A Life-long Culmination of Inequalities: Mechanisms Behind the Gender Pension Gap

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ABSTRACT

Increasingly, public policy efforts are concerned with the issue of gender equality. However, one area of gendered outcomes that has not yet received much attention is the gender pension gap. The gender pension gap refers to the difference in retirement income between men and women. Thus far, in the literature on gendered outcomes in various welfare regimes, scholars are divided. While some point to cultural and structural variables as the main causal mechanisms for these differences in outcomes, others suggest that the state itself, through its public policy decisions, plays a more substantial role.

Using a mixed-methods approach, this work looks to broadly test both sides of the theoretical debate on the gender pension gap. In light of the large variations in gender pension gap rates among European states, this work quantitatively analyses cultural and structural variables and qualitatively analyses institutional or public policy variables to inform or support suggested causal mechanisms behind these wide differences. After testing the cultural and structural variables, as represented by elements of limited female labour market participation, this work finds that these factors alone do not explain much of the variation in gender pension gap rates between countries. Moreover, after comparing two cases selected due to their similarity in terms of cultural and structural variables, this work finds that elements of pension system design may contribute to gender pension gap rates. However, these findings are limited by variability of data.
INTRODUCTION

Why the gender pension gap?

The rise in feminist scholarship has led to increased discussion of gender outcomes in paid labour, with particular focus on the gender wage gap (as measured by a woman’s lesser income in proportion to a man’s). This work will instead focus on another, largely unexplored, element of social welfare inequality that is often much larger than the gender wage gap in most countries but has only recently caught the attention of academics and policy-makers. The gender pension gap, as a culmination of all the gender ‘penalties’ experienced throughout a women’s working life, is on average 39% in the EU (compared to a 16% average wage gap) (Lane, 2018). However, as of yet, academic literature and analysis exploring the causal mechanisms driving this gap remains limited (Adami, Gough, & Theophilopoulou, 2013; Bettio, Tinios, & Betti, 2013; Folbre, Shaw, & Stark, 2005).

From the existing work on this issue, two main schools of thought have emerged on the drivers of this gap: cultural and structural explanations versus state and policy-driven mechanisms. Many scholars and institutions attribute pension income differences to the same cultural and structural factors that drive the gender wage gap, such as the ‘motherhood penalty’ (career interruptions for childcare), gender stereotypes around female labour, the greater prevalence of part-time jobs among females, and the higher proportion of unpaid labour performed by females (Frericks, Maier, & De Graaff, 2007; Möhring, 2018). However, this explanation cannot fully explain the gender pension gap (Bettio et al., 2013, OECD, 2015). Other scholars, unsatisfied with the limited explanation provided by cultural and structural mechanisms (Estevez-Abe, 2006), have argued that the state, through its public policy decisions, plays a greater role, as gender pension outcomes appear linked to social provision
systems (Beland, 2009). The idea behind this is that gender-neutral social provision systems do not exist, and that the design of these social benefit systems can potentially exacerbate the impact of a lifetime of cultural and structural inequalities on entitlements (Bettio et al., 2013; Frericks et al., 2007).

In light of this debate, this paper considers how the mechanisms of cultural and structural limitations, as well as state and public policy functions, account for intra-EU differences in the gender pension gap. Determining which mechanisms correlate with a lower gender pension gap can help to identify factors that contribute to higher gaps and, in turn, enable the reduction of such gaps through well-informed policies and adjustments in system design. Moreover, identification of the underlying causes of the gender pension gap is a necessary prerequisite in order to be able to effectively address the broader welfare issues that stem from it. As populations age and humans live longer, poor female pensioners will only become a larger issue. For example, in Europe, there are ⅓ more retired women in poverty than there are men (12% versus 16%) (Lane, 2018). Social policies and welfare schemes must be adjusted to address these changing dynamics, especially in striving for gender equality and poverty reduction. Understanding the causes of the gender pension gap will bring us one step closer to achieving these goals. In the rest of this paper, I review the existing literature on the gender pension gap and then detail my analysis – first, a quantitative analysis of the factors correlated with the gender pension gap followed by a case study analysis.
LITERATURE REVIEW

