elderly.

In this regard, Figure 10 illustrates that the countries are distributed close to the upward trend line, indicating a connection between women's labour force participation and the use of formal care among the elderly. This is reflected in the reasonable correlation between the factors ($r = 0{,}51$; $p < 0{,}05$). These results align with the assumption that women's labour force participation is positively related to the use of formal care options provided by the state. Moreover, the data show that Sweden and the Netherlands are far from the other data points. When checking for robustness, it turns out that primarily the Netherlands affects the correlation. This is also evident in the correlation since removing these countries from the data results in a stronger correlation between labour force participation at older ages and the use of formal care among elderly ($r = 0{,}80$; $p < 0{,}05$).

In addition, a few clusters of countries can be distinguished. Poland and Italy have the lowest employment rate and the lowest percentage of elderly using formal care. In addition, there is a large cluster of countries where the use of formal care among the elderly is moderate (9,1% to 12,6%). This is the case for Hungary, the Czech Republic, Belgium, France, Germany, and Estonia. However, there is some difference in labour force participation, with Estonia, Germany and France having a sufficiently high labour force participation (>50%). In contrast, Hungary, the Czech Republic, and Belgium have lower labour force participation (<50%). Sweden and the Netherlands form two outliers in the data. Thereby, Sweden represents a high labour force participation rate among women. At the same time, the use of formal care among older adults is relatively high (16%). The Netherlands displays the opposite result, whereby the percentage of older adults using formal care is high compared to other countries (22,7%). Yet, the employment rate of women is relatively low (48,4%).

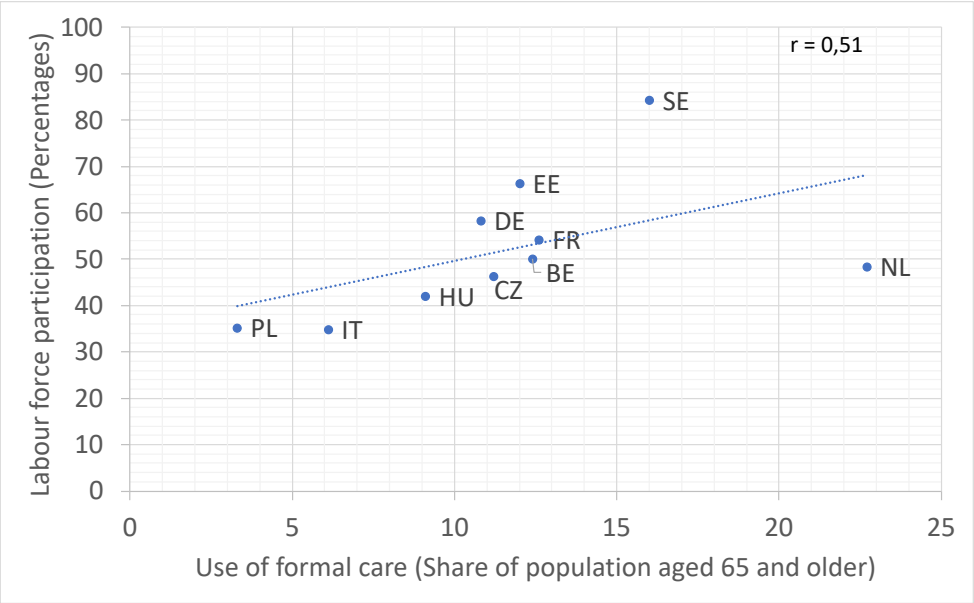

Figure 10: labour force participation of women (ages 45-65) by use of formal care as a share of the population aged 65 or older in a country (n = 10)

Subsequently, Figure 11 shows the gender gap in employment rates between men and women by the percentage of elderly (aged 65 or older) that uses formal care in a country. The figure indicates a weak relationship between these factors because there are some clusters, but there is no consistent trend. This is also represented in the small correlation ($r = -0{,}22$; $p > 0{,}05$). However, the robustness check shows that the Netherlands profoundly affects the relationship between the employment gender gap and the use of formal care. This is indicated by the stronger correlation when the Netherlands is not considered in the analysis ($r = -0{,}67$; $p < 0{,}05$).

In this context, Poland, Italy, and the Netherlands are presented as outliers in the figure, with relatively large gender gaps (16,7 to 30,9). Thereby, Italy and Poland have few older people using formal care, while the Netherlands has the highest percentage of elderly using formal care. Moreover, older people in many countries

use formal care moderately (9,1 to 12,6). With this, Hungary, Germany, France, Estonia, and Sweden show a low gender gap in employment (<10%). In contrast, the Czech Republic and Belgium indicate a higher gender gap in employment (>15%).

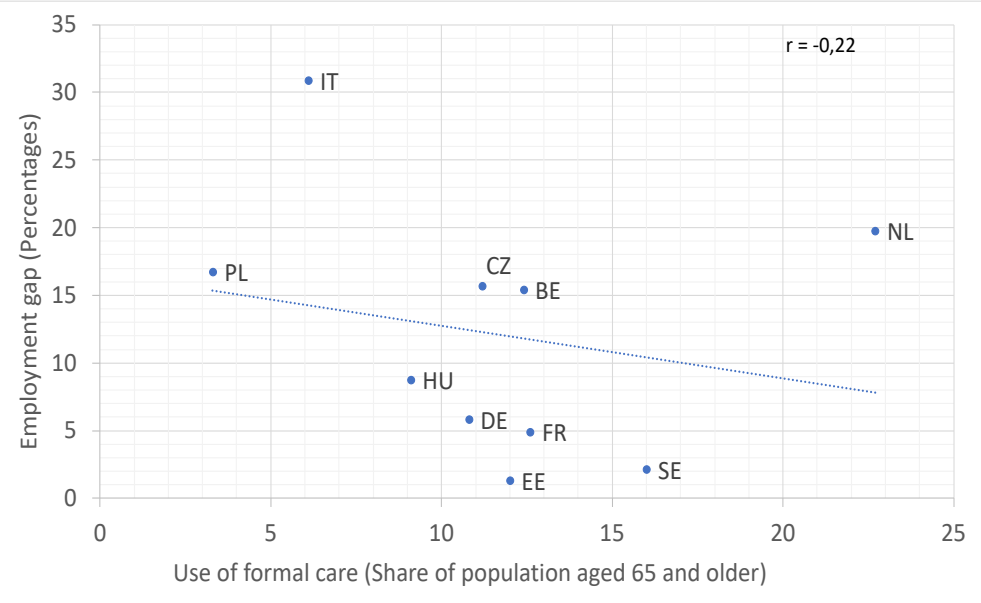

Figure 11: employment gender gap by use of formal care as a share of the population aged 65 or older in a country (n = 10)

5.4. Gender norms

This section focuses on the prevailing gender norms within the European region. In this regard, Figure 12 displays the distribution of gender norms, indicating on a five-point scale the extent to which individuals from the European countries agree with traditional gender statements. This shows that individuals in all countries mostly disagree with the statements. However, a significant difference can be observed in the degree to which people across countries disagree and, thereby, how egalitarian the gender norms are in a country. For example, Western countries (Belgium, Germany, and Sweden) exhibit strong egalitarian gender norms as only a small percentage of individuals in these counties answered agree, neither agree, nor disagree (5,7% to 7%). In contrast, Eastern European countries have less egalitarian gender norms as a significant proportion of respondents (17,5% to 28,3%) chose one of the first three categories.

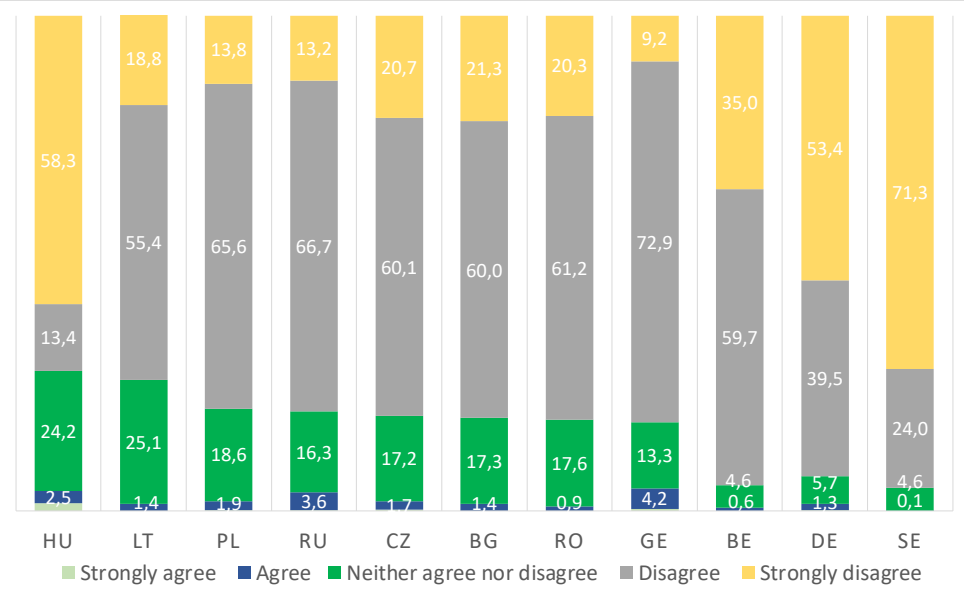

Figure 12: Distribution of gender norms by country (n = 12)

To test Hypothesis 2a, Figure 13 compares women's labour force participation rate with a country's degree of egalitarian gender norms. In this context, the y-axis indicates women's labour force participation rate, and the x-axis presents the degree to which individuals in a country disagree with traditional gender statements. Figure 13 displays that the countries are situated closely along the upward trend line in three different bundles. Thereby indicating that there is a substantial connection between labour force participation and egalitarian gender norms ($r = 0{,}58$; $p < 0{,}05$). In addition, the data presents Sweden as an outlier with the highest egalitarian gender norms and employment rates. The robustness checks also show that Sweden is influential for the strong correlation (without Sweden: $r = 0{,}44$; $p > 0{,}05$).

Moreover, three bundles of countries are presented in the figure. First, Belgium, France, and Germany can be seen as one cluster since they all show egalitarian gender norms (93% to 95% disagreement) and have a labour force participation rate of more than 50%. Furthermore, most eastern European countries form one cluster (Romania, Poland, Georgia, Bulgaria, Czech Republic, and Russia) with lower egalitarian gender norms (between 79,4% and 82,15%) and lower labour participation (33,2% to 48,4%). Lastly, Hungary and Lithuania show the most traditional gender norms (71,7% and 73,5%). Hungary also has a low employment rate among women (42%), while Lithuania has a moderate employment rate (55,1%).

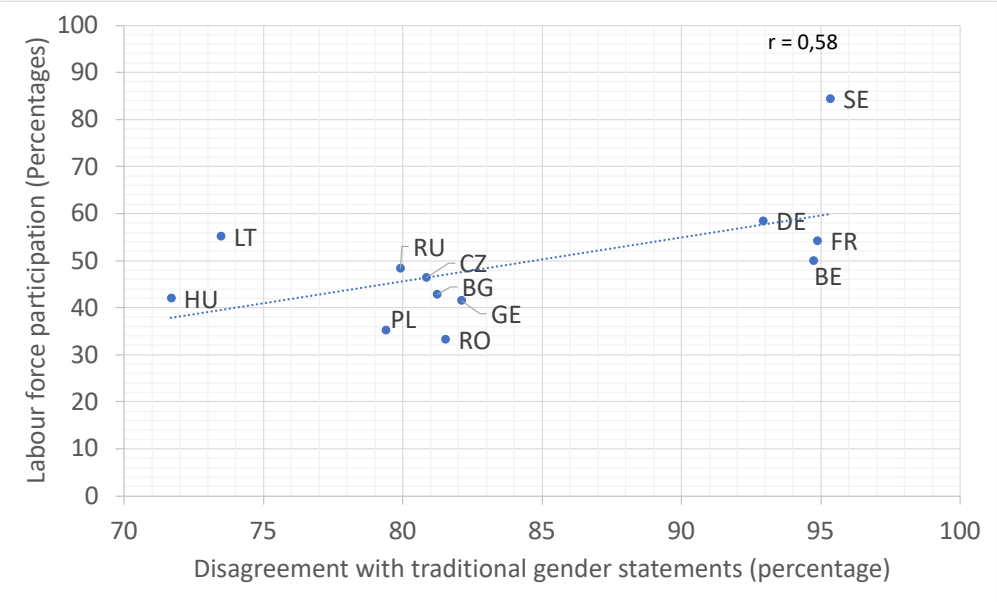

Figure 13: labour force participation of women (aged 45-65) by egalitarian gender norms (n = 12)

In addition, Figure 14 presents the gender gap in employment between men and women by the degree of egalitarian gender norms in a country. In this context, the y-axis indicates the employment gender gap, and the x-axis presents the degree to which individuals in a country disagree with traditional gender statements. Furthermore, the figure illustrates a scattered pattern among countries. While a few clusters of countries can be identified, there is no consistent upward or downward trend. Therefore, despite the considerable relationship between gender norms and labour force participation, the link between gender norms and the employment gender gap is moderate (r = -0,33; p > 0,05). This relationship does not change when checked for the effect of Hungary and Belgium on the dataset. However, when testing the correlation without Sweden, the connection between gender norms and the employment gender gap disappears completely (r = -0,16; p > 0,05).

Focusing on country patterns, Figure 14 shows that Western countries (Germany, France and Sweden) score high on egalitarian gender norms and low employment gender gap. Notable here is that Belgium does have a reasonable employment gender gap (15,4%) while also indicating strong gender equality norms (94,7%). In addition, Eastern European countries can be divided into three clusters. First, Lithuania and Hungary show a low gender gap in employment and traditional gender norms. This is inconsistent with Hypothesis 2b, which expected a low gender gap in countries with equal gender norms. Second, Bulgaria and Russia display a low gender gap in employment (<10%) but moderate norms about gender equality (79,9% to 81,2%). Finally, the Czech Republic, Poland, Romania, and Georgia indicate a high gender gap (>15%) while also having moderate gender equality norms (79,4% to 82,1%). This is in line with the expectations.

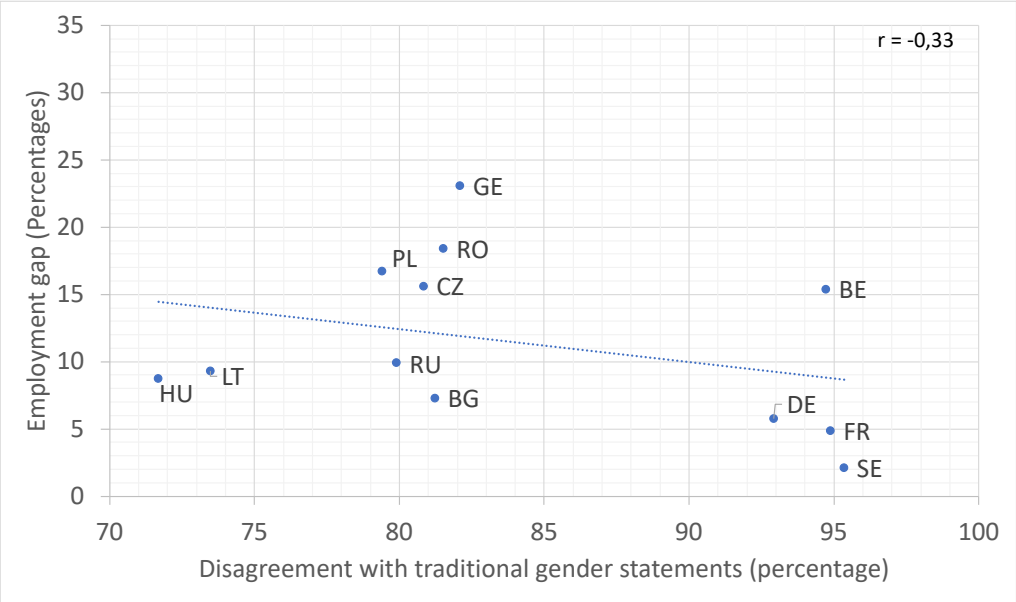

Figure 14: employment gender gap by egalitarian gender norms (n = 12)

5.5. Retirement culture

In addition to care policies and gender norms, retirement culture is expected to influence labour force participation rates and the gender gap in employment. In this regard, countries in the European region show many differences regarding retirement timing, as indicated in section 5.1. Table 4 summarises the retirement patterns and presents which countries have early or late retirement cultures. This is defined by whether the effective retirement age is lower than 60 (early retirement culture) or higher (late retirement), which is in line with other studies (e.g., Jansen, 2018). The table shows that men retire later than women in Western Europe. Further, Sweden (Social democratic) shows a late retirement culture. This was also expected since Sweden offers few early retirement options. Italy also shows a late retirement culture for men and women, while an early retirement culture was anticipated. Additionally, the patterns between men and women are more similar in Eastern Europe since most countries indicate either a late or early retirement culture for both men and women. However, women exit the labour market early while men have late retirement culture in the Czech Republic and Poland. It also appears that an early retirement culture is more common in Eastern Europe than in Western Europe, especially among women.

