Gender Matters:
Feminisation of Labour Market Outsiders across Europe and the Role of Family Policy

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Abstract

This thesis aims to examine how the dualized labour market is gendered, and how family policies as institutional contexts shape such gendered patterns. Labour market inequality is one of the major issues in post-industrial societies. Dualization theory explains how institutions have shaped such dividing structure in the labour market, focusing on the inequalities between standard and non-standard employment. Nevertheless, this binary understanding of labour market is centred around male-dominated sectors, which may falsely universalise male experiences. With the increase in women's labour market participation, it is important to examine labour market inequalities across gender lines, taking into account various dimensions of labour market disadvantages.

Using European Working Conditions Survey data and five labour market disadvantages indicators, this thesis conducts latent class analysis to examine how the labour market is divided. 30 European countries are examined including EU27, UK, Switzerland and Norway. Four labour market segments are found across Europe: one Insider segment and three Outsider segments (Typical Outsiders, Dead-end Insiders and Subjective Outsiders). Women are not only overrepresented in the Outsider jobs as a whole, but especially among Dead-end Insiders, indicating that the 'gendered labour market' is more nuanced than women overrepresented in the unemployed or non-standard jobs.

Moreover, while generous family policy helps mothers to remain in the labour market, they are limited to the Dead-end Insider jobs. This resonates with the welfare state paradox or family policy trade-off theories that the policies promoting gender equality on one hand may work as a barrier in other aspects of gender equality. On the other hand, countries with longer fathers' leave tend to show less gender gap among young Outsiders (i.e., Typical Outsiders), suggesting the changes in gender norms reducing statistical discriminations against women. These are yet another evidence showing the need for policies that can disrupt existing gender norms.

Preface

The experience of labour market (including what it means to be precarious or outsiders) vary across genders, yet a 'worker' and their precariousness/outsider-ness are often assumed to be gender-neutral, if not male. This thesis starts from questioning that very assumption that are inevitably linked to our understandings of the labour market as well as social policies. One of the most shocking remark I have encountered during my PhD was "[as young social scientists] we need to study something *new* or something that is a huge issue *now*, not something like *gender inequality* that many people have already studied in the past." In contrast to (what I can assume to be) the intention of the speaker, that ended up being a critical point in my PhD which made me realise the very reason why we need a study focusing specifically on gender inequality.

This thesis aims to not only show how the European labour market is gendered, but also the nuances in what we mean by the labour market being 'gendered'. Taking a step further, this thesis also analyses the role family policies – most of which are considered to be for gender equality – have in these gendered patterns we see in the labour market. Instead of using 'gender' as one of the variables and assuming it as a *known* factor to labour market inequalities, this thesis brings it to the core of the discussion and explains why gender inequality remains to be an important social issue for us living in 2022. This thesis provides yet another empirical evidence informing us that the issue of gender inequality is not of the past nor of some countries far far away. This thesis is about the societies where more women are being educated, participating in the labour market, and (seemingly) covered by various family policies, yet continue to be the *outsiders* of the labour market.

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I. Introduction

Labour market inequality has been exacerbated over the decades, with increased polarisation amongst workers in terms of income, employment security as well as social security. Increase in the working poor (whose work does not pay) and the non-standard workers (with inherent labour precariousness) have become major issues in all post-industrialised economies. Dualization theory explains a part of this phenomenon, focusing on the role of labour market and welfare institutions in shaping the dualized labour market between the protected 'core' (i.e., Insiders) and the flexibilised 'periphery' (i.e., Outsiders) (e.g., Emmenegger et al. 2012a; Eichhorst and Marx 2011; Palier and Thelen 2010). Insider-Outsider divide is often represented as the division by employment relationships – namely, standard vs non-standard workers. However, this only presents a piece of the picture, as the theoretical framework was primarily built upon the experiences of men and male-dominated sectors (see also Emmenegger 2010; Häusermann and Schwander 2009). With the framework and assumptions that are implicitly masculinist, there is a danger of falsely universalising male experiences, leading to biased understandings of the labour market (Orloff 2009, p.319).