Two camps of literature

In explaining cross-cultural variations in gender equity, the literature is largely split into two camps. On one side, scholars (Charles & Grusky, 2004; Neuman, 2014) look primarily to cultural and structural differences, while on the other side, works like Esping-Andersen's (1999) look to public policy and state organizations for explanations of gender inequality in welfare outcomes. On both sides, academics identify the wage gap and the limitations to paid labour for women as the mechanisms driving the differences between male and female pensions within states (Frericks et al., 2007; Haitz, 2015; Möhring, 2018; OECD, 2015). As most pension schemes are largely earnings-related, factors inhibiting women from equal labour market participation and equal pay are the same as those inhibiting them from equal pensions. However, those in the policy and institutions camp of literature argue that these cultural and structural inhibitors are exacerbated by gender-blind public policies and pension system designs. Lifetimes of accumulated inequalities in earnings are not accounted for in system design and, therefore, continue as inequalities in pension systems (Sainsbury, 1999). Thus, in most cases, pension gaps are much larger than wage gaps and system design appears to play a role in this difference.

The Cultural and Structural Mechanisms

The social policy field leans towards cultural and structural explanations, while organizations like the OECD (2015) point to the elements limiting women from paid labour, rather than the pension systems themselves, as the causes of large gender pension gaps. They state that “pension systems can only have a minor effect on differences in income between men and women in
retirement; the real culprit is the legacy of decades of inequality in careers and earnings” (OECD, 2015, para. 2). Moreover, pension gaps will endure due to persistence in the wage, or earnings, gap as well as inequality in care task distribution between parents (OECD, 2015). The average woman's life, as compared to a man's, is consumed with greater unpaid care responsibilities, lower labour market participation, more part-time work, and ultimately lower earnings (Arza, 2015). These notable structural differences between genders, including in labour market participation, working hours, and the gender pay gap, undoubtedly contribute to the gender gap in pensions (Arza, 2015; Burkevica et al., 2015).

Balancing motherhood and work

Women are disadvantaged in accumulating pensions entitlements due to employer preferences and expectations surrounding women’s maternity decisions (Esping-Andersen, 2002). Employers anticipate a productivity decline and excess costs due to the female proclivity to have children. In her gendering of the Varieties of Capitalism (VoC) paradigm, Estevez-Abe (2006) contends that social protections built to help women during periods of child rearing (i.e. maternity leave policies) are a “catch-22” in that they allow women to retain an income and sometimes pension contributions during this period, but strong maternity leave policies also make employers less willing to advance and invest in their female employees. Moreover, women who take their full maternity leave are viewed as less committed to their jobs as compared to those who do not. “The longer new mothers are away from paid work, the less likely they are to be promoted, move into management, or receive a pay raise once their leave is over” (Hideg, Krstic, Trau, & Zarina, 2018, para. 5). These elements of ‘the motherhood penalty’ impact a woman's ability to engage in the labour market and earn higher wages which, in turn, impacts her pension contributions from those
wages. Despite increases in women entering the paid labour market, the unequal distribution of unpaid parental and domestic responsibilities continues to hamper pension entitlements (Arza, 2015). To illustrate this, the European Commission explored the impact of having children on the gender pension gap. For example, in France, the gender pension gap is 19% for childless women, 31% for women with one or two children, and 50% for women with three or more children (Bettio et al., 2013). The negative impact child-rearing responsibilities have on female labour market participation continues as a motherhood penalty on pension entitlements.