Table 4: an overview of countries with an early or late retirement culture

		Western European countries	Eastern European countries
Early retirement culture	*Men*	Belgium, France	Hungary, Bulgaria
	Women	France, Netherlands, Belgium	Poland, Czech Republic, Hungary, Bulgaria
Late retirement culture	*Men*	Sweden, Germany, Italy, The Netherlands	Estonia, Lithuania, Czech Republic, Poland, Romania
	Women	Sweden, Germany, Italy	Estonia, Lithuania, Romania

Note: An early or late retirement culture is defined by whether the effective retirement age is lower than 60 (early retirement culture) or higher (late retirement culture). This is based on the parameters for the effective age of retirement from the Multilinks Database on Intergenerational Policy Indicators (2011), which is obtained through the Generations and Gender Contextual Database; see indicators on pension entitlements.

Moreover, Figures 15 and 16 present the relation between the effective retirement age of men and women by the labour force participation of men and women and the employment gender gap. In this regard, Figure 15 portrays the correlation between the effective retirement age of women and men by their labour force participation. The employment rate is presented on the y-axis, while the x-axis presents the effective retirement age. The figures for men and women present a flat line which rises slightly. Further, the graph shows a close distribution of countries along the trend line. This indicates a weak link between the labour force participation and the effective retirement age of men ($r = 0{,}22$; $p > 0{,}05$) and women ($r = 0{,}13$; $p > 0{,}05$). However, when checking for robustness, Romania appears to be an outlier and strongly affects the correlation for women ($r = 0{,}52$; $p > 0{,}05$) and men ($r = 0{,}65$; $p < 0{,}05$). Indicating that when excluding Romania, there is a reasonably strong connection between the effective retirement age and the labour force participation rate.

Additionally, despite the low correlations when all countries are included in the analysis, countries with higher retirement ages also present higher labour force participation rates, apart from men and women in Romania and Italy. Furthermore, the graph for women shows that Western European countries (Sweden, France, Germany, Belgium, and the Netherlands) and Baltic states (Estonia and Lithuania) have a higher effective retirement age and higher labour force participation than the other Eastern European states. In contrast, the differences are much more minor for men, and there is less deviation between East and West. Thereby, France and Belgium show lower retirement ages and labour force participation rates than some Eastern European countries such as Poland and the Czech Republic.

Figure 15: labour force participation of men and women (ages 45-65) by effective retirement age of men and women (n = 13)

Furthermore, Figure 16 presents the employment gender gap by the effective retirement age of men and women. Thereby, the employment gender gap is presented on the y-axis, while the x-axis presents the effective retirement age of men and women. The figure presents a flat trend line with a wide distribution of

countries around the line. This indicates that there is barely any link between the gender gap in employment and the effective retirement age for women ($r = 0{,}18$; $p > 0{,}05$) and men ($r = 0{,}12$; $p > 0{,}05$). In addition, the robustness checks do not show changes in the connection between the gender gap in employment and the effective retirement age of men and women.

Yet, the graphs indicate some interesting patterns. The chart focusing on women shows two outliers: Italy and Romania. Italy has the highest gender gap in employment and a high retirement age among the women who still work at later ages. Romania has the highest effective retirement age and a high gender gap in employment. In addition, three clusters can be defined. First, Bulgaria and Hungary present an early retirement culture while showing a small gender gap. Thereby indicating that men also have low effective retirement ages, which is also visible in the graph of men. Second, the Netherlands, Poland, Czech Republic, and Belgium show moderate gender gaps in employment (>15%) while indicating an early retirement culture (between age 58 and 59). Lastly, there is a group of countries (Lithuania, Germany, Sweden, and Estonia) displaying low employment gender gaps (<10%) and a late exit culture (between age 60 and 62).

Regarding men, few patterns can be observed between countries as the countries are scattered across the chart. However, Italy and Romania also form the two outliers and show the same pattern as in the graph for women. Moreover, Bulgaria and Hungary are close, as are the Czech Republic and Poland. In doing so, Bulgaria and Hungary show a pattern of low gender gaps (<10%) in employment and early retirement culture (age 57 to 58). In comparison, the gender gap in employment in the Czech Republic and Poland is moderate (15% to 17%), and late-exit culture is apparent (at ages 61 and 62).

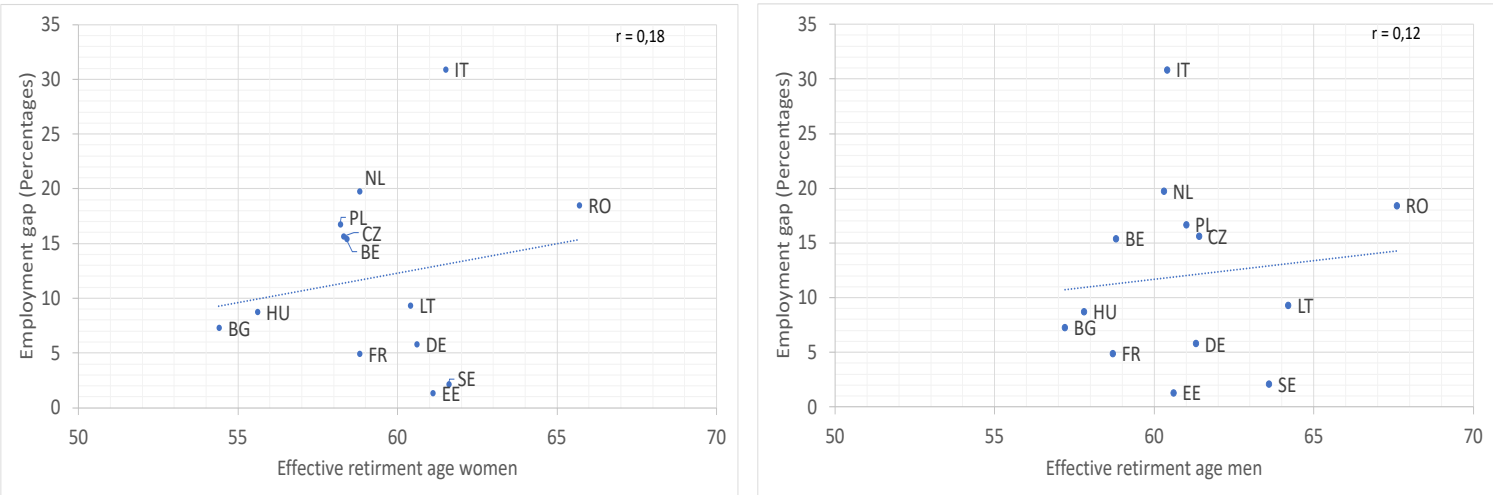

Figure 16: employment gender gap by the effective retirement age of men and women (n = 13)

6. Discussion & conclusion

6.1. Discussion

Across the European region, women's employment rates have rapidly increased over the past decades, and gender gaps in employment have reduced. However, barriers to combining work and family life still exist since women's employment rates still lag behind men's, and gender gaps in employment persist (Petrongolo & Ronchi, 2020). Moreover, in light of demographic changes such as an ageing population and declining fertility rates, the importance of understanding the reasons for lower labour force participation among women and persistent gender gaps increases. Primarily, many countries have implemented policies aimed at increasing the labour force participation among groups where this is relatively low, such as among women and older workers (Department of Economic and Social Affairs, 2020). Therefore, this thesis aims to better understand different macro-level mechanisms that can help explain older women's labour force participation and the related gender gap in employment, mainly: care policies, gender norms, and retirement culture. In this context, fifteen countries in the European region are examined with a particular focus on cross-national differences. Thereby, the analysis strategy consisted of two elements: a) presenting an overview of the distribution of the main activity across the life course from age 45 to 65 per country to creating an understanding of the cross-national variations in labour force participation during the life course. b) identifying the extent to which there is a relationship between macro-level factors, labour force participation, and the gender gap in employment at older ages. This was attained by plotting the correlations for labour force participation and the employment gap by each macro-level factor.

Upon reviewing the results, five interesting outcomes emerge. First, the results indicate a positive connection between formal care-oriented policies (child and elder care) and the labour force participation of older women. Additionally, care policies appear to have a more minor link with the gender gap in employment, whereby the connection toward childcare appears more substantial than the connection towards elder care. These results are broadly consistent with hypotheses 1a and 1b, as countries with greater availability of formal childcare and greater use of formal elder care show higher female labour force participation and a smaller gender gap in employment. However, the hypothesis towards elder care and the employment gender gap only holds when the Netherlands (outlier) is excluded from the results. The findings towards elder care may seem surprising, given the associated care role of women. Therefore, it appears that caring for children is more gendered than caring for a parent or a spouse. Against this background, Bertogg & Strauss (2018) found similar results regarding caring for a spouse. The results, therefore, indicate that caring for a partner or a parent is less gendered and does not affect caregivers' employment status but rather the applied caregiving arrangement. In contrast, care for children is generally highly gendered across welfare states (Floridi, 2022; Herlofson & Brandt, 2020).

However, considering the impact of the outlier on the relation towards care policies, it is not surprising that there is a substantial positive relationship between older women's labour force participation and the facilitation of state-organised formal care. This is likely to reflect the reduction in care obligations of women and is brought on by the option for formal care: including care for a partner, parent or possibly grandchildren (Bertogg & Strauss, 2018; Floridi, 2022; Kotsadam, 2011; Le Bihan et al., 2019; Leopold & Skopek, 2015a, 2015b). In this regard, the significant correlation between formal childcare and the labour force participation of older women is fascinating, as studies usually view childcare policies in the context of young mothers. A possible explanation is the intensity of grandchild care. In welfare states that provide limited access to formal childcare, grandparents may be turned towards filling this void (Leopold & Skopek, 2015a; Herlofson & Brand, 2020). Another argument that might explain this connection is the possible lasting effect of past life events. Women with little access to formal childcare when they first experienced motherhood may have led to more fragmented careers and, thus, a weaker link to the labour market (Kim & Rizzi, 2020; Hank & Korbmacher, 2013; Stafford et al., 2019). Overall, these results indicate that a combination of the availability of formal childcare during the entry into motherhood and available formal elder care later in life ensures that women stay employed throughout their life course. This, in turn, may also lead to higher labour force participation among older women since the chance of exiting the labour market at any life stage decreases.

Second, the effect of child benefits presents a varying trend, indicating a moderate relation with labour force participation while unrelated to the gender gap. This is partly in line with the second part of hypothesis 1a. Since I expected countries with higher child benefits and less access to formal childcare to have a lower employment rate and a more substantial gender gap than countries with fewer child benefits and more access to formal childcare. Moreover, it is noteworthy that child benefits have a negative effect on the labour force participation of older women in countries where childcare is less accessible. While in countries where formal childcare is available, the level of child benefits seems to have little effect. Thereby suggesting that not the level of child benefits but the degree of available childcare matters when creating policies to increase labour force participation of older women. This can be seen in a broader set of policies focused on supporting care within the family, as these are generally found to reduce women's labour participation (Kleider, 2015). Examples are lengthy and paid maternity or parental leave (Petts & Knoester, 2018; Saraceno & Keck, 2010). Further, this is consistent with the defamilialisation framework, which finds that welfare states facilitating both formal and informal care are considered women-friendly policies and thus increase the possibility of participating in the labour market (Floridi, 2022; Saraceno & Keck, 2010).

Third, the results indicate a contradicting pattern regarding gender norms. With this, the labour force participation of older women seems closely related to egalitarian gender norms. Yet, the connection between the gender gap and egalitarian gender norms is only moderately negative. Therefore, these findings are in line with hypothesis 2a, which states that egalitarian gender norms in a country positively relate to the labour force participation of older women. Additionally, the results do not align with hypothesis 2b, where I expected more

egalitarian gender norms to indicate a smaller gender gap in employment. Moreover, the results exhibit a clear West-East divide in gender norms. This is an interesting result, especially given the mixed pattern between East and West Europe concerning care and pension policies. Eastern European countries display more traditional gender views in this context, while Western European countries indicate more egalitarian gender norms. One possible explanation for the West-East divide is the transition to a more traditional gender division of roles between men and women in Eastern Europe after the fall of communism. This transition to more traditional gender relations is also evident in the policy choices in these countries, as childcare availability has decreased compared to during the communist regime (Gauthier et al., 2016). In addition, most Eastern European countries applied an apparent gender separation in pension policies as the official retirement age for women is often lower (OECD, 2005). In contrast, gender equality has become increasingly important in Western Europe since the rise of female labour force participation rates, but change occurs slowly at the policy level (Haas et al., 2006). This is particularly apparent in countries that hold on to more traditional care policies (e.g., Germany).

Fourth, I found a weak link between the retirement culture, the labour force participation rates of men and women and the corresponding employment gender gap. Therefore, no support is found for hypotheses 3a and 3b, predicting that countries with an early retirement culture have lower labour force participation rates and a higher employment gender gap than countries with a late retirement culture. However, Romania substantially affects the results for men's and women's employment rates. This is because the employment rates at an older age are meagre, while those who continue to work do so into old age. The other countries present a trend where a later exit culture leads to higher employment rates for people in the 45-65 age group. This finding is in line with the theory indicating that age norms (the appropriate age to retire) in a country affect the moment people retire. An early retirement norm will lower employment rates at an older age. This suggests that to increase labour force participation at older ages, not only a higher statutory retirement age should be applied. Governments might also consider the effect of an early exit culture.

Lastly, in addition to researching macro-level factors that affect older women's labour force participation and the associated gender gap in employment, the welfare state theory and the defamilialisation framework were central to this thesis. While welfare typology helps examine different policy structures across countries, the results show that governments tend to form a mixture of welfare state principles. Although many scholars argue that the classic welfare typologies should be extended with the Mediterranean and post-communism welfare regimes, the latter present vast differences (Aidukaite, 2009; Broka & Toots, 2022; Lauzadyte-Tutliene, 2018). An explanation for these differences is that little research exists on the welfare and defamililation typology in Eastern Europe compared to the research on Western Europe, which makes it difficult to classify these countries (Aidukaite, 2009; Broka & Toots, 2022). Therefore, I argue that additional in-depth research is needed to understand welfare structures in Eastern Europe better.

The results from this current study also contribute to the categorisation of Eastern European countries on the defamilialisation scale since the results indicate a different pattern for Estonia, Lithuania and the Czech Republic than anticipated. According to the categorisation of Saraceno & Keck (2010), the Baltic states represent an unsupported familism approach, while Szelewa and Polakowski (2008) find results that put the Baltic states within the category of service de-familialism. However, the results from this study indicate differences within the Baltic states. In this context, Lithuania presents a pattern most similar to the category of unsupported familism since both formal childcare coverage and child allowances are low. This categorisation is also more consistent with the results for gender norms since, among the countries in this study, Lithuania exhibits one of the most traditional gender norms. Additionally, Estonia corresponds mainly to service de-familialism since it presents high access to formal childcare, low child benefits and high use of formal elder care. Furthermore, this study suggests that care policies in the Czech Republic may be categorised as unsupported famialism. This is reflected by the low accessibility of childcare, low levels of child support, and moderate use of formal care among the underserved. In addition, the results regarding the general welfare typology indicate a slight north-south radius within Eastern Europe since formal care policies, egalitarian gender norms, and retirement ages seem to decrease from north to south, except for a few exclusions, such as Romania and Lithuania.