The increase in labour market inequalities (or dualization) coincided with greater labour market participation of women. Over the decades, women's labour market participation has increased, with average employment rate of women in Europe[1] increasing by 12.3%p between 2000 (55.9%) and 2019 (68.2%) (EUROSTAT 2021a). While the gender employment gap has reduced from 20.0%p to 11.4%p during the same period, the gap itself continues to persist. How then does this relate to the Insider-Outsider divide in the labour

[1] This is the average of 27 EU member states and the UK

market? Using the discussed definition of Insiders/Outsiders, some studies have found that women are overrepresented in the Outsider jobs (Schwander and Häusermann 2013). However, this does not account for the varying employment trajectories by gender due to the different life course experiences (especially around parenthood), leading to different Outsider risks. Questions still remain as to how the Outsider risks vary across genders, and how such differences can be explained through institutional changes. Thus, a new analytical framework is needed to incorporate experiences of both women and men and develop a more nuanced understanding of how Outsider risks vary across gender.

Drawing from these gaps in the literature, this thesis aims to understand how the dualized (or divided) labour market is also gendered. Instead of using a predefined binary definition of Insider/Outsider, I account for the various dimensions of labour market disadvantages to identify the different types of Outsider risks across and within gender groups. Rather than using predefined assumptions of how the labour market is divided, I use the approach taken in recent studies on dualization (or labour market segmentation) (e.g., Lukac, Doerflinger and Pulignano 2019; Van Aerden et al. 2014; Yoon and Chung 2016) that derive the definition based on the data considering multiple labour market disadvantages together. By doing so, this thesis provides empirical evidence not only in terms of the extent to which women are overrepresented in the Outsider jobs, but also *how* they are overrepresented.

This thesis also adds institutions around family (namely, family policy) as a key dimension in explaining why gendered patterns vary across countries. Studies have shown how family policy influences women's employment patterns as well as couples with children (see review in Hegewisch and Gornick 2011; Korpi, Ferrarini and Englund 2013; Van der Lippe and Van Dijk 2002). Generous family policies are often associated with higher

participation of women in the labour market, as they are intended to help mothers return to work after childbirth. However, some scholars have argued that there are trade-offs between this 'generosity' and the actual outcome for gender equality (e.g., Pettit and Hook 2009; Mandel and Semyonov 2006; Morosow 2019). An example of this is state employment limiting women into the 'female-type' jobs that are limited in earnings and advancement – creating what is sometimes referred to as 'female-ghettos' (Mandel and Semyonov 2006). Nevertheless, contesting views have described these types of jobs as not being 'bad' although may not guarantee reaching top positions (Korpi, Ferrarini and Englund 2013). Thus, I combine the Dualization and Welfare State Paradox theories, and consequently add to the literature on Feminist approaches to comparative welfare state (e.g., Lewis 1992; Lister 1994; Orloff 1993; Sainsbury 1994), to explain how institutions shape the gendered patterns in the dualized labour market.

As an Introduction, this chapter is structured as following. Firstly, I provide an overview of the aims and objectives of the thesis. I describe the theoretical approaches taken throughout the thesis, which presents where this thesis is positioned in the literature. This is further discussed in the following literature review chapters (Chapters 2-4). Secondly, I summarise some key contributions this thesis has to knowledge. This is discussed throughout the chapters in this thesis, and further discussed at length with findings in the Conclusion chapter. Lastly, I present the overall structure of the thesis. It should to be noted that 'gender' is limited to the binary definition of gender being women and men due to the limitation of the data, which may neglect some important variations across different gender identities, and will have to be further investigated in the future studies.

1. Aims and objectives of this thesis

The overall aim of this thesis is to empirically examine how the dualized labour market is also gendered and how it varies depending on the institutional contexts. More specifically, this thesis examines women's relative likelihood of being labour market Outsiders compared to men, taking a comprehensive view of labour market disadvantages, and how family policy shapes such gendered patterns in the labour market. This will help us to have a clearer understanding of how women are disadvantaged in the labour market, and how/why the inequality persists. Through a more tangible idea of women's relative position in the labour market compared to men and investigating its association with family policy, the findings in this thesis will be useful for policy makers to analyse where we are in our goals for gender equality and evaluate the existing policy directions.

Dualization theory (e.g., Emmenegger et al. 2012a; Palier and Thelen 2010) provides important insights as to how the labour and welfare institutions have shaped the dualized structure between the standard and non-standard workers. However, as mentioned in the introduction of this chapter, this binary understanding of the labour market based on employment relationships is primarily based on the male-dominated sectors. This may not fully capture the various labour market inequalities, especially the disadvantages that are more specific to women or female-dominated sectors, and falsely universalise the male experiences. Thus, it is important to question the existing assumptions of labour market divisions before analysing how it is gendered.