Gendered labour distribution

Beyond initial maternity leave, women face additional work interruptions from higher burdens of unpaid care and domestic work. Across OECD member countries, women perform 2-6 times more care work than men (OECD, 2017c). In European Union member states, women spend 12.5% to 54.6% more time in unpaid labour than men (European Commission, 2017). Figure 1 provides a graphical representation of this phenomenon (OECD, 2017c). Gender stereotypes persist in labour expectations, with an average of 44% of respondents in the EU agreeing that a woman’s primary role is to care for her home and family. Moreover, an average of 43% of respondents agree that a man’s primary role is to earn money for the family (European Commission, 2017). To manage the burden of unpaid labour placed on them, women are more likely than men to work part-time and in lower-paid but more flexible jobs. Even in a ‘female friendly’ state with a high female labour force participation rate like Sweden, 1 in 3 women in the labour force work part-time compared to only 1 in 10 men (Statistics Sweden, 2018). The responsibilities and expectations pushing women into part-time work, interrupted
career patterns, and lower status occupations not only sustain the gender wage gap, but ultimately contribute to reduced occupational or earnings-related pension benefit entitlements in retirement (Gough, 2001). This is particularly visible in places like the UK where part-time workers (disproportionality female) do not meet the minimum earnings requirements for automatic pension scheme enrollment (Trade Union Congress, 2016).

**FIGURE 1** TIME SPENT IN UNPAID WORK BY GENDER, LATEST YEAR (MINUTES PER DAY)

State and Public Policy Mechanisms

Pension design matters for gender equality; pension policies that include parameters based on entitlement accrual through earnings and labour force participation have a disproportionate negative effect on women as compared with men (Burkevica et al., 2015; Arza, 2015). No gender-neutral or equitable welfare systems exist within Europe, even in the ‘gender-friendly’ Scandinavian countries (Frericks et al., 2007). Despite the prohibition of differential treatment and the provisions for
equal conditions in old-age pensions, women in retirement still face inequalities in access to economic resources and higher risk of poverty (Bettio et al., 2013; Frericks & Maier, 2008; Ginn, 2004). As these inequalities are, at least in part, attributable to the structure of welfare systems themselves, an efficient institutional framework could potentially help compensate for some of the drawbacks faced by women in retirement. In this way, institutional design and public policy could play a key role in mitigating or exacerbating the severity of the gender pension gap (Haitz, 2015).

**Systems built around male assumptions**

Pensions typically reflect input in the labour market, but they are ultimately filtered through a specific system or structure, and not in a neutral manner. In the last few decades of pension reform, many countries have built their systems around the assumption of stable employment in terms of both duration and work type. Earning full pension entitlements often requires an uninterrupted 40-years of paid labour market participation, building the basis for calculation around this norm of stability (Frericks et al., 2007). Many men do not meet this standard, as discussed above. However, for the reasons already discussed, women have a much higher likelihood of interruption in labour market participation, often resulting in their inability to meet these standards (Esping-Andersen, 2002). Gough (2001, p. 311) argues that most occupational pension schemes are constructed around the needs of “the long serving male breadwinner” and that these systems could be improved by accounting for diverging female needs in the form of more flexible employment patterns. In light of the structural disadvantages women face, linking pension entitlements to norms that reflect the ideal male labor-market experience is problematic for gender equality (Frericks & Maier, 2008; Ginn, 2003).
Gender blind policy constructions

Even when policies purport to be gender blind and provide equal coverage in theory, in practice, they may lack an understanding of, and provisions for, life course differences that lead to gendered outcomes. In the case of ‘gender-neutral’ pension system schemes, the disparity in labour market outcomes between men and women leads to inequality in pensions which are not adequately accounted for. The work interruptions and limitations in paid work that women experience translate into limitations in contribution records for pensions. Although women are increasingly treated as equal earners and contributors under the dual-breadwinner model, the reality of part-time and lower-status employment means that they frequently do not constitute an equal 50% share of earnings as anticipated in this new model for social policies (Lewis, 2001). Lower earnings translate into lower pension contributions which lead to lower benefits (Arza, 2015; Frericks et al., 2007). Women often no longer have access to benefits through their husbands, despite the fact that they do not earn enough to gain the same entitlements for themselves. Therefore, presuming self-sufficiency in pension contributions via equal and continuous labour market participation does not accurately reflect reality (Lewis, 2007). Gender-blind policy constructions are associated with negative impacts on women’s pension entitlements and their economic independence in old age (Foster, 2014; Frericks & Maier, 2008).