6.2. Limitations

The results presented in this thesis have several limitations. First, this study is based on data from the Generations and Gender Survey (GGS) and contextual database. One of these data sources' main advantages is the availability of information from Eastern European countries, a geographical region frequently overlooked in the literature. Yet, due to the chosen dataset, this study uses too few countries to conduct a multi-level analysis. Even though the descriptive results in this study show exciting patterns, the direction of the association between the indicators remains unknown since only the correlation between the macro-level factors can be measured. In this regard, a multi-level analysis could contribute to a more correct estimation of standard errors and a reduced risk of ecological fallacies when interpreting the results. An ecological fallacy occurs when characteristics of an entire statistical population are attributed to only a part of the population. A multi-level analysis prevents this because it considers the hierarchical structure of cross-national data in which individuals are embedded (Kunißen, 2019). Another possible analytical strategy for this thesis was to conduct a meta-analysis. This method can be used to examine the effect of countries on micro-level indicators even when analysing a small number of countries (Bryan and Jenkins, 2016). However, the lacuna in research on women's labour force participation at the macro level compared to the extensive studies focused on the micro level has led this thesis to adopt a macro level approach. In addition, the applied approach may have influenced this study's presented outliers, often Sweden and Italy. A possible explanation for these outliers is that Sweden and Italy individually represent their welfare state regime. Given the assumption that countries of the same welfare state show more equal results, a multi-level approach could ensure that these countries are no longer presented as outliers. Since a multi-level approach compares at least 30 countries, allowing more

countries with the same welfare state regime to be added. Further, adding information from countries representing the Liberal welfare state would provide a more rounded picture of countries across the European region and each welfare regime.

Second, there are limitations regarding the measurement of some variables. Thereby, the measure of formal care for the elderly (at home or in an institution) is not optimal since representative data is not always available. The data used for 2004 in the contextual database varies from 1998 to 2007 and does not always reflect applied policy reforms at the time of data collection (Keck & Saraceno, 2011). Therefore, the statistics presented may not correspond to the actual situation in a country around 2005. Consequently, the correlation between elderly care and labour force participation or the gender gap in employment may be stronger or weaker when accurate numbers are presented. Furthermore, adding a measurement of retirement norms would have been helpful to better understand retirement culture. In this study, the retirement culture is measured using the effective retirement age in a country. However, the actual timing of the retirement age can deviate from the preferred retirement age by influences such as social security in old age and the level of pensions offered in a country (Kim & Rizzi, 2020). Therefore, adding a survey question to the analysis on an aggreged level would be interesting to examine if the effective retirement age corresponds with the preferred retirement age in a country. This has also been done in the study presented by Jansen (2018), where the 'In your opinion, what is the ideal age for a woman/man to retire permanently?' was used.

Third, not all indicators used in this study hold information on all fifteen countries examined. In addition, slight differences are present in the countries that are missing from the indicators. For example, Georgia and Russia are most often missing for a macro-level factor, but Estonia, the Netherlands and Italy are missing for the measurement of gender norms. This may have impacted the results since a variation in countries for each macro-level indicator makes it difficult to compare countries and patterns consistently. Complete information for all nations could have helped to provide a better picture of the overarching interaction of the different care policies, gender norms, and pension policies on their relationship to labour force participation and the gender gap in employment. This demonstrates the importance of good qualitative comparative data that countries offer to help clarify macro-level and cross-national mechanisms.

Lastly, the data used in this study stems from around 2005, which raises the question of whether gender differences are still persistent. This is also reflected in the more recent data presented in chapters 1 and 2. Thereby indicating that in the past decades, the differences have narrowed between Western and Eastern Europe and between men and women. First, this is evident in the reduction in the gender gap in employment in nearly all countries examined in this study (International Labour Organization Statistics, 2021). Second, the differences in retirement ages between men and women have decreased, which reflects the similar policy approach toward an ageing society across the European region (OECD, 2021). Yet, analysing older data remains relevant since there are still significant country and gender differences regarding the employment

gender gap and the retirement age. Studying older data may help explain the underlying mechanisms to understand why these differences are still present. In addition, policies have a long-lasting impact over the course of people's lives, making it relevant to consider past policies.

6.3. Recommendations and policy implications

Based on the discussion and limitations of this study, two suggestions for follow-up research are made. First, given the descriptive nature of this study, it would be interesting to conduct further research on the mechanisms involved in the gender gap in employment. This study hints at the positive effects of formal childcare and egalitarian gender norms on creating a smaller gender gap in employment at older ages. However, other macro-level factors examined in this study appear not to relate to the gender gap in employment at older ages. Therefore, research focusing on the family level might explain more of the variation in the gender gap than macro-level factors. In this regard, a growing body of literature emphasises the importance of intergenerational transfer of the gender gap in employment. These studies suggest that both the intergenerational transfer of gender norms and key family characteristics (such as parents' educational level) play an essential part in explaining the persistent gender gap in employment (Haaland et al., 2018; Olivetti et al., 2013). Future research could reveal if and how these factors impact the gender gap in employment and which type of policies can stimulate a reduction.

Second, follow-up research could provide more insight into the association between the availability of childcare and women's employment rates at older ages. Current research points to two possible mechanisms. One strand of literature focuses on the direct effect of childcare policy by exploring the role of grandparenting on the labour force participation of older workers (Bertogg et al., 2020; Floridi, 2022; Leopold & Skopek, 2015a). At the same time, other studies point towards more indirect effects by focusing on the relation between past childcare policy and its impact in later life (Kim & Rizzi, 2020; Hank & Korbmacher, 2013; Stafford et al., 2019). Research along these lines would illuminate the linkages between formal childcare and labour force participation at older ages. In this regard, the life-course perspective and longitudinal analysis could be used to further understand the impact of childcare policies throughout the life course.

Additionally, the findings point toward two policy implications. In this context, the results demonstrate the importance of the differences in access to childcare across countries. Even though many countries facilitate formal childcare through the state or the market, the results show that countries with state-organised childcare have higher employment rates among older women and the related gender gap. This indicates that policymakers should not underestimate the impact of formal childcare on older women's employment rates. Further, providing state-organised childcare can also positively contribute to the norms regarding using formal and informal care. Although personal and societal values are difficult to change, childcare availability may be essential in shaping positive attitudes towards formal care. This could also be an effective step in reducing traditional gender norms.

Moreover, the findings highlight differences in policy backgrounds between countries. This is particularly visible in pension policy. In this respect, almost every country has chosen to raise the retirement age to 65 and 70 years over time (OECD, 2021). However, for some countries, this requires more effort and change than for others. An example is Italy, where a low retirement age has long been customary. In contrast, the government intends to gradually raise the retirement age to 70 years for men and women. To achieve this, not only a policy change is needed, but it also requires a shift in retirement culture. Additionally, differences between men and women are essential, as retirement ages across the European region are becoming more equal for men and women. An example is the Czech Republic, where the retirement age for men and women is set at 65, which used to be only 60 for women (OECD, 2021). Therefore, it will require time to realise this as it calls for a change in pension culture for women. In conclusion, this highlights the importance of considering a country's policy context in research and policymaking at the national and European levels.

6.4. Conclusion

This thesis aimed to shed light on the research question: *how much does the gender gap in labour force participation at older ages differ across the European region, and to what extent can these country differences be explained by institutional factors such as welfare state policies and gender norms?* In this regard, the findings present significant differences across the European region in the gender gap in employment at older ages, ranging from 1.3% in Estonia to 30.9% in Italy. Further, there are significant differences within Western and Eastern Europe. However, the interpretation of these figures proves difficult. In this respect, the relationship between formal childcare and the gender gap in employment has a pronounced effect. Yet, the other institutional factors examined (elder care policies, gender norms, and pension policies) explain only marginally the differences in the gender gap at older ages across countries. The variation in employment rates of older women in the European region is, to a more considerable extent, explained by the macro-level factors considered. Thereby, I find that primarily the availability of formal childcare, use of formal elder care and egalitarian gender norms are positively associated with the labour force participation of older women across the European region. Overall, these results underscore that especially a combination of the availability of formal childcare during the entry into motherhood and available formal elder care later in life is beneficial for women in maintaining their employment status. This, in turn, may also lead to higher labour force participation among older women and a smaller gender gap in employment in a country, as the likelihood of exiting the labour market at any stage of life decreases. Thereby, this thesis adds to the existing literature by highlighting the importance of available childcare on the labour force participation of older women.

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Appendix I: operationalisation of the variables

Labour force participation
Original variable

To measure the labour force participation of men and women in the GGS survey, a dummy variable of the question "which of the items on the card best describes what you are mainly doing at present?" is constructed. This question contains ten response categories: employed or self-employed, helping family member in a family business or a farm, unemployed, student, in school, in vocational training, retired, on maternity leave, parental leave or childcare leave, ill or disabled for a long time or permanently, looking after the home or family, in military service or social service, other. In addition, two countries added an extra response option: Russia added working pensioners, and France added apprenticeship or paid training. In addition, the missing values are categorized into four options: (.a) no response (.b) refusal (c.) does not know (.d) unknown.

```
. summ aactstat

    Variable |        Obs        Mean    Std. dev.       Min        Max
-------------+---------------------------------------------------------
    aactstat |     59,659    16.57529    126.0235          1       1501

. tab aactstat, missing

             Activity Status Respondent |      Freq.     Percent        Cum.
----------------------------------------+-----------------------------------
                 employed or self-employed |     30,671       51.37       51.37
helping family member in family busines |        310        0.52       51.89
                               unemployed |      3,868        6.48       58.37
  student,in school,vocational training |         33        0.06       58.42
                                  retired |     15,424       25.83       84.26
      maternity,parental,childcare leave |         29        0.05       84.31
         ill or disabled for a long time |      3,891        6.52       90.82
        looking after the home or family |      3,860        6.47       97.29
                                    other |        906        1.52       98.81
                         working pensioner |        666        1.12       99.92
     in apprenticeship or paid training |          1        0.00       99.92
             no response/not applicable |          1        0.00       99.92
                                  unknown |         45        0.08      100.00
----------------------------------------+-----------------------------------
                                    Total |     59,705      100.00
```

The statistics above show that there are 59,659 valid values and 46 missing values for respondents in the 45-64 age group. Thus, there are very few missing values. It is also notable that some of the response options have few cases, such as being a student or being on maternity leave. This can be explained by the chosen age group.

Changes to variable – labour force participation

The first new variable created using the primary activity status of respondents is a dummy variable. Hereby, a score of one indicates someone is working and a score of two indicates someone is inactive. This is calculated by grouping together all respondents who, on the question “which of the items on the card best describes what you are mainly doing at present?” answered that they are employed/self-employed or helping family members in a family business or a farm. All respondents who chose one of following the categories are labelled as

inactive: unemployed, student, in school, in vocational training, retired, ill or disabled for a long time or permanently or looking after the home or family. Thereby the category of maternity leave, parental leave or childcare leave is recoded to missing values since this thesis only considers women aged of 45 or higher. In addition, the answer option 'other' and the country-specific answer options (working pensioners and apprenticeship/ paid training) are recoded as missing.

Syntax

```
** activity --> 0=missing 1=inactive 2=working 3=retired**
recode aactstat (1 2 = 2) (3 4 7 8 = 1) (5 = 3) (6 9 10 1201 1501 1701 = 0), gen(activity)
** Labour force participation **
gen lfp = .
replace lfp=1 if activity==2
replace lfp=2 if activity==1 | activity==3
** adding label **
label variable lfp "lfp"
label define lfp 1 "working" 2 "inactive/retired"
label values lfp lfp
```

Overview new variable

```
. summ lfp

    Variable |        Obs        Mean    Std. dev.       Min        Max
-------------+---------------------------------------------------------
         lfp |     58,057    1.466369     .498872          1          2

. tab lfp, missing

             lfp |      Freq.     Percent        Cum.
-----------------+-----------------------------------
         working |     30,981       51.89       51.89
inactive/retired |     27,076       45.35       97.24
               . |      1,648        2.76      100.00
-----------------+-----------------------------------
           Total |     59,705      100.00
```

The above statistics show that there are 58,057 valid cases left after the edits. In addition, the number of missing values increased because several categories were moved to this group. This concerns 1648 cases which amount to 2.8%, which is still a small number. It can also be seen that two answer categories have been created instead of ten, whereby one stands for working and two for inactive.

Changes to variable – main activity

The second item that reflects the main activity of respondents is a categorical variable of four categories: part-time work, full-time work, retired or inactive. In this case, the employed type is calculated in the same way as

described above. However, a distinction is made between part-time work (less than 30 hours) and full-time employment (more than 30 hours), which is in line with the definition of the OECD (2022b). This is calculated by asking, "how many hours per week do you usually work in this job or company, including overtime?" where respondents could enter the number of hours worked per week. The category retirement is calculated by considering all respondents who answered “retired” on the question of their primary activity. In addition, to see if people who say they are retired also worked until shortly before they retired, I looked at the question: “In what year did you retire?” I labelled everyone who reported that they were retired before the age of 45 as inactive. The limit of 45 is apprehended because questions about retirement are asked to respondents aged 45 or older. This means that when looking at the age group 45-65, 819 cases are switched from retired to inactive. Therefore, the last category, inactive, forms a combination of respondents who report being unemployed, in school/ in vocational training, ill or disabled for a long time or permanently, looking after the home or family or retired before age 45.

Overview item - hours per week and timing of retirement

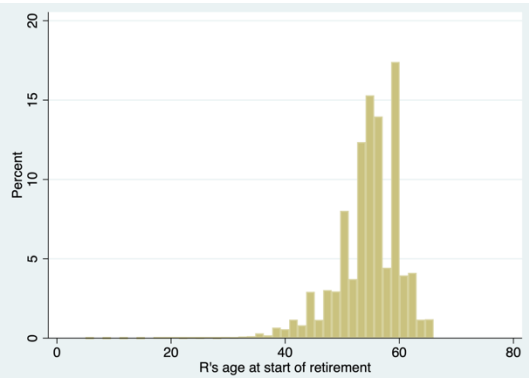
The overview below shows a normal distribution with some outliers in the data.

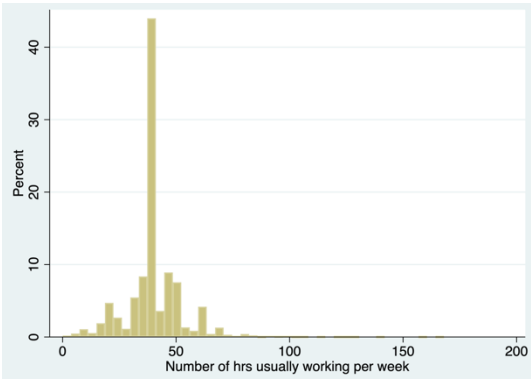
```
. summ a816AgeR

    Variable |        Obs        Mean    Std. dev.       Min        Max
-------------+---------------------------------------------------------
    a816AgeR |     14,567    54.72149    5.729312          5         66

. summ a835

    Variable |        Obs        Mean    Std. dev.       Min        Max
-------------+---------------------------------------------------------
       a835  |     32,137    40.1236    11.93535          0        168
```





Thereby, the number of people who have retired and the number of hours worked correspond to the number of cases in the corresponding category of the main activity of the respondent. Thereby, the histograms are normally distributed with some outliers to the lower end for retirement age and to the higher end for hours worked.