Some recent studies (e.g., Lukac, Doerflinger and Pulignano 2019; Yoon and Chung 2016) have developed an approach that enables us to examine combinations of various dimensions of labour market disadvantages, moving beyond the binary definition of the

Insider-Outsider by employment relationships. From the previous studies we know that women are more likely than men to be part-time workers (e.g., Chou et al. 2017; Pfau-Effinger 2012; Yerkes and Visser 2006), experience prolonged state of temporary work (e.g., Biegert 2014; Gash and McGinnity 2007), and have low-income (e.g., ILO 2019; Sigle-Rushton and Waldfogel 2007). However, more needs to be known as to how the different disadvantages (i.e., low income, insecure employment) are compounded to form different types of Outsider risks. It is because in reality a job is not just about the types of employment contract, income level, or future prospects individually, but rather a combination of them all. The new defining line between Insiders and Outsiders (and amongst Outsiders) are derived from the data, using various dimensions of labour market disadvantages/precariousness. Based on this, this thesis is able to identify the more nuanced Outsider risks that are likely to vary across gender lines. Then, this thesis examines whether or not gender matters equally across countries, and explore the association between the family policies and the cross-national variations in women's relative likelihood of being Outsiders compared to men. Under the greater aim, this thesis is composed of four stages of research which are discussed more in detail in Chapter 5. The objectives and theoretical backgrounds of each stage, some of which overlap, are briefly discussed below.

How is the labour market divided?

As discussed above, empirically identifying the labour market segmentation instead of starting from the assumptions of how the labour market is divided (e.g., standard vs non-standard employment) can provide a more accurate picture of the labour market division and the gender differences in the Outsider risks. Thus, this thesis takes the approach by recent

studies on dualization/labour market segmentation that have empirically examined the labour market segmentation using different labour market characteristics (e.g., Lukac, Doerflinger and Pulignano 2019; Yoon and Chung 2016). Although the findings vary in terms of the number of segments and the characteristics of each segment, there are some consistencies in the findings. First, there is a large group of Insiders who tend to experience security in all different dimensions of the job. Second, Outsiders tend to be more diverse rather than having one group that is insecure in every aspect.

My research distinguishes from the previous studies by including the subjective indicators for Outsider-ness (both the subjective job insecurity and future prospects) and using large data including wide range of countries. Through using the subjective indicators, I am able to identify the actual experiences of the workers that may not be fully captured through the objective measurements (see also Chung 2019b). Using pooled data from wider range of countries (i.e., 30 European countries), I can provide a more general picture of how the labour market is divided that can be used for cross-national comparisons. In addition, although this may not significantly impact the results, I include dependent self-employed as part of the insecure employment contract, as they are de facto employees (especially considering their dependence and insecurities in work) despite their de jure status as the self-employed (Hunter and Leslie 2018; ILO 2016; Williams, C. and Lapeyre 2017). The indicators and methods used are discussed more in detail in Chapter 5.

To what extent are women overrepresented in the Outsider jobs?

Recent literature on dualization shows that women are overrepresented in the Outsider jobs (Schwander and Häusermann 2013). Although the definition of the Outsiders is limited to workers with atypical contracts or unemployed, their research provides an important insight that the dualized labour market is also gendered. As discussed earlier, this thesis aims to build on this debate further by empirically examining *to what extent* women are more likely to be Outsiders compared to men, without limiting the definition of Outsiders based on the employment status/contracts.

Based on the four-segment of labour market derived from the previous research question (how is the labour market divided), I examine women's relative likelihood of being Outsiders compared to men. This is important as it identifies the precariousness women experience in the labour market and how it differs from that of men. Based on this, we can also examine how and why women are more likely than men to be Outsiders. On the other hand, the varieties of Outsider-ness (namely, the three Outsider segments among the four segments) allows us to examine different Outsider risks between women and men. Although women are overrepresented in the Outsider jobs, it does not mean that men are not precarious. Rather, there may be Outsider-ness/precariousness that men experience that are different from women.