Benefit formulas

Mechanically, the benefit calculation plays a role in gender pension gaps. Arza (2015) notes that the global switch to individual accounts based on contributory records helped create an imbalanced gender effect in pensions. Women’s limitations to contributing and higher life expectancies mean that benefit
formulas relying on these figures generally result in lower benefits for women than men, while those with flat rate elements generally have a more gender balanced output (Bettio et al., 2013). Certain public policy responses can minimize benefit inequalities caused by these formulas, such as utilizing unisex longevity tables in pension calculations and eliminating vesting periods (Arza, 2015).

Three pension pillars

Most pension system structures are composed of three pillars which can provide insight into the pension gap: state minimum structures, public earnings-related occupational schemes, and voluntary private schemes. Though the specifics of how each pillar is calculated varies across nations, Figure 2 outlines the basic purpose of each (European Council of Doctoral Candidates and Junior Researchers, 2019). The European Commission (Bettio et al., 2013) suggests that the first pillar is not always a channel for the pension gap, however, the second pillar effectively always includes inequality. Thus, systems that emphasize the second pillar at the expense of the first pillar should exemplify higher levels of inequality (Bettio et al., 2013). Pillar three (private voluntary pensions) lies outside the scope of this research as it impacts only a small percentage of the population, varies widely across providers, and does not offer widely available, aggregable data sets. By examining alternative systems of state schemes (pillars one and two) we will develop a better understanding of the gender pension gap, its variation across countries, and the role public policy can play in mitigating it.

In terms of the prevalence and payouts of their first pillars, Denmark and Sweden share many similarities. Both systems provide a means-tested minimum targeted at low-income seniors, hold an age requirement of 65, and payout at comparable
rates. The countries also both hold residency requirements of 40 years for the maximum output. The only major difference lies in the Danish system’s policy of doubling pension contributions for women out of the workforce on maternity leave (OECD, 2017b). Though this likely helps Danish women shrink the gender pension gap in relation to their Swedish counterparts, this contribution is still only a tiny part of public pensions overall and therefore unlikely to explain the extent of the gap. In both countries, women are likely to benefit more from this basic minimum than men, as there are more low- or no-income female pensioners than male ones and women generally benefit more from non-contributory structures (Bettio et al., 2013). This evidence supports the literature (Bettio et al., 2013) by suggesting that notable gender discrepancies are unlikely to stem from basic minimum structures and that most inequality is introduced in pillar two, which will be the focus of this analysis.

**FIGURE 2 PILLARS OF PENSION SYSTEM STRUCTURES**

<table>
<thead>
<tr>
<th>1st Pillar</th>
<th>2nd Pillar</th>
<th>3rd Pillar</th>
</tr>
</thead>
<tbody>
<tr>
<td>State Pension</td>
<td>Occupational Pension</td>
<td>Private Pension</td>
</tr>
<tr>
<td>Securing a Minimum Standard of Living</td>
<td>Maintenance of Current Standard of Living</td>
<td>Individual Supplement</td>
</tr>
</tbody>
</table>


**METHODOLOGY**

In an effort to understand the mechanisms behind the gender pension gap, this analysis looks at the role of structural and
cultural factors, as well as institutions and public policy, to evaluate the impact of labour market participation limitations that women face and the systems through which their pension entitlements are earned. Applying mixed methods, I first quantitatively determine the cultural and structural variables that correlate with higher gender pension gaps. I then look at these statistically significant variables across case studies in two countries that utilize a similar system design. Mixed-methods analysis can often provide a broader and deeper understanding of phenomena in question and improve the validity of a study (Mckim, 2017).