Syntax

** activity --> 0=missing 1=inactive 2=working 3=retired**

recode aactstat (1 2 = 2) (3 4 7 8 = 1) (5 = 3) (6 9 10 1201 1501 1701 = 0), gen(activity)

```
** working hours --> categorical variabel 1 = <30 hours 2 = 35-50 hours **
gen hrsworking= .
 replace hrsworking=1 if a835 <30
 replace hrsworking=2 if a835 >30 & a835 <50
**at what age did you retire 1= before 45 2= at 45 or higher**
gen inactive= .
 replace inactive=1 if a816AgeR <45
 replace inactive=2 if a816AgeR >=45
** mainactivity --> 1=part-time 2=fulltime 3=retired 4=inactive
gen mainactivity = .
 replace mainactivity=1 if activity==2 & hrsworking==1
 replace mainactivity=2 if activity==2 & hrsworking==2
 replace mainactivity=3 if activity==3 & inactive==2
 replace mainactivity=4 if activity==1 | inactive==1
** adding label **
label variable mainactivity "mainactivity"
label define mainactivity 1 "parttime job" 2 "fulltime job" 3 "retired" 4 "inactive"
label values mainactivity mainactivity
```

Overview of new variable retirement

```
. tab inactive
```

inactive	Freq.	Percent	Cum.
1	819	1.37	1.37
2	58,886	98.63	100.00
Total	59,705	100.00	

This shows that 819 cases are recoded into inactive since these respondents retired before age 45.

Overview of new variable working part-time or fulltime

```
. tab hrsworking
```

hrsworking	Freq.	Percent	Cum.
1	4,073	15.98	15.98
2	21,416	84.02	100.00
Total	25,489	100.00	

This shows that only a small percentage (16%) of respondents across all countries work part-time.

Overview of new variable main activity respondent

```
. summ mainactivity

    Variable |        Obs        Mean    Std. dev.       Min        Max
-------------+---------------------------------------------------------
mainactivity |     51,131    2.708103    .9096096          1          4

. tab mainactivity, missing

mainactivity |      Freq.     Percent        Cum.
-------------+-----------------------------------
parttime job |      3,397        5.69        5.69
fulltime job |     20,602       34.51       40.20
     retired |     14,661       24.56       64.75
    inactive |     12,471       20.89       85.64
           . |      8,574       14.36      100.00
-------------+-----------------------------------
       Total |     59,705      100.00
```

The above statistics show that there are 51,131 valid cases left after the edits. In addition, the number of missing values increased because several categories of the question on the main activity were moved to the missing values. In addition, checks were added for the number of hours worked and the moment of retirement. Therefore, the missing values concern 8,574 cases which amount to 14,4%. It can also be seen that four answer categories have been created instead of ten.

Gender gap in labour force participation

In addition, the employment gender gap was calculated using the labour force participation dummy variable. The gender gap is based on the difference between the percentage of women and men active in the labour market.

Syntax

```
* measurment percentage labour force participation for men and women *
tab acountry lfp if asex==2, row
tab acountry lfp if asex==1, row
```

Overview Gender gap in labour force participation

	Women (Percentages)	Men (Percentages)	Employment gap (Percentages)
Bulgaria	42,82	50,09	7,27
Czech Republic	46,38	62,01	15,63
Estonia	66,34	67,64	1,3
Georgia	41,43	64,5	23,07
Hungary	42	50,74	8,74
Lithuania	55,05	64,38	9,33
Poland	35,17	51,87	16,7
Romania	33,22	51,66	18,44
Russia	48,36	58,26	9,9
Belgium	50	65,37	15,37

France	54,14	59,01	4,87
Germany	58,34	64,13	5,79
Italy	34,82	65,67	30,85
Netherlands	48,37	68,11	19,74
Sweden	84,33	86,45	2,12

Gender norms

Original variable

To measure the concept of gender norms, the following questions from the GGS survey were used: 1) When parents are in need, daughters should take more caring responsibility than sons. 2) In a couple, it is better for the man to be older than the woman. 3) If a woman earns more than her partner, it is not good for the relationship. 4) A preschool child is likely to suffer if his/her mother works. 5) If parents divorce, it is better for the child to stay with the mother than with the father. 6) When jobs are scarce, men should have more rights to a job than women. Respondents could answer on a five-point scale, whereby 1=strongly agree, 2 = agree, 3 = neither agree nor disagree, 4 = disagree and 5 = strongly disagree. These questions were selected because they are most similar to questions used in other studies examining gender norms (Aartzen et al., 2021; Poortman & Van Der Lippe, 2009).

The statistics show many missing values, especially in the category indicated by (.). This is because the questions related to gender norms were not asked in every country. This concerns Estonia, Italy and the Netherlands; these countries are therefore excluded from the analyses on gender norms. This makes the total number of cases from all countries together 49.291. The other missing values have been added and are indicated with does not know and no response. The missing values are between 2.3% and 3.7%. It can also be seen that the category strongly disagree included categories 5 and 7. Therefore the maximum value is seven in the summary. In addition, the frequencies are reasonably normally distributed. There is also little difference in means and standard deviations between the various items. This bodes well for the reliability of the scale variable.

```
. summ a1112_c a1113_a a1113_b a1113_f a1113_h a1114_a
```

Variable	Obs	Mean	Std. dev.	Min	Max
a1112_c	52,678	3.416113	1.135928	1	7
a1113_a	50,578	2.798232	1.140885	1	7
a1113_b	50,354	3.373158	1.076045	1	7
a1113_f	50,517	2.53091	1.181496	1	7
a1113_h	48,124	2.573934	1.064977	1	7
a1114_a	50,538	3.25276	1.271963	1	7

```
. tab a1112_c, missing
```

Opinion: When parents in need, daughters should take more caring responsibility	Freq.	Percent
strongly agree	3,014	5.05
agree	8,739	14.64
neither agree nor disagree	13,980	23.42
disagree	17,245	28.88
strongly disagree	9,679	16.21
does not know	21	0.04
.	5,917	9.91
no response/not applicable	1,110	1.86
Total	59,705	100.00

```
. tab a1113_a, missing
```

Opinion: In a couple it is better for the man to be older than the woman	Freq.	Percent
strongly agree	6,730	11.27
agree	14,322	23.99
neither agree nor disagree	16,350	27.38
disagree	8,865	14.85
strongly disagree	4,266	7.15
strongly disagree	45	0.08
.	7,567	12.67
no response/not applicable	1,560	2.61
Total	59,705	100.00

```
. tab a1113_h, missing
```

Opinion: If parents divorce it's better for child stay with mother than father	Freq.	Percent
strongly agree	8,015	13.42
agree	15,024	25.16
neither agree nor disagree	17,169	28.76
disagree	5,420	9.08
strongly disagree	2,427	4.06
strongly disagree	69	0.12
.	10,414	17.44
no response/not applicable	1,167	1.95
Total	59,705	100.00

```
. tab a1114_a, missing
```

Opinion: When jobs scarce, men more right to job than women	Freq.	Percent
strongly agree	5,266	8.82
agree	10,590	17.74
neither agree nor disagree	10,420	17.45
disagree	14,686	24.60
strongly disagree	9,547	15.99
does not know	29	0.05
.	7,567	12.67
no response/not applicable	1,600	2.68
Total	59,705	100.00

```
. tab a1113_b, missing
```

Opinion: If woman earns more than partner, not good for relationship	Freq.	Percent
strongly agree	2,679	4.49
agree	7,964	13.34
neither agree nor disagree	14,695	24.61
disagree	18,030	30.20
strongly disagree	6,931	11.61
strongly disagree	55	0.09
.	7,567	12.67
no response/not applicable	1,784	2.99
Total	59,705	100.00

```
. tab a1113_f, missing
```

Opinion: A pre-school child is likely to suffer if his/her mother works	Freq.	Percent
strongly agree	9,997	16.74
agree	19,395	32.48
neither agree nor disagree	8,601	14.41
disagree	9,430	15.79
strongly disagree	3,057	5.12
strongly disagree	37	0.06
.	7,567	12.67
no response/not applicable	1,621	2.72
Total	59,705	100.00

Changes to variable – gender norms

The items were edited by first excluding countries in which not all attitude questions were asked. These are Estonia, Italy, and the Netherlands. Next, a reliability analysis was performed. When all six questions about gender norms are included in a scale, the Cronbach's alpha is 0.67. This is not very low or very high within social science. In addition, removing questions or adding other questions from the attitude section that can be linked to gender norms leads to a lower Cronbach's alpha. In addition, the questions are comparable to the measurements in other studies. Therefore, I created a scale construction with six questions about gender norms. The items were merged into STATA using rowmax (item 1, item 2, item 3, item 4, item 5, item 6). This gives the maximum value (ignoring missing values) for the new variable for each observation (respondents' answer). If all values in the variable gender norms are missing for an observation, the new variable is set to missing for that observation. After creating a new variable that measures gender norms, the two categories of strongly disagree are merged.

Syntax

```
** Norms are not measured in NL, IT and EE, therefore these are excluded**
keep if acountry==11 | acountry==12 | acountry==13 | acountry==14 | acountry==15 | acountry ==16 |
acountry==19 | acountry==23 | acountry==25 | acountry==26 | acountry==28 | acountry==29

** Cronbach's alpha **
alpha a1112_c a1113_a a1113_b a1113_f a1113_h a1114_a, item

** gender norms **
egen gendernorms = rowmax (a1112_c a1113_a a1113_b a1113_f a1113_h a1114_a)
replace gendernorms =1 if gendernorms==1
replace gendernorms =2 if gendernorms==2
replace gendernorms =3 if gendernorms==3
replace gendernorms =4 if gendernorms==4
replace gendernorms =5 if gendernorms==5 | gendernorms==7

** adding label **
label variable gendernorms "gendernorms"
label define gendernorms 1 "strongly agree" 2 "agree" 3 "neitheragree or disagree" 4 "disagree" 5 "strongly
disagree"
label values gendernorms gendernorms
```

Overview new variable

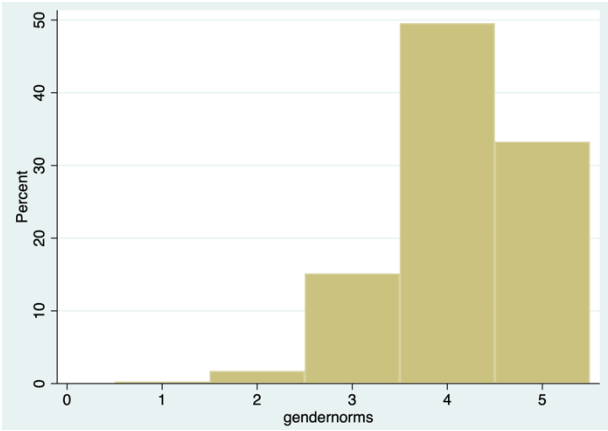
The new variable gender norms consisted of 48,433 valid cases. Therefore only 858 (1,7%) cases are labelled as missing. In addition, the histogram is not normally distributed. Respondents answered mostly that they disagreed or strongly disagreed with the statement. However, countries differ quite a lot in the degree to which they disagree, which makes the data still interesting to analyse.

```
. summ gendernorms

    Variable |        Obs        Mean    Std. dev.       Min        Max
-------------+---------------------------------------------------------
 gendernorms |     48,433    4.138212    .7480678          1          5

. tab gendernorms, missing

             gendernorms |      Freq.     Percent        Cum.
-------------------------+-----------------------------------
           strongly agree |        136        0.28        0.28
                    agree |        838        1.70        1.98
neitheragree or disagree |      7,337       14.89       16.86
                 disagree |     24,007       48.70       65.57
        strongly disagree |     16,115       32.69       98.26
                       .a |        858        1.74      100.00
-------------------------+-----------------------------------
                    Total |     49,291      100.00
```



Country	gendernorms strongly	agree	neitherag	disagree	strongly	Total
Bulgaria	2	49	601	2,082	739	3,473
	0.06	1.41	17.30	59.95	21.28	100.00
Russia	4	145	651	2,658	525	3,983
	0.10	3.64	16.34	66.73	13.18	100.00
Georgia	12	138	432	2,370	300	3,252
	0.37	4.24	13.28	72.88	9.23	100.00
Germany	4	47	204	1,425	1,925	3,605
	0.11	1.30	5.66	39.53	53.40	100.00
France	5	11	173	322	3,183	3,694
	0.14	0.30	4.68	8.72	86.17	100.00
Hungary	85	130	1,272	703	3,060	5,250
	1.62	2.48	24.23	13.39	58.29	100.00
Romania	1	40	820	2,855	946	4,662
	0.02	0.86	17.59	61.24	20.29	100.00
Belgium	2	16	133	1,712	1,003	2,866
	0.07	0.56	4.64	59.73	35.00	100.00
Lithuania	2	47	831	1,837	600	3,317
	0.06	1.42	25.05	55.38	18.09	100.00
Poland	8	156	1,509	5,326	1,122	8,121
	0.10	1.92	18.58	65.58	13.82	100.00
zechRepublic	11	57	582	2,040	702	3,392
	0.32	1.68	17.16	60.14	20.70	100.00
Sweden	0	2	129	677	2,010	2,818
	0.00	0.07	4.58	24.02	71.33	100.00
Total	136	838	7,337	24,007	16,115	48,433
	0.28	1.73	15.15	49.57	33.27	100.00

Childcare

An indicator from the Contextual Database is used to measure the availability of formal childcare in a country. Thereby, the indicator of the coverage rate in childcare for children under three years of age was used. This indicator is defined as the number of places in public (or government subsidised) childcare facilities as a percentage of the number of children aged 0 to 2 years (Keck & Saraceno, 2011). The reference year for the data is 2004 since the Contextual Database contains policy information for 2004 and 2009. However, the data on childcare for 2009 was unavailable. In addition, there is no information available for Romania for 2004. Moreover, theory indicates that formal childcare in the years before school age affects women's labour force participation most significantly (Neuberger et al., 2022; Thevenon, 2016). Therefore, this study considers coverage rates in childcare for children until three years old and not for children between three and five years of age since the coverage rates for this age group are higher and deviate less.

Child benefits

An indicator on child benefits is used to examine to what extent a country stimulates childcare within the family. Kleider (2015) suggests that child benefits are best presented as a percentage of average monthly earnings in order to make them comparable across time and countries. In the Contextual Database, this indicator is measured by the monthly child allowances for a family with an average net labour income and two children as a share of average income in a country. If the child allowances vary by household income, the benefit level is calculated assuming a household with an average labour income of one person (Keck & Saraceno, 2011). The reference year for the data is 2009 since the 2009 data contains information on more countries than the 2004 data. However, there is no information available for Georgia and Russia.

Formal care for the elderly

The availability of formal care for the elderly is measured by two indicators of the Contextual Database: care recipients living at home and persons residing in care facilities. The former is defined as the percentage of home care recipients in the population aged 65 and over. The latter is presented as the portion of the population aged 65 and older residing in institutional care (Keck & Saraceno, 2011). To measure the use of formal care for the elderly, the two indicators are grouped to create one indicator. This is consistent with other studies (an example is Floridi et al., 2021). In addition, the measures reflect the percentage of the population aged 65 or older in a country, making the indicator comparable across countries. The reference year for the data is 2004 since more countries were included here than in the 2009 data. Furthermore, the information is unavailable for Bulgaria, Georgia, Lithuania, and Russia.

Retirement culture

The retirement culture is measured using the effective retirement age, in which a distinction is made between men and women. In this regard, the effective retirement age reflects the age-norms set by society. This is measured as a weighted average of (net) withdrawals from the labour market at different ages over a 5-year

period for workers aged 40 and over (Keck & Saraceno, 2011). The reference year for the data is 2004 since more countries were included here than in the 2009 data. However, the effective retirement age information was unavailable for Georgia and Russia in the Contextual Database.