**Quantitative methods**

I use a multivariate linear regression model to analyze the relationship between variables representing cultural and structural limitations in female labour market participation on the gender pension gap. The independent variables representing female labour market participation limitations come from OECD and Eurostat data. The European Commission (2017) (Bettio et al., 2013) offered the most recent and complete data sets regarding the wage gap, pension gap, and measurements on perceived gender stereotypes. Though some more recent measurements of the pension gap exist, not all countries in this analysis are represented. Thus, I utilize older but more uniform data. The OECD (2017a; 2017b; 2017c; 2018a; 2018b; 2018c) provided the most recent and complete measurements for all other variables. Using these data sets, as opposed to individual reports from each country, makes for a more accurate analysis as all measurements and calculations are conducted in a consistent manner. Countries included in the data set are both OECD and EU members. The states excluded in the final analysis (e.g. the Czech Republic and Slovakia) were eliminated because they were missing one or more data points.
Qualitative methods

Due to the infeasibility of an experimental design, I employ comparative case studies which can provide valuable insights for tailoring public policy interventions (Goodrick, 2014). Lijphart (1971) notes that comparing case studies can be an appropriate method for testing theories and hypotheses, however, this method can also present challenges as the lack of independent, representative case studies often makes it difficult to find an appropriate control and, therefore, impossible to identify causal explanations (Bennet, 2014). Despite these common pitfalls, Sweden and Denmark present a potential opportunity to use case study analysis because they align relatively well and are similar in terms of cultural and structural variables correlated with the gender pension gap. Sweden and Denmark, as grouped together by Esping-Andersen (1990) in the Nordic model, have held similar trajectories of social and public policies as well as cultural values. In analysing the system impact in each of the two countries, I categorized and compared data through the lens of the three-pillar system, with a primary focus on pillar two.

Challenges

The temporal dimension of pension analysis creates a challenge for both quantitative and qualitative methods. Individuals receiving pensions today participated in the labour force in previous decades when unequal pay and discrimination in the workplace where even more pronounced (Bettio et al., 2013). The lack of comprehensive data sets going back 30-40 years presents an additional challenge, meaning modern pension studies utilize the most recently available data for their calculations (Frericks et al., 2007; Bettio et al., 2013). However, most pension systems have been modified over the last 30-40 years, so this creates uncertainty
in analysis. Because this assessment looks for explanations in variance across countries, rather than in time or within one state, this temporal dimension is less of a concern to the validity of our analysis. Every country case and variable are affected by this temporal dimension, but the two case studies selected from the data evolved similarly and in a similar time frame in relation to their social policy and female labour market participation, thus helping to control for some of these uncertainties. This work embraces the precedent of other bodies of literature in using the most recent and cohesive data available.

Despite available pension systems data, a full quantitative analysis is complicated due to variations in pension structures that present challenges in categorizing them in a way to best facilitate comparison. The EU Commission report (Bettio et al., 2013) notes this limitation as well. I improve upon these efforts by using quantitative methods to identify a country that would best serve as a control in case selection, thereby increasing the soundness of the qualitative analysis. The case studies allow for the testing of theory where the quantifying of variables for statistical analysis is problematic. Still, it is important to note that we can only infer correlation from this analysis, rather than causality. Correlation (or the lack thereof) can be used to support or inform existing theories on both sides of the debate.

**FINDINGS AND ANALYSIS**

**Quantitative**

Though the cultural and structural literature predicts that there would be a relationship between each of the explanatory variables and the gender pension gap, regression results indicate that only two variables had a relationship that was statistically significant at the 5% significance level (a p-value below 0.05)
Interestingly, the most highly correlated variable (the gender role stereotype) has an inverse relationship with the gender pension gap (See Figure 4). In theory, one would expect that the larger the portion of society that believes a woman’s primary role is to care for her family and home, the more likely women would be pressured to take time out of the labour market to provide unpaid care duties which would have a negative impact on their pensions. However, the countries with the four lowest gender pension gaps all held high gender role stereotypes (above 70% versus the 45% average). These countries also have part-time and unpaid female labour market participation rates below or close to the average, with three of the states possessing female labour market participation rates above the average. (See Figure 5). Three of these states are Baltic states whose history in the former Soviet Union may be an important omitted factor driving these unexpected results, however, a detailed analysis of this issue is outside the scope of this research. Regardless, this correlation suggests that how labour is actually distributed is likely a better indicator of the gender pension gap than beliefs as to how it should be distributed. The latter is reflected in this analysis through the relationship between female unpaid labour and pension gaps. Results show a statistically significant positive correlation

### Figure 3: Gender Paygap Regression Analysis

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>More female unpaid labour</td>
<td>0.60857</td>
<td>0.19989</td>
<td>***</td>
</tr>
<tr>
<td>Childcare</td>
<td>0.31129</td>
<td>0.15417</td>
<td>*</td>
</tr>
<tr>
<td>Gender role stereotype</td>
<td>-0.61409</td>
<td>0.14223</td>
<td>***</td>
</tr>
<tr>
<td>Unadjusted wage gap</td>
<td>-0.15061</td>
<td>0.37936</td>
<td></td>
</tr>
<tr>
<td>Maternity leave FRE</td>
<td>0.89861</td>
<td>0.48739</td>
<td>*</td>
</tr>
<tr>
<td>Part time</td>
<td>0.03841</td>
<td>0.17011</td>
<td></td>
</tr>
<tr>
<td>Female labour force participation</td>
<td>-0.37924</td>
<td>0.43877</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>50.97285</td>
<td>36.14799</td>
<td></td>
</tr>
</tbody>
</table>

Observations: 21  
Adjusted R²: 0.6973

Source: Author's own construction.  
Note: * p < .10, ** p < .05 *** p < .01. Standard errors in parentheses.
between levels of unpaid female labour and the magnitude of the gender pension gap (See Figure 6). These results support the existing literature and our hypothesis that higher levels of unpaid labour result in decreased levels of paid labour.

The variables that did not prove to be statistically significant may provide as much, if not more, insight than those that were. For example, the results indicate that factors related to the motherhood penalty, such as lower rates of labour market participation, are not correlated with higher gender pension gaps. Based on these results, cultural and structural factors alone fail to explain gender pension gap levels. Therefore, our next step in this analysis will be to look at the structure of pension systems through case studies.

**FIGURE 4 GENDER ROLE STEREOTYPES AND THE PENSION GAP (PERCENT)**

![Figure 4: Gender Role Stereotypes and the Pension Gap (Percent)](image)

Source: Author’s own calculations.
| Country | Female LFP % | Part-time Maternity leave (FRE) | Wage gap | Gender role stereotype % | Childcare costs (% income) | More unpaid Labour | Pension gap | % more female unemployed | % more female in part-time | % more female early leavers | % more female wage earners | % more female time unemployed | % more female LFP | Country Average |
|---------|--------------|--------------------------------|----------|--------------------------|----------------------------|------------------------|-------------|----------------------------|------------------------------|----------------------------|-----------------------------|----------------------------|--------------------------|-----------------|------------------|
| Estonia | 75.5         | 12.8                           | 2.6       | 0.6                      | 2.0                        | 25.6                   | 0           | 6.26                        | 21.7                        | 1.9                       | 29.4                       | 29.5                       | 11.9           | 29.75           |
| Latvia  | 75.1         | 12.8                           | 3.8       | 1.5                      | 16.5                       | 8.2                    | 0.7         | 3.8                         | 21.7                        | 1.9                       | 29.4                       | 32.9                       | 16.5           | 32.38           |
| Hungary | 64.9         | 5.3                            | 16.8      | 1.5                      | 1.5                        | 11.2                   | 2.2         | 5.38                        | 21.7                        | 1.9                       | 29.4                       | 29.5                       | 11.9           | 29.72           |
| Lithuania | 75.8        | 18.0                           | 7.2       | 2.0                      | 16.0                       | 8.2                    | 0           | 18.0                        | 21.7                        | 1.9                       | 29.4                       | 29.5                       | 11.9           | 29.72           |
| Average | 70.6         | 21.7                           | 14.6      | 4.6                      | 14.1                       | 7.0                    | 6.2         | 21.7                        | 21.7                        | 1.9                       | 29.4                       | 29.5                       | 11.9           | 29.72           |

As the results of our qualitative analysis suggest that cultural and structural variables as observed in the cases of Denmark and Sweden cannot account for the 14% difference in their gender pension gaps, we will now look at their respective pension system structures; specifically, pillar two - public earnings-related occupational schemes.