Overview indicators Contextual Database

Indicator	Childcare the coverage rate in childcare for children under three years (percentage)	Child benefits Child allowance for 2 children as a share of average income	Formal care Home-based care recipients as a share of the population aged 65 and older	Formal care Institution care recipients as a share of the population aged 65 and older	Retirement Statutory retirement age men	Retirement Statutory retirement age women	Retirement Effective retirement age men	Retirement Effective retirement age women
Year	2004	2009	2004	2004	2004	2004	2004	2004
Bulgaria	7	14,6	-	0,8	60	55	57,2	54,4
Czech Republic	8	6,2	7,6	3,6	60	60	61,4	58,3
Estonia	22	3	10	2				
Georgia	12	-	-	-	62	61	56,9	56,8
Hungary	6	21,7	6,3	2,8	62,5	60	57,8	55,6
Lithuania	18	9,8	-	0,8	63	59	64,2	60,4
Poland	2	5,1	1,7	1,6	63	59,5	61	58,2
Romania	-	24,1	-	0,1	63	60	67,6	65,7
Russia	20	-	-	1,1				
Belgium	34,2	12	6	6,4	60	60	58,8	58,4
France	43	6,2	6,1	6,5	65	60	58,7	58,8
Germany	10,2	16,4	7	3,8	65	63	61,3	60,6
Italy	11,4	11,6	4,1	2	65	65	60,4	61,5
Netherlands	14,5	5,7	15,4	7,3	65	65	60,3	58,8
Sweden	49,8	9,8	9,2	6,8	65	65	63,6	61,6

Appendix II: sensitivity checks

Overview of correlations with a significant level of 0,05

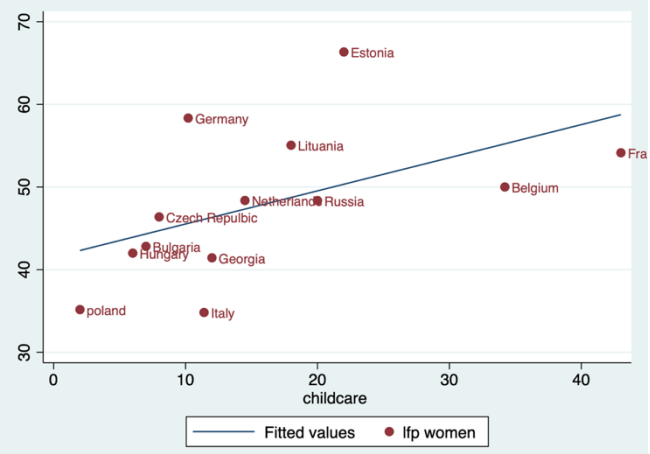
	lfpwomen	lfpmen	gender~p	childc~e	childb~s	formal~e	gender~s
lfpwomen	1.0000						
	15						
lfpmen	0.7877*	1.0000					
	0.0005						
	15	15					
gendergap	-0.7245*	-0.1460	1.0000				
	0.0022	0.6035					
	15	15	15				
childcare	0.7359*	0.6520*	-0.4273	1.0000			
	0.0027	0.0115	0.1275				
	14	14	14	14			
childbenef~s	-0.3437	-0.4101	0.0954	-0.2358	1.0000		
	0.2502	0.1640	0.7566	0.4607			
	13	13	13	12	13		
formalcare	0.5121	0.5658	-0.2210	0.4428	-0.1975	1.0000	
	0.1302	0.0882	0.5395	0.2000	0.5844		
	10	10	10	10	10	10	
gendernorms	0.5804*	0.5737	-0.3254	0.7238*	-0.2523	0.6647	1.0000
	0.0479	0.0512	0.3021	0.0118	0.4818	0.1034	
	12	12	12	11	10	7	12
sretiremen~m	0.2081	0.3696	0.0862	0.2574	-0.0197	0.1976	0.3336
	0.4952	0.2139	0.7794	0.4193	0.9492	0.5842	0.3461
	13	13	13	12	13	10	10
sretiremen~w	0.1929	0.6041*	0.3900	0.2357	-0.0219	0.3736	0.5166
	0.5277	0.0288	0.1877	0.4609	0.9434	0.2876	0.1263
	13	13	13	12	13	10	10
eretiremen~m	0.0885	0.2231	0.1148	0.2045	0.2115	0.1332	-0.0702
	0.7737	0.4638	0.7088	0.5238	0.4880	0.7137	0.8472
	13	13	13	12	13	10	10
eretiremen~w	0.1381	0.3516	0.1834	0.4138	0.1407	0.1080	0.2439
	0.6528	0.2387	0.5487	0.1812	0.6465	0.7665	0.4971
	13	13	13	12	13	10	10

	sretir~m	sretir~w	eretir~m	eretir~w
sretiremen~m	1.0000			
	13			
sretiremen~w	0.7491*	1.0000		
	0.0032			
	13	13		
eretiremen~m	0.2546	0.2334	1.0000	
	0.4013	0.4428		
	13	13	13	
eretiremen~w	0.4217	0.3867	0.8597*	1.0000
	0.1512	0.1918	0.0002	
	13	13	13	13

Robustness checks: the labour force participation in childcare

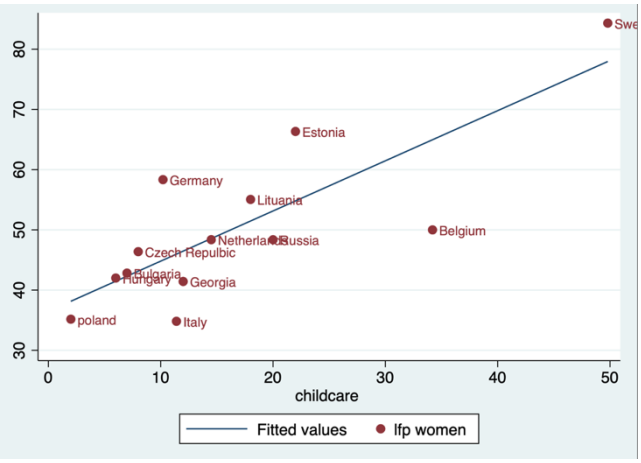
1. Without Sweden

When Sweden is removed from the model, the correlation becomes less strong but is still considered a moderate correlation. However, the correlation is not significant anymore ($r = 0{,}51$, $p > 0{,}05$). Moreover, the graph still shows quite a strong relationship between labour force participation and coverage rates in childcare.



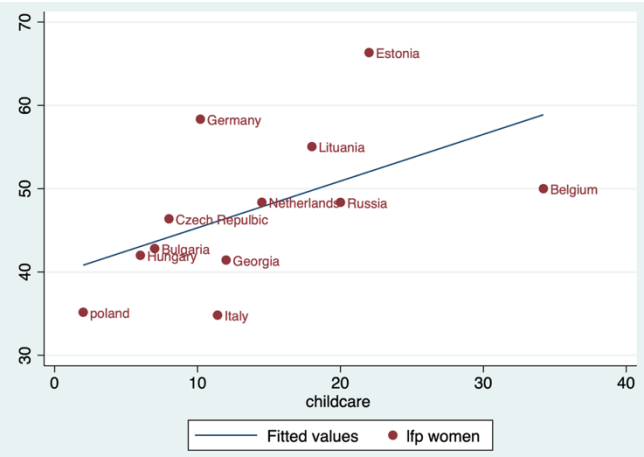
2. Without France

When France is removed from the dataset the correlation becomes even stronger ($r = 0{,}80$; $p = < 0{,}05$). This is also visible in the graph. However, Sweden is presented as an even bigger outlier.



3. Without Sweden and France

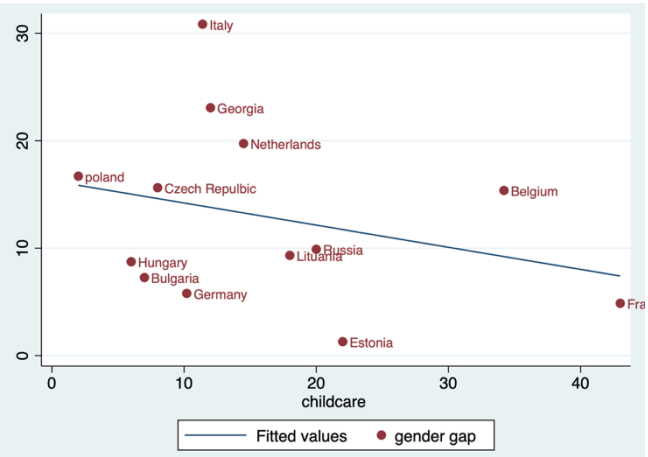
When Sweden and France are removed from the model, the correlation becomes less strong but is still considered a moderate correlation. However, the correlation is not significant anymore ($r = 0{,}74$, $p < 0{,}05$ to $r = 0{,}53$, $p > 0{,}05$). Moreover, the graph still shows quite a strong relationship between labour force participation and coverage rates in childcare.



Robustness checks: the employment gender gap by childcare

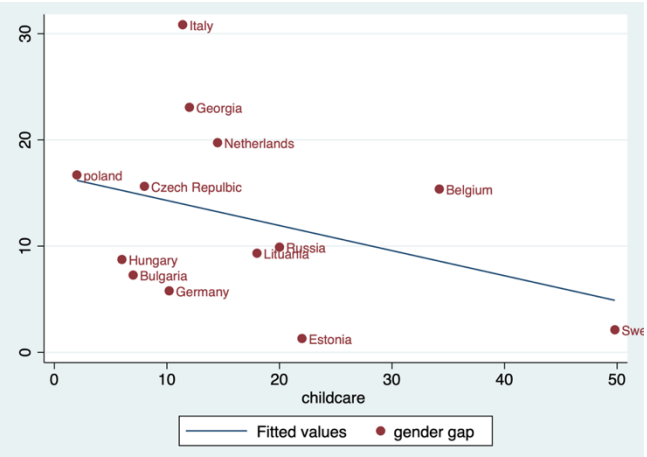
1. Without Sweden

The correlation changes slightly (r = -0,43 to r = -0,29) when Sweden is removed from the dataset. In addition, the level of significance stays the same (p > 0,05). The graph also shows that the relationship between the gender gap in employment and the coverage rate in formal childcare has not much changed. Still, the relationship between the two indicators seems less strong.



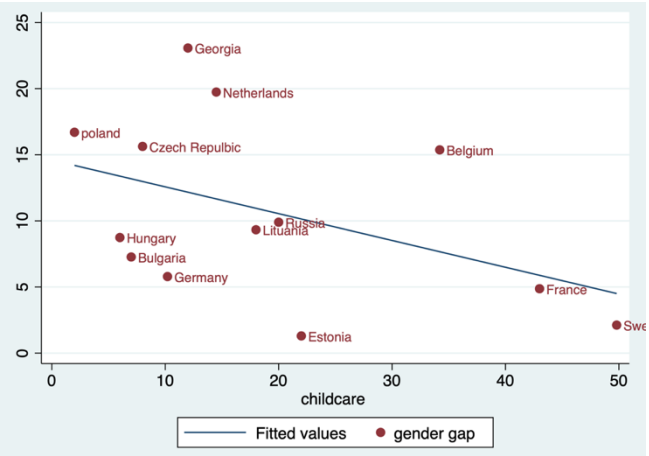
2. Without France

The correlation changes slightly (r = -0,43 to r = -0,36) when France is removed from the dataset. In addition, the level of significance stays the same (p > 0,05). The graph also shows that the relationship between the employment gender gap and the coverage rate in formal childcare has not changed.



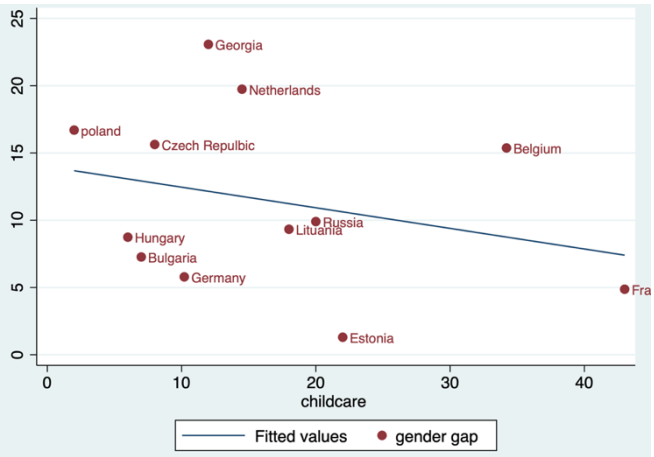
3. Without Italy

The correlation is slightly higher when Italy is removed from the dataset (r = -0,43 to r = -0,44). In addition, the level of significance stays the same (p > 0,05). The graph also shows that the relationship between the gender gap in employment and the coverage rate in formal childcare has not much changed.



4. Without Sweden and Italy

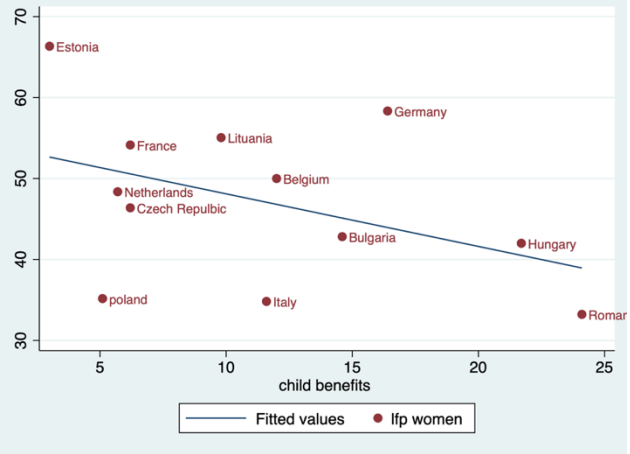
The table shows that the correlation changes (r = -0,43 to r = -0,28) when Sweden and Italy are removed from the dataset. In addition, the level of significance stays the same (p > 0,05). The graph also shows that the relationship between the employment gender gap and the coverage rate in formal childcare seems less substantial.



Robustness checks: the labour force participation by child benefits

1. Without Sweden

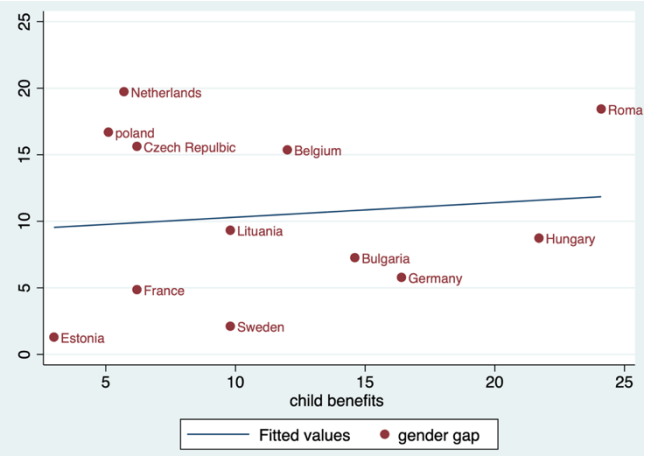
The correlation changes a little (r = -0,34 to r = -0,43) when Sweden is removed from the dataset. In addition, the level of significance stays the same (p > 0,05). The graph also shows that the relationship between labour force participation and the level of child benefits has not much changed, but the relationship between the two indicators seems stronger.



Robustness checks: the employment gender gap by child benefits

1. Without Italy

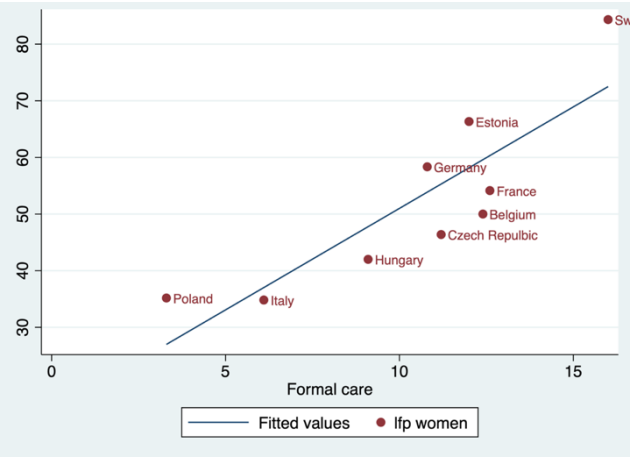
When Italy is removed from the dataset, the correlation increases a little, and the significance level stays the same (r = 0,11; p > 0,05). This is also present in the graph, which shows the lack of a relationship between the two variables.