Sweden

Through collective bargaining agreements, in both Sweden and Denmark, over 90% of the labour force is covered by some form of employer-financed occupational pension (OECD, 2017b). Figure 7 lays out the basic elements of the most typical Swedish (ITP1 or ITP2) and Danish occupational pension systems. Both countries employ defined contribution schemes utilizing life annuities in payouts. In the Swedish case, individual contributions range from 4.5% for salary up to 7.5 base points.
(SEK 435,750 for 2015) and 30% for salary portions above this threshold (OECD, 2017b). Employees have some options in choosing a fund manager and the form of savings. There is some flexibility in investment choices, but at least half of contributions must be invested in traditional pension insurance (OECD, 2017b). High income individuals in Sweden making more than 10 income base points (SEK 581,000 in 2015) may be eligible to abandon their traditional plan and be covered by a new one agreed upon by their employer (OECD, 2017b).

This flexibility and the jump in contribution rate primarily benefits men, as they are more likely to be high earners. In 2014, 20% of men had income above this 7.5 income points ceiling in comparison to only 8% of women (Regeringskansliet, 2018). Thus, these aspects of the Swedish pension system may allow high-earning men to push the ceiling higher, exacerbating the gender pension gap.

Denmark

In Denmark, occupational pensions are compulsory for most workers not via law, but via collective labour agreements (OECD, 2017b). With some variation across industries, minimum contributions typically range from 12-18% of salary. Additionally, some schemes allow for flexibility in pay-out phases, permitting the front loading of payments and the creation of a lump sum savings pot. Danish law forces schemes to use a unisex mortality table when projecting longevity increases for annuity calculations (OECD, 2017b).

By calculating contributions as a percentage of earnings, this system opens itself up to the consequences of lower female earnings and subsequent contributions. However, the restricted range of contribution rates limits this impact, with a minimum of 12% allowing for reasonable replacement rates for lower
earners and a maximum of 18% accommodating higher earners. The cap on the higher end of the spectrum prevents the highest earners from raising the ceiling on the top pension outputs and compounds the gender pension gap. Moreover, the usage of unisex longevity tables for the annuity calculation benefits female pension outputs. Longevity tables in annuity calculations are used to calculate how to spread payments over a person’s remaining lifetime (King, 1976). Unisex tables pool longevity risk and therefore function as social security (Fultz & Steinhilber, 2003). Without the use of such tables, women would receive smaller monthly payments than men, as they generally live longer.

Challenges

Occupational data is difficult to aggregate, as the variety of schemes used are adapted to accommodate different industry and sector-specific factors. Moreover, as terms and conditions are established by private entities like unions and corporations, rather than through public policy, access to cohesive data allowing for detailed comparative analysis is limited. Fragmentation within the system hampers the collection of design and structure information for occupational pension plans (Anderson & Skjodt, 2007).
Results of comparison

Pillar two occupational schemes in both cases have the potential to foster inequality between the sexes, as they calculate contributions and entitlement access as a percentage of salary. As women still earn lower wages on average, they will have lower pension contributions and eventual output. However, key differences between the Danish and Swedish occupational pension systems lie in their contribution rates and the structural flexibility granted to high earners.

The Swedish occupational system allows for more flexibility in terms of contributions. Danish contributions are generally determined within the sector, while in Sweden they are primarily salary-based. Salary-based contribution systems replicate, and often multiply, the gender wage gap to the disadvantage of women (Bettio et al., 2013). Though the Danish calculation is not insulated from labour market inequalities, using sector-based calculations minimizes this impact in comparison to general salary-based calculations. Pay within sectors tends to be more comparable between the genders than that of the overall economy.