Robustness checks: the labour force participation by formal elder care

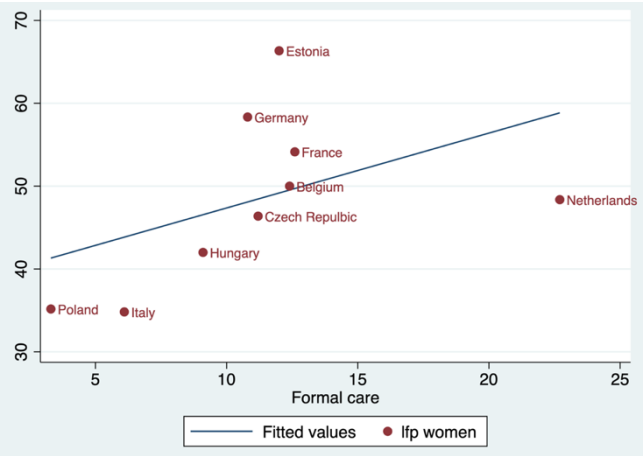
1. Without The Netherlands

The correlation changes significantly (r = 0,51 to r = 0,85) when The Netherlands is removed from the dataset. In addition, the level of significance becomes significant (p < 0,05). The graph also shows that the relationship between labour force participation and formal elder care increases.



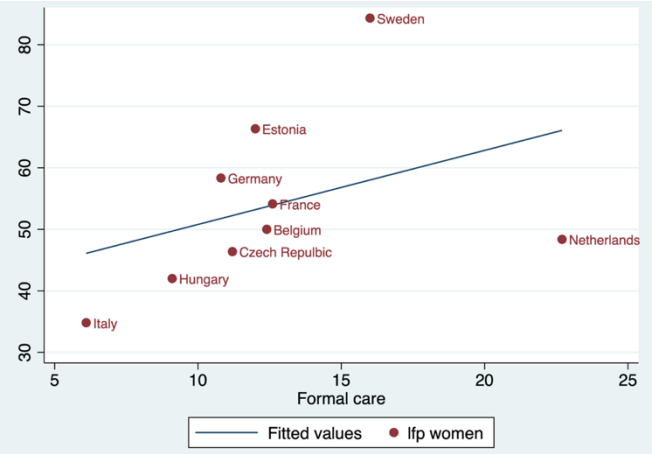
2. Without Sweden

The correlation changes a little ($r = 0{,}51$ to $r = 0{,}47$) when Sweden is removed from the dataset. In addition, the level of significance stays the same ($p > 0{,}05$). The graph also shows that the relationship between labour force participation and formal elder care has not changed much.



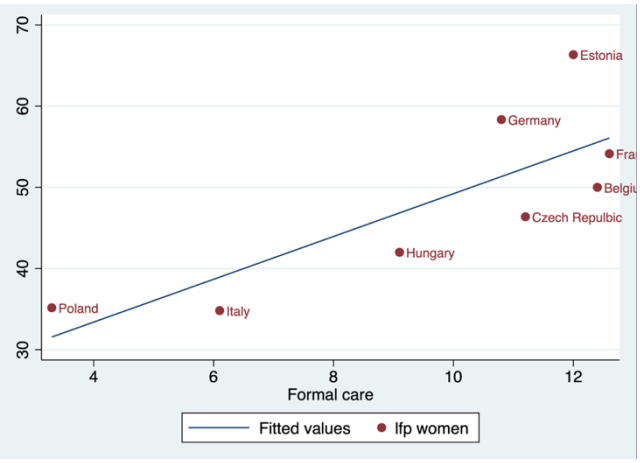
3. Without Poland

The correlation changes slightly ($r = 0{,}51$ to $r = 0{,}38$) when Poland is removed from the dataset. In addition, the level of significance stays the same ($p > 0{,}05$). The graph also shows that the relationship between labour force participation and formal elder care has not much changed, but the relationship between the two indicators seems less strong.



4. Without The Netherlands and Sweden

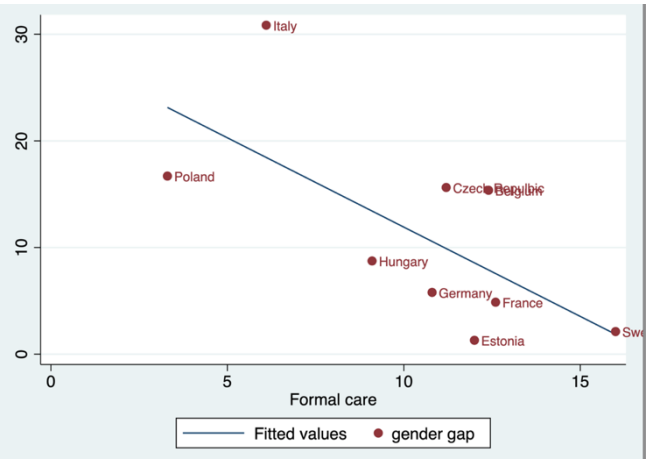
The correlation increases significantly ($r = 0{,}51$; $p > 0{,}05$ to $r = -0{,}80$; $p < 0{,}05$) when Sweden and The Netherlands are removed from the dataset. The graph also shows that the relationship between labour force participation and formal elder care has not much changed, but the relationship between the two indicators seems stronger.



Robustness checks the employment gender gap by formal elder care

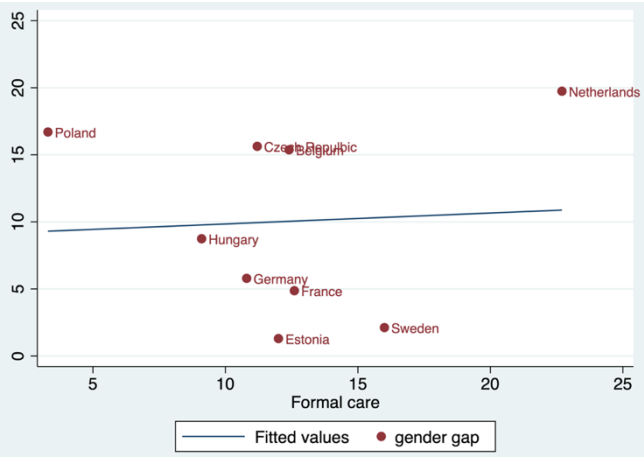
1. Without The Netherlands

The correlation changes significantly ($r = -0{,}22$; $p > 0{,}05$ to $r = -0{,}67$; $p < 0{,}05$) when The Netherlands is removed from the dataset. The graph also shows that the connection between the gender gap in employment and formal elder care increases.



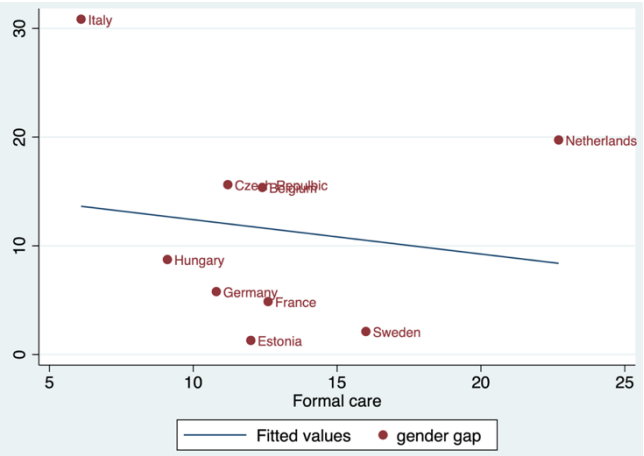
2. Without Italy

The correlation changes slightly ($r = -0{,}22$; $p > 0{,}05$ to $r = 0{,}06$; $p > 0{,}05$) when Italy is removed from the dataset. The graph also shows the lack of connection between the gender gap in employment and formal elder care.



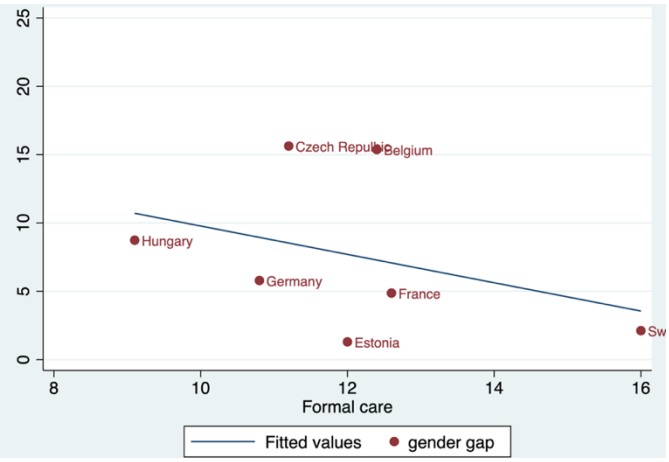
3. Without Poland

The correlation changes a little (r = -0,22; p > 0,05 to r = -0,15; p < 0,05) when Poland is removed from the dataset. The graph also shows that the connection between the gender gap in employment and formal elder care stays the same.



4. Without The Netherlands, Italy, and Poland

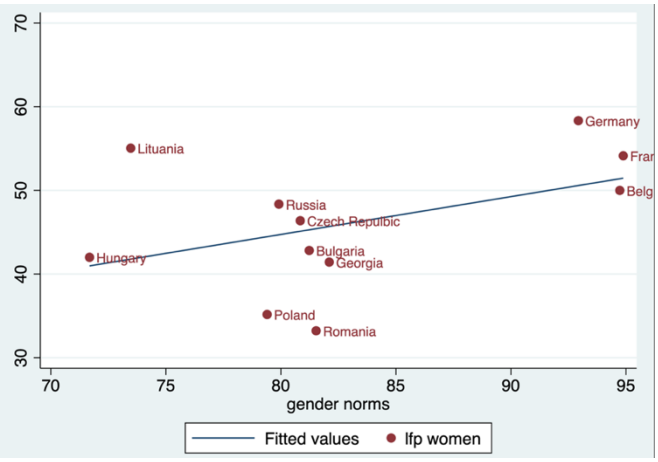
The correlation changes slightly (r = -0,22; p > 0,05 to r = -0,38; p > 0,05) when The Netherlands, Italy and Poland are removed from the dataset. The graph also shows that the connection between the gender gap in employment and formal elder care decreases.



Robustness checks for labour force participation rates by gender norms

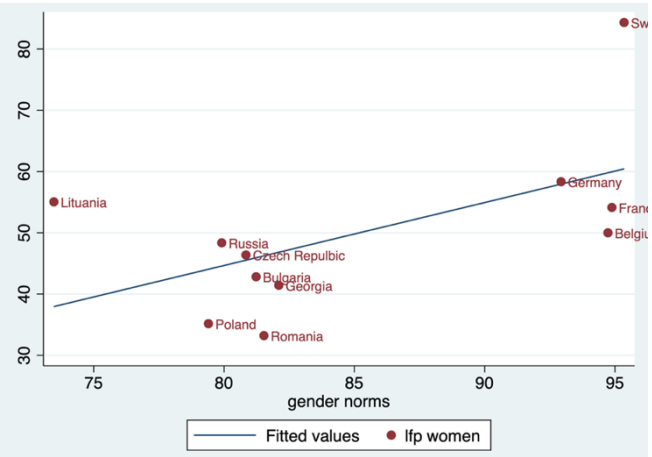
1. Without Sweden

The correlation decreases slightly and becomes insignificant when Sweden is removed from the dataset ($r = 0{,}58$; $p < 0{,}05$ to $r = 0{,}45$; $p > 0{,}05$). The graph also indicates that the connection between the labour force participation rate of women and gender norms does not change.



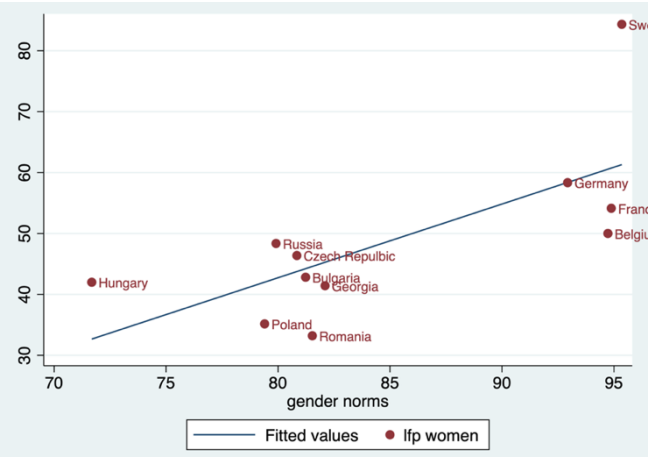
2. Without Hungary

The correlation does not change but becomes insignificant when Hungary is removed from the dataset ($r = 0{,}58$; $p < 0{,}05$ to $r = 0{,}57$; $p > 0{,}05$). The graph also indicates that the connection between the labour force participation rate of women and gender norms stays the same.



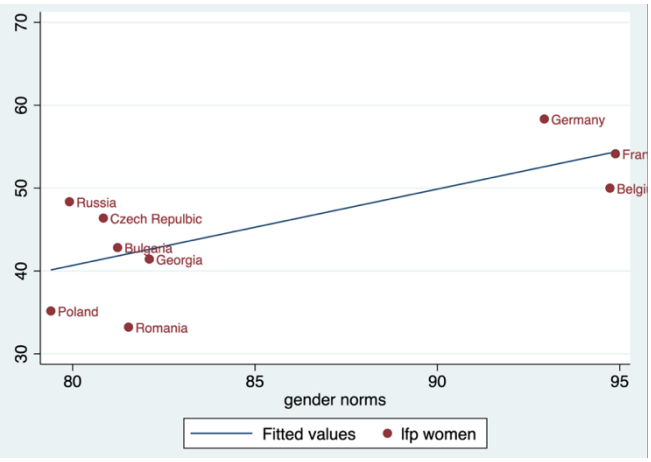
3. Without Lithuania

The correlation increases when Lithuania is removed from the dataset ($r = 0{,}58$; $p < 0{,}05$ to $r = 0{,}70$; $p < 0{,}05$). The graph also indicates that the link between the labour force participation rate of women and gender norms becomes stronger.



4. Without Sweden, Hungary, and Lithuania

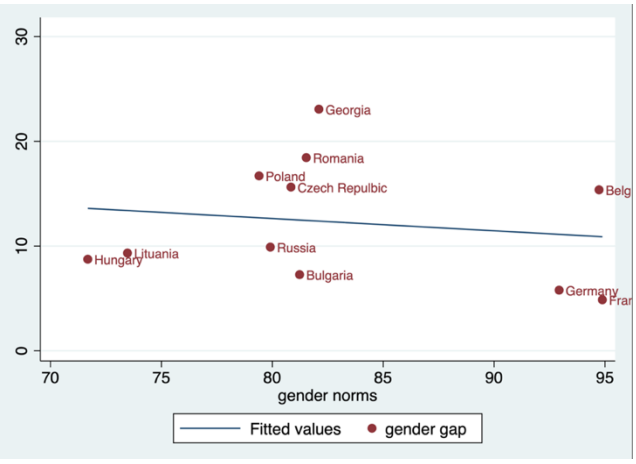
The correlation increases when Sweden, Hungary and Lithuania are removed from the dataset ($r = 0{,}58$; $p < 0{,}05$ to $r = 0{,}75$; $p < 0{,}05$). The graph also indicates that the connection between the labour force participation rate of women and gender norms becomes stronger.



Robustness checks for employment gender gap by gender norms

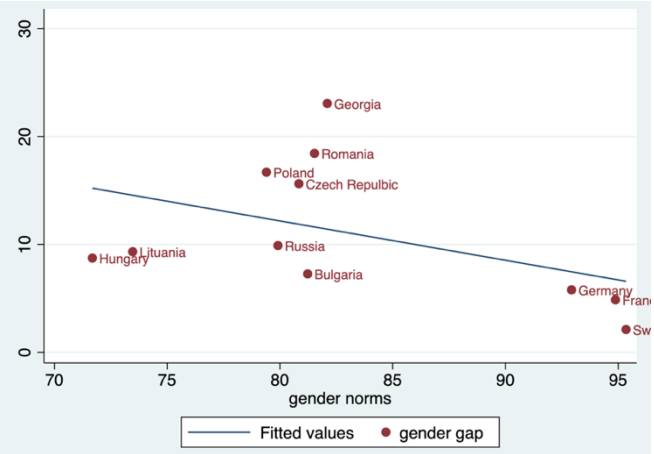
1. Without Sweden

The correlation decreases when Sweden is removed from the dataset ($r = -0{,}33$; $p > 0{,}05$ to $r = -0{,}16$; $p > 0{,}05$). The graph presents a smaller link between the gender gap in employment and gender norms.