In Sweden, contributions range from 4.5-30%, while in Denmark they range from 12-18% (OECD, 2017b). As the 30% contribution rate in Sweden only applies to higher earners with income greater than or equal to 7.5 basis points, these high contribution rates (and subsequent higher payouts) disproportionally benefit men. Moreover, the 4.5% minimum rate in Sweden is well below the 12% minimum in the Danish system. Thus, lower earners (predominantly women) in the Swedish system earn lower entitlements than their Danish counterparts. The 12% minimum in Denmark ensures that low income citizens, largely women, achieve sufficient replacement rates while the 18% maximum for high income citizens, predominantly
men, prevents the stretching of the pension output ceiling and exacerbation of the gender pension gap.

The Swedish system allows for top earners to abandon its classic ITP1 or ITP2 structures in favour of another private benefit plan from their employer (OECD, 2017b). This removes barriers to contributions for these high earners, allowing them to potentially earn higher rates of return. Again, as the highest earners tend to be men, this provides them a disproportionate advantage over women, potentially exacerbating the gendered outcome of pension benefits.

Denmark’s requirement of a unisex longevity table when calculating longevity in annuities is beneficial to women, as women then get the same monthly payments as men with the same accumulation amount. There is no such guideline for occupational pensions in Sweden (Andersen, 2015). Thus, annuity payments in the Swedish system may provide lower monthly payments to women, as they usually live longer.

Based on an analysis of the occupational system design, the disparity in the Swedish and Danish gender pension gaps stems, at least in part, from the increased flexibility permitted to high earners in the Swedish system and the minimization of earnings-links in the Danish system’s calculations. The flexibility in the Swedish system primarily benefits high earners and the gender wage gap indicates that men, in general, have higher incomes than women. The Danish use of unisex longevity tables and a limited range of permitted contribution rates benefits women in a manner that may help mitigate the gender pension gap.
CONCLUSION

Challenging conventional wisdom

Through its conclusions, drawn from analysis of suggested causal mechanisms on both sides of the theoretical debate, this work challenges conventional wisdom. On the cultural and structural front, the results suggest that there are other factors at play beyond gender biases and stereotypes. The lack of statistical significance in all other variables but one indicates that current claims about the significance of these factors on gendered outcomes in social provisions is misguided. The statistical significance of the higher proportion of unpaid labour among females supports structural and cultural theorists’ assertions that the uneven gendered distribution of unpaid labour harms women’s pension entitlements, however, more rigorous quantitative analysis needs to be performed for this to be confirmed.

With regard to the proponents of state and public policy drivers, the comparison of Sweden and Denmark suggests that public policy decisions on how to treat periods spent out of the labour market for child rearing matters in female pension outputs. Additionally, as the literature suggests, any system directly linking contributions to earnings will disproportionately benefit men, as women are subject to increased levels of paid labour market interruption. Pillar two systems offering greater flexibility in contributions for high earners also disproportionately benefit men, as they (through cultural and structural limitations in female labour market participation) earn more than women on average. Some public policy decisions can mitigate adverse impacts on female pensions, such as the use of unisex longevity tables in annuity calculations. However, other elements thought to assist in minimizing the gap, such as the elimination of vesting periods, did not appear to be a contributing factor to differences
between Sweden and Denmark. Though this supports the notion that public policy decisions impact how gendered labour market inequalities are amplified or diminished through social insurance calculations, this work can not verify the extent of the significance for all the structures noted to be impactful.

Given data limitations in performing a quantitative analysis and the inability to infer causality (rather than just correlations) from either the quantitative or qualitative analysis, it is difficult to determine the extent to which these variables impact the gender pension gap. However, in testing current theories, this work suggests that neither camp of literature satisfactorily identifies the mechanisms behind international differences in the gender pension gap. In informing some theoretical assumptions and supporting others, this work makes the case for studies incorporating both cultural and structural factors as well as state and public policy driven mechanisms. Beyond examining female labour market limitations, studies should examine how these limitations are filtered (amplified or mitigated) through state and policy-driven structures to impact welfare outcomes.
REFERENCES