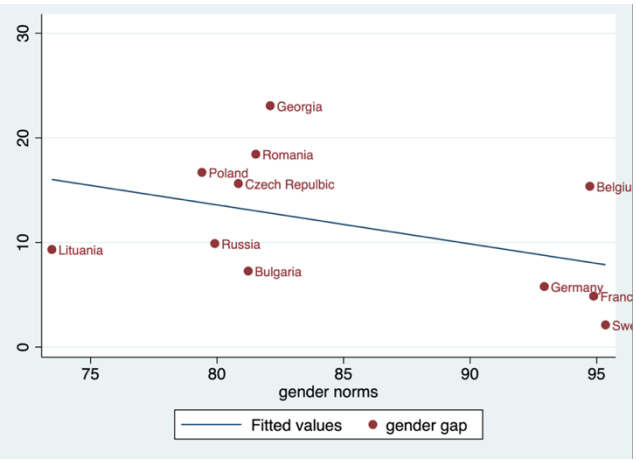
2. Without Belgium

The correlation becomes stronger when Belgium is removed from the dataset (r = -0,33; p > 0,05 to r = -0,45; p > 0,05). The graph also presents a negative link between the gender gap in employment and gender norms.



3. Without Hungary

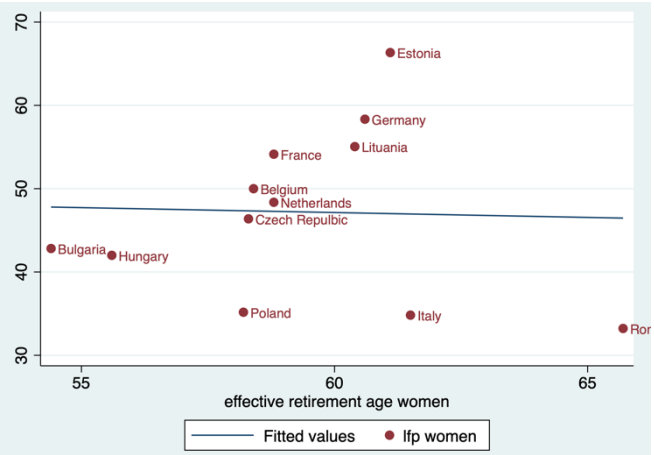
The correlation becomes stronger when Hungary is removed from the dataset (r = -0,33; p > 0,05 to r = -0,44; p > 0,05). The graph also indicates a more substantial relation between the gender gap in employment and gender norms.



Robustness checks: labour force participation by the effective retirement age of women

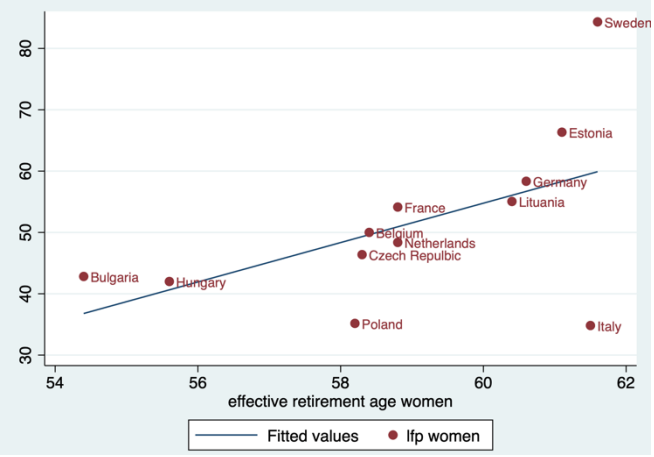
1. Without Sweden

The correlation becomes less strong when Sweden is removed from the dataset (r = 0,14; p > 0,05 to r = -0,03; p > 0,05). The graph also indicates that the link between labour force participation and the effective retirement age of women has disappeared completely.



2. Without Romania

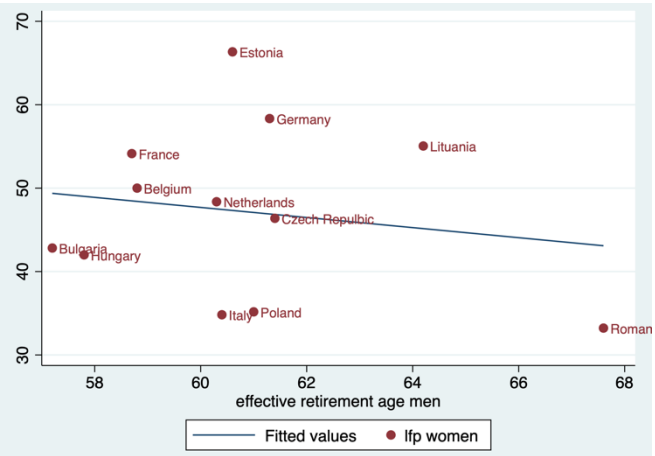
The correlation becomes significantly stronger when Romania is removed from the dataset ($r = 0{,}14$; $p > 0{,}05$ to $r = 0{,}52$; $p > 0{,}05$). The graph also indicates that the link between labour force participation and the effective retirement age of women becomes much stronger.



Robustness checks: labour force participation by the effective retirement age of men

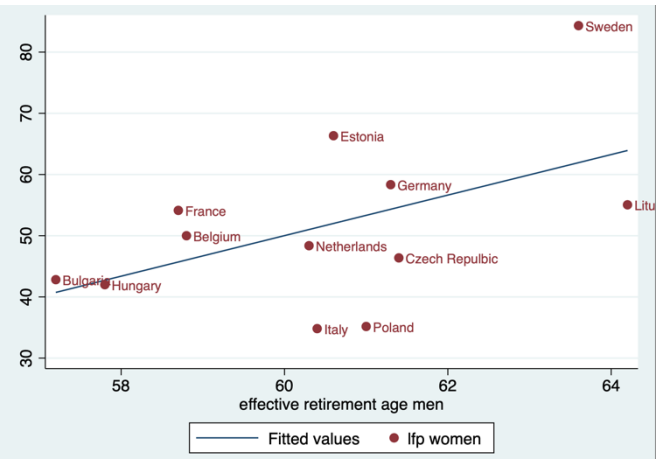
1. Without Sweden

The correlation becomes less strong when Sweden is removed from the dataset ($r = 0{,}22$; $p > 0{,}05$ to $r = -0{,}03$; $p > 0{,}05$). The graph also indicates that the link between labour force participation by the effective retirement age of men has disappeared completely.



2. Without Romania

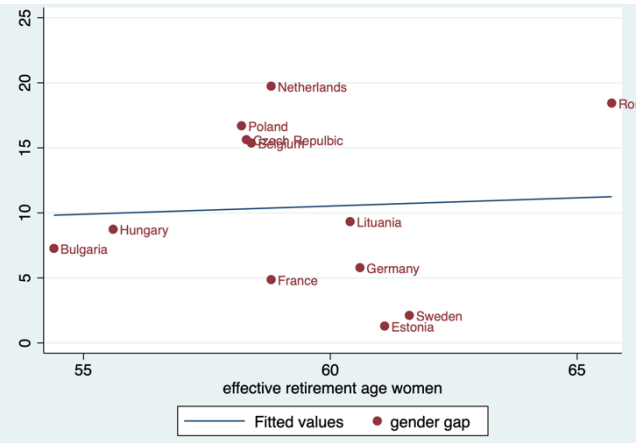
The correlation becomes significantly stronger when Romania is removed from the dataset ($r = 0{,}14$; $p > 0{,}05$ to $r = 0{,}65$; $p < 0{,}05$). The graph also indicates that the link between labour force participation and the effective retirement age of men becomes much stronger.



Robustness checks: the employment gender gap by the effective retirement age of women

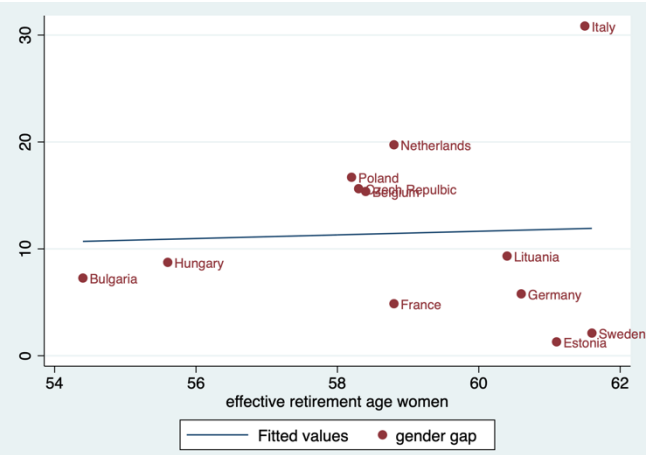
1. Without Italy

The correlation becomes less strong when Italy is removed from the dataset ($r = 0{,}18$; $p > 0{,}05$ to $r = 0{,}06$; $p > 0{,}05$). The graph also indicates that the link between the employment gender gap and the effective retirement age of women has disappeared completely.



2. Without Romania

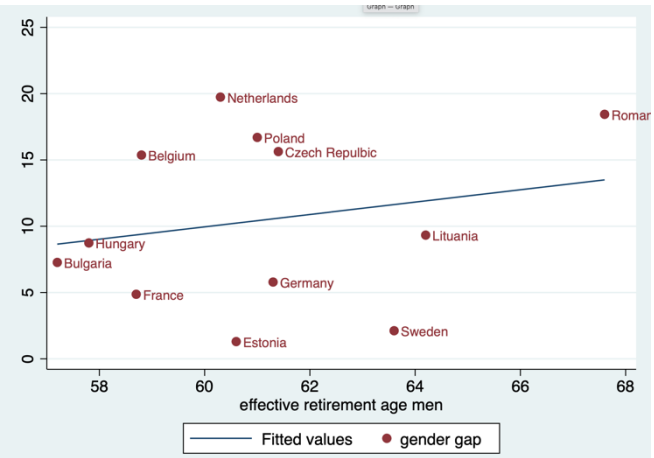
The correlation becomes less strong when Romania is removed from the dataset ($r = 0{,}18$; $p > 0{,}05$ to $r = 0{,}05$; $p > 0{,}05$). The graph also indicates that the link between the employment gender gap and the effective retirement age of women has disappeared completely.



Robustness checks: the employment gender gap by the effective retirement age of men

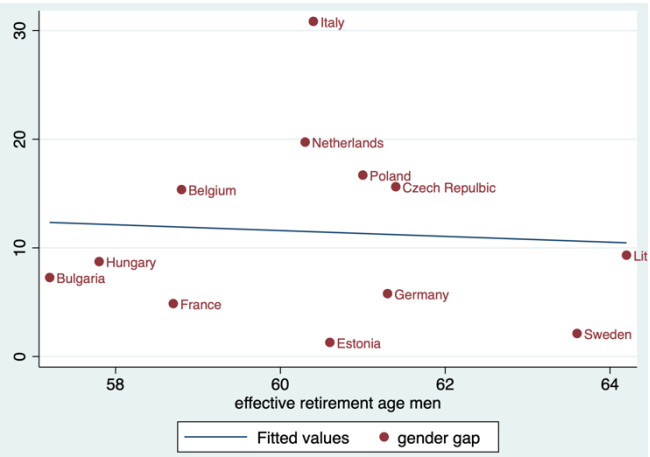
1. Without Italy

The correlation becomes a bit stronger when Italy is removed from the dataset (r = 0,11; p > 0,05 to r = 0,21; p > 0,05). This is also visible in the graph where the link between the employment gender gap and the effective retirement age of men is presented.



2. Without Romania

The correlation becomes a little smaller when Romania is removed from the dataset (r = 0,11; p > 0,05 to r = -0,07; p > 0,05). This is also visible in the graph.



Appendix III: syntax

1. The syntax for indicators GGS data

```
*****************************************************************************
** Do-file setup
*****************************************************************************
clear
use  "/Users/Kirsten/Desktop/GGS_Wave1_V4.4 2/Micro data/GGS_Wave1_V.4.4.dta", clear
save "/Users/Kirsten/Desktop/GGS_Wave1_V4.4 2/Micro data/dataKS", replace
*****************************************************************************
keep if aage >=45 & aage <=65
keep if acountry==11 | acountry==12 | acountry==13 | acountry==14 | acountry==15 | acountry==16 | acountry==17 |
acountry==18 | acountry==19  | acountry==22 | acountry==23 | acountry==25 | acountry==26 | acountry==28 |
acountry==29
*****************************************************************************
* Setting up variables mainactivity*
*****************************************************************************
*========== Main activity --> what best describes what you are mainly doing at present? ======*
** activity --> 0=missing 1=inactive 2=working 3=retired**
recode aactstat (1 2 = 2) (3 4 7 8 = 1) (5 = 3) (6 9 10 1201 1501 1701 = 0), gen(activity)

** working hours --> categorical variabel 1 = <30 hours 2 = 35-50 hours **
gen hrsworking= .
 replace hrsworking=1 if a835 <30
 replace hrsworking=2 if a835 >30 & a835 <50

**at what age did you retire 1= before 45 2= at 45 or higher**
gen inactive= .
 replace inactive=1 if a816AgeR <45
 replace inactive=2 if a816AgeR >=45

** mainactivity --> 1=part-time 2=fulltime 3=retired 4=inactive
gen mainactivity = .
 replace mainactivity=1 if activity==2 & hrsworking==1
 replace mainactivity=2 if activity==2 & hrsworking==2
 replace mainactivity=3 if activity==3 & inactive==2
 replace mainactivity=4 if activity==1 | inactive==1

** adding label **
label variable mainactivity "mainactivity"
```

```
label define mainactivity 1 "parttime job" 2 "fulltime job" 3 "retired" 4 "inactive"
label values mainactivity mainactivity

** Labour force participation **
gen lfp = .
replace lfp=1 if activity==2
replace lfp=2 if activity==1 | activity==3

** adding label **
label variable lfp "lfp"
label define lfp 1 "working" 2 "inactive/retired"
label values lfp lfp

*******************************************************************************
* Commands *
*******************************************************************************
* number of respondents per country in age group 45-65*
tab acountry

* overview variables*
tab aactstat, missing
summ aactstat

tab lfp, missing
summ lfp

summ a816AgeR, detail
histogram a816AgeR, percent
summ a835, detail
histogram a835, percent

tab inactive
tab hrsworking
tab mainactivity, missing
summ mainactivity

* measurment percentage labour force participation for men and women *
tab acountry lfp if asex==2, row
tab acountry lfp if asex==1, row
```

```
* overview main activity age and country - women *
tab aage mainactivity if acountry==11 & asex==2 & aage>=45 & aage<=70, col row
tab aage mainactivity if acountry==12 & asex==2 & aage>=45 & aage<=70, col row
tab aage mainactivity if acountry==13 & asex==2 & aage>=45 & aage<=70, col row
tab aage mainactivity if acountry==14 & asex==2 & aage>=45 & aage<=70, col row
tab aage mainactivity if acountry==15 & asex==2 & aage>=45 & aage<=70, col row
tab aage mainactivity if acountry==16 & asex==2 & aage>=45 & aage<=70, col row
tab aage mainactivity if acountry==17 & asex==2 & aage>=45 & aage<=70, col row
tab aage mainactivity if acountry==18 & asex==2 & aage>=45 & aage<=70, col row
tab aage mainactivity if acountry==19 & asex==2 & aage>=45 & aage<=70, col row
tab aage mainactivity if acountry==22 & asex==2 & aage>=45 & aage<=70, col row
tab aage mainactivity if acountry==23 & asex==2 & aage>=45 & aage<=70, col row
tab aage mainactivity if acountry==25 & asex==2 & aage>=45 & aage<=70, col row
tab aage mainactivity if acountry==26 & asex==2 & aage>=45 & aage<=70, col row
tab aage mainactivity if acountry==28 & asex==2 & aage>=45 & aage<=70, col row
tab aage mainactivity if acountry==29 & asex==2 & aage>=45 & aage<=70, col row

* overview main activity age and country - men *
tab aage mainactivity if acountry==11 & asex==1 & aage>=45 & aage<=70, col row
tab aage mainactivity if acountry==12 & asex==1 & aage>=45 & aage<=70, col row
tab aage mainactivity if acountry==13 & asex==1 & aage>=45 & aage<=70, col row
tab aage mainactivity if acountry==14 & asex==1 & aage>=45 & aage<=70, col row
tab aage mainactivity if acountry==15 & asex==1 & aage>=45 & aage<=70, col row
tab aage mainactivity if acountry==16 & asex==1 & aage>=45 & aage<=70, col row
tab aage mainactivity if acountry==17 & asex==1 & aage>=45 & aage<=70, col row
tab aage mainactivity if acountry==18 & asex==1 & aage>=45 & aage<=70, col row
tab aage mainactivity if acountry==19 & asex==1 & aage>=45 & aage<=70, col row
tab aage mainactivity if acountry==22 & asex==1 & aage>=45 & aage<=70, col row
tab aage mainactivity if acountry==23 & asex==1 & aage>=45 & aage<=70, col row
tab aage mainactivity if acountry==25 & asex==1 & aage>=45 & aage<=70, col row
tab aage mainactivity if acountry==26 & asex==1 & aage>=45 & aage<=70, col row
tab aage mainactivity if acountry==28 & asex==1 & aage>=45 & aage<=70, col row
tab aage mainactivity if acountry==29 & asex==1 & aage>=45 & aage<=70, col row

*******************************************************************************
* Setting up variables gender norms *
*******************************************************************************
** Gender Norms **
** Norms are not measured in NL, IT and EE, therefore these are excluded**
```

```
keep if acountry==11 | acountry==12 | acountry==13 | acountry==14 | acountry==15 | acountry ==16 | acountry==19 |
acountry==23 |acountry==25 | acountry==26 | acountry==28 | acountry==29

alpha a1112_c a1113_a a1113_b a1113_f a1113_h a1114_a, item

egen gendernorms = rowmax (a1112_c a1113_a a1113_b a1113_f a1113_h a1114_a)
recode gendernorms (1=1) (2=2) (3=3) (4=4) (5 7 = 5), gen(gennorms)

** adding label **
label variable gendernorms "gendernorms"
label define gendernorms 1 "strongly agree" 2 "agree" 3 "neitheragree or disagree" 4 "disagree" 5 "strongly disagree"
label values gendernorms gendernorms

*******************************************************************************
* Commands *
*******************************************************************************
* overview variables*
summ a1112_c a1113_a a1113_b a1113_f a1113_h a1114_a
tab a1112_c, missing
tab a1113_a, missing
tab a1113_b, missing
tab a1113_f, missing
tab a1113_h, missing
tab a1114_a, missing

summ gendernorms
tab gendernorms, missing

* Gendernorms *
tab acountry gendernorms, row

* mean age of retirement *
*Russia*
mean a816AgeR if asex==1 & acountry==12
mean a816AgeR if asex==2 & acountry==12

*Georgia*
mean a816AgeR if asex==1 & acountry==13
mean a816AgeR if asex==2 & acountry==13
```

2. The syntax for the macro level results

```
*******************************************************************************
** Do-file setup
*******************************************************************************
clear
use  "/Users/Kirsten/Desktop/Thesis data.dta", clear
save "/Users/Kirsten/Desktop/Thesis data.dta", replace

*******************************************************************************
*changes to after import*
** adding label **
label variable acountry "acountry"
label define acountry 11 "Bulgaria" 12 "Russia" 13 "Georgia" 14 "Germany" 15 "France" 16 "Hungary" 17 "Italy" 18
"Netherlands" 19 "Romania" 22 "Estonia" 23 "Belgium" 25 "Lituania" 26 "poland" 28 "Czech Repulbic" 29 "Sweden"
label values acountry acountry

*******************************************************************************
* correlations *
pwcorr lfpwomen lfpmen gendergap childcare childbenefits formalcare gendernorms sretirement_m sretirement_w
eretirement_m eretirement_w, obs sig star(5)

* Graphs *
graph twoway (lfit lfpwomen gendergap) (scatter lfpwomen gendergap, mlabel(acountry))

graph twoway (lfit lfpwomen childcare) (scatter lfpwomen childcare, mlabel(acountry))
graph twoway (lfit gendergap childcare) (scatter gendergap childcare, mlabel(acountry))

graph twoway (lfit lfpwomen childbenefits) (scatter lfpwomen childbenefits, mlabel(acountry))
graph twoway (lfit gendergap childbenefits) (scatter gendergap childbenefits, mlabel(acountry))

graph twoway (lfit lfpwomen formalcare) (scatter lfpwomen formalcare, mlabel(acountry))
graph twoway (lfit gendergap formalcare) (scatter gendergap formalcare, mlabel(acountry))

graph twoway (lfit lfpwomen gendernorms) (scatter lfpwomen gendernorms, mlabel(acountry))
graph twoway (lfit gendergap gendernorms) (scatter gendergap gendernorms, mlabel(acountry))

graph twoway (lfit lfpwomen eretirement_w) (scatter lfpwomen eretirement_w, mlabel(acountry))
graph twoway (lfit gendergap eretirement_w) (scatter gendergap eretirement_w, mlabel(acountry))

graph twoway (lfit lfpmen eretirement_m) (scatter lfpwomen eretirement_m, mlabel(acountry))
graph twoway (lfit gendergap eretirement_m) (scatter gendergap eretirement_m, mlabel(acountry))


* Robustness check *
* without sweden *
clear
use  "/Users/Kirsten/Desktop/Thesis data.dta", clear
keep if acountry==11 | acountry==12 | acountry==13 | acountry==14 | acountry==15 | acountry==16 | acountry==17 |
acountry==18 | acountry==19 | acountry==22 | acountry==23 | acountry==25 | acountry==26 | acountry==28

pwcorr lfpwomen gendergap, obs sig star(5)
graph twoway (lfit lfpwomen gendergap) (scatter lfpwomen gendergap, mlabel(acountry))

pwcorr gendergap childcare, obs sig star(5)
graph twoway (lfit gendergap childcare) (scatter gendergap childcare, mlabel(acountry))

pwcorr lfpwomen childcare, obs sig star(5)
graph twoway (lfit lfpwomen childcare) (scatter lfpwomen childcare, mlabel(acountry))
```

```
pwcorr lfpwomen childbenefits, obs sig star(5)
graph twoway (lfit lfpwomen childbenefits) (scatter lfpwomen childbenefits, mlabel(acountry))

pwcorr lfpwomen formalcare, obs sig star(5)
graph twoway (lfit lfpwomen formalcare) (scatter lfpwomen formalcare, mlabel(acountry))

pwcorr lfpwomen gendernorms, obs sig star(5)
graph twoway (lfit lfpwomen gendernorms) (scatter lfpwomen gendernorms, mlabel(acountry))

pwcorr gendergap gendernorms, obs sig star(5)
graph twoway (lfit gendergap gendernorms) (scatter gendergap gendernorms, mlabel(acountry))

pwcorr lfpwomen eretirement_w, obs sig star(5)
graph twoway (lfit lfpwomen eretirement_w) (scatter lfpwomen eretirement_w, mlabel(acountry))

pwcorr lfpmen eretirement_m, obs sig star(5)
graph twoway (lfit lfpwomen eretirement_m) (scatter lfpwomen eretirement_m, mlabel(acountry))

* without france *
clear
use  "/Users/Kirsten/Desktop/Thesis data.dta", clear
keep if acountry==11 | acountry==12 | acountry==13 | acountry==14 | acountry==16 | acountry==17 | acountry==18 |
acountry==19  | acountry==22 | acountry==23 | acountry==25 | acountry==26 | acountry==28 | acountry==29

pwcorr gendergap childcare, obs sig star(5)
graph twoway (lfit gendergap childcare) (scatter gendergap childcare, mlabel(acountry))

pwcorr lfpwomen childcare, obs sig star(5)
graph twoway (lfit lfpwomen childcare) (scatter lfpwomen childcare, mlabel(acountry))

* without italy*
clear
use  "/Users/Kirsten/Desktop/Thesis data.dta", clear
keep if acountry==11 | acountry==12 | acountry==13 | acountry==14 | acountry==15 | acountry==16 | acountry==18 |
acountry==19 | acountry==22 | acountry==23 | acountry==25 | acountry==26 | acountry==28 | acountry==29

pwcorr lfpwomen gendergap, obs sig star(5)
graph twoway (lfit lfpwomen gendergap) (scatter lfpwomen gendergap, mlabel(acountry))

pwcorr gendergap childcare, obs sig star(5)
graph twoway (lfit gendergap childcare) (scatter gendergap childcare, mlabel(acountry))

pwcorr gendergap childbenefits, obs sig star(5)
graph twoway (lfit gendergap childbenefits) (scatter gendergap childbenefits, mlabel(acountry))

pwcorr gendergap formalcare, obs sig star(5)
graph twoway (lfit gendergap formalcare) (scatter gendergap formalcare, mlabel(acountry))

pwcorr gendergap eretirement_w, obs sig star(5)
graph twoway (lfit gendergap eretirement_w) (scatter gendergap eretirement_w, mlabel(acountry))

pwcorr gendergap eretirement_m, obs sig star(5)
graph twoway (lfit gendergap eretirement_m) (scatter gendergap eretirement_m, mlabel(acountry))

* without the Netherlands *
clear
use  "/Users/Kirsten/Desktop/Thesis data.dta", clear
keep if acountry==11 | acountry==12 | acountry==13 | acountry==14 | acountry==15 | acountry==16 | acountry==17 |
acountry==19 | acountry==22 | acountry==23 | acountry==25 | acountry==26 | acountry==28 | acountry==29
```

```
pwcorr lfpwomen formalcare, obs sig star(5)
graph twoway (lfit lfpwomen formalcare) (scatter lfpwomen formalcare, mlabel(acountry))

pwcorr gendergap formalcare, obs sig star(5)
graph twoway (lfit gendergap formalcare) (scatter gendergap formalcare, mlabel(acountry))

* without Poland *
clear
use  "/Users/Kirsten/Desktop/Thesis data.dta", clear
keep if acountry==11 | acountry==12 | acountry==13 | acountry==14 | acountry==15 | acountry==16 | acountry==17 |
acountry==18| acountry==19 | acountry==22 | acountry==23 | acountry==25 | acountry==28 | acountry==29

pwcorr lfpwomen formalcare, obs sig star(5)
graph twoway (lfit lfpwomen formalcare) (scatter lfpwomen formalcare, mlabel(acountry))

pwcorr gendergap formalcare, obs sig star(5)
graph twoway (lfit gendergap formalcare) (scatter gendergap formalcare, mlabel(acountry))

* Without hungary *
clear
use  "/Users/Kirsten/Desktop/Thesis data.dta", clear
keep if acountry==11 | acountry==12 | acountry==13 | acountry==14 | acountry==15 | acountry==17 | acountry==18 |
acountry==19  | acountry==22 | acountry==23 | acountry==25 | acountry==26 | acountry==28 | acountry==29

pwcorr lfpwomen gendernorms, obs sig star(5)
graph twoway (lfit lfpwomen gendernorms) (scatter lfpwomen gendernorms, mlabel(acountry))

pwcorr gendergap gendernorms, obs sig star(5)
graph twoway (lfit gendergap gendernorms) (scatter gendergap gendernorms, mlabel(acountry))

* Without lithuania *
clear
use  "/Users/Kirsten/Desktop/Thesis data.dta", clear
keep if acountry==11 | acountry==12 | acountry==13 | acountry==14 | acountry==15 | acountry==16| acountry==17 |
acountry==18 | acountry==19  | acountry==22 | acountry==23 | acountry==26 | acountry==28 | acountry==29

pwcorr lfpwomen gendernorms, obs sig star(5)
graph twoway (lfit lfpwomen gendernorms) (scatter lfpwomen gendernorms, mlabel(acountry))

* without belgium *
clear
use  "/Users/Kirsten/Desktop/Thesis data.dta", clear
keep if acountry==11 | acountry==12 | acountry==13 | acountry==14 | acountry==15 | acountry==16 | acountry==17 |
acountry==18 | acountry==19 | acountry==22 | acountry==25 | acountry==26 | acountry==28 | acountry==29

pwcorr gendergap gendernorms, obs sig star(5)
graph twoway (lfit gendergap gendernorms) (scatter gendergap gendernorms, mlabel(acountry))

* without romania *
clear
use  "/Users/Kirsten/Desktop/Thesis data.dta", clear
keep if acountry==11 | acountry==12 | acountry==13 | acountry==14 | acountry==15 | acountry==16 | acountry==23 |
acountry==25 | acountry==26 | acountry==28 | acountry==29 | acountry==17 | acountry==18 | acountry==22

pwcorr lfpwomen eretirement_w, obs sig star(5)
graph twoway (lfit lfpwomen eretirement_w) (scatter lfpwomen eretirement_w, mlabel(acountry))

pwcorr lfpmen eretirement_m, obs sig star(5)
graph twoway (lfit lfpwomen eretirement_m) (scatter lfpwomen eretirement_m, mlabel(acountry))
```

```
pwcorr gendergap eretirement_w, obs sig star(5)
graph twoway (lfit gendergap eretirement_w) (scatter gendergap eretirement_w, mlabel(acountry))

pwcorr gendergap eretirement_m, obs sig star(5)
graph twoway (lfit gendergap eretirement_m) (scatter gendergap eretirement_m, mlabel(acountry))

* without sweden + italy
clear
use  "/Users/Kirsten/Desktop/Thesis data.dta", clear
keep if acountry==11 | acountry==12 | acountry==13 | acountry==14 | acountry==15 | acountry==16 | acountry==19  |
acountry==23 | acountry==25 | acountry==26 | acountry==28 |  acountry==18 | acountry==22

pwcorr lfpwomen gendergap, obs sig star(5)
graph twoway (lfit lfpwomen gendergap) (scatter lfpwomen gendergap, mlabel(acountry))

pwcorr gendergap childcare, obs sig star(5)
graph twoway (lfit gendergap childcare) (scatter gendergap childcare, mlabel(acountry))

* without the nederlands and sweden
clear
use  "/Users/Kirsten/Desktop/Thesis data.dta", clear

keep if acountry==11 | acountry==12 | acountry==13 | acountry==14 | acountry==15 | acountry==16 | acountry==17 |
acountry==19 | acountry==22 | acountry==23 | acountry==25 |acountry==26 | acountry==28
pwcorr lfpwomen formalcare, obs sig star(5)
graph twoway (lfit lfpwomen formalcare) (scatter lfpwomen formalcare, mlabel(acountry))

* without the nederlands, italy and poland
clear
use  "/Users/Kirsten/Desktop/Thesis data.dta", clear
keep if acountry==11 | acountry==12 | acountry==13 | acountry==14 | acountry==15 | acountry==16 | acountry==19 |
acountry==22 | acountry==23 | acountry==25 | acountry==28 | acountry==29

pwcorr gendergap formalcare, obs sig star(5)
graph twoway (lfit gendergap formalcare) (scatter gendergap formalcare, mlabel(acountry))

* Without Sweden, hunagry and lithuania *
clear
use  "/Users/Kirsten/Desktop/Thesis data.dta", clear
keep if acountry==11 | acountry==12 | acountry==13 | acountry==14 | acountry==15 | acountry==17 | acountry==18 |
acountry==19  | acountry==22 | acountry==23 | acountry==26 | acountry==28

pwcorr lfpwomen gendernorms, obs sig star(5)
graph twoway (lfit lfpwomen gendernorms) (scatter lfpwomen gendernorms, mlabel(acountry))
```