To test for the validity of the findings here, this thesis examines to what extent gender matters as a factor in determining the labour market position, when accounting for other relevant factors. This is based on previous studies that have examined various individual and job factors that can determine one's labour market position, such as age, marital or parental status, education level, whether or not one is part of a union or not, etc. (e.g., Biegert 2014;

Schwander and Häusermann 2013; Yoon 2015). Even outside of the dualization/segmentation debate, studies show how young workers are more likely to have insecure jobs (which can be considered as Outsider jobs) (e.g., Chung, Bekker and Houwing 2012; Hvinden et al. 2019), for instance. Age and education level are often considered to be relevant to the human capital accumulation, the lack of which can determine one's lower position in the labour market (Becker 1993). Most of these labour market studies often include gender as one of the variables that can determine the labour market position, but not as the main variable and focus on its significance itself. This may be because the gender difference in the labour market has always been there that it is almost taken as given. However, that is exactly why we need to focus on gender itself, because the gender inequality in the labour market continues to persist despite women's increased labour market participation and education level. We need more understandings of how women are more disadvantaged and why to find solutions to this issue of persistent gender equality in the labour market. On the other hand, this research examines whether gender itself is actually a significant factor or it is the other factors other than gender that are more important. This research also took into account that this significance may vary depending on which Outsider job we focus on, which was not discussed in the previous studies.

Is there a cross-national variance in the gendered labour market patterns?

Knowing that gender matters in determining one's labour market position (i.e., the Outsider jobs), the next question this thesis explores is if gender matters equally across countries. To put it differently, is there a cross-national variance in women's relatively higher likelihood of being Outsiders compared to men? Previous studies have found cross-national

variations in women's relative position in the labour market with reference to men focusing on different aspects of labour market Outsider-ness. Some have shown that conservative welfare regime as well as the social democratic welfare regime tend to show higher likelihood of women in the atypical jobs compared to the liberal or southern regimes (Schwander and Häusermann 2013), although variations exist within the conservative regime both in terms of the type of contracts and/or earnings (Eichhorst and Marx 2012; Gash and McGinnity 2007). Women are also more likely than men to be at a prolonged state of being non-employed or in fixed-term jobs (Biegert 2014; Booth, Francesconi and Frank 2002). This thesis builds on these findings through examining the cross-national variations on women's relative likelihood of being an Outsider (both as a whole and each Outsider segment), incorporating different aspects of labour market insecurities. This shows how the gendered patterns in the labour market varies across countries in Europe, which takes us to the next question, how do national institutions impact the gendered labour market patterns.

How does family policy impact gendered labour market patterns?

Dualization theory argues that dualization was often found in the continental European countries that have strong employment protection and workers' union (e.g., Chung 2019b; Eichhorst and Marx 2011; Palier and Thelen 2010), therefore it was the welfare and labour market institutions that have shaped certain divided patterns in the labour market. However, questions remain as to why we see women's overrepresentation in the Outsider jobs, and why it is more likely to be the case in some countries than others. In other words, how can we explain the cross-national variations in women's relative likelihood of being Outsiders compared to men? Drawing from the dualization theory or the institutional

approach, the last stage of this thesis aims to explore how the national institutions shape the gendered patterns in the labour market observed earlier in this thesis. There may be various institutional contexts that can be considered, but this thesis specifically focuses on the impact of family policies as a starting point of exploration.

In contrast to the trend towards deregulation and retrenchment, family policy has substantially expanded over the last few decades, with policy goals of enhancing women's/mothers' labour market participation, enabling women's human capital potential, and increasing fertility or social investment (Ferragina and Seeleib-Kaiser 2015; Van Kersbergen, Vis and Hemerijck 2014). We have also seen a growing emphasis on women's inclusion into the paid labour in EU directives for gender and family policies (Jenson 2015; Lombardo and Meier 2008). Although the increasing importance of family policy coincided with the changes in the institutions discussed in Dualization theory, it was not considered in the theory. Thus, this thesis brings the family policy (as part of the family institutions) into the Dualization theory debate, further expanding the knowledge around how institutions shape dualization patterns. Family policy is important to consider for studying gender, because it is closely related to mothers' labour market participation. Expansion of family policy has not only led to but also been influenced by the increased female labour market participation (Ferragina and Seeleib-Kaiser 2015; Hegewisch and Gornick 2011). It is because the care responsibilities (especially of children) have been one of the major causes of career interruptions and income loss for women (e.g., Budig and England 2001). Moreover, family policy is closely related to the labour market as a whole, not just limited to mothers' employment. Korpi et al (2013) shows how different constellation of family policies can lead to different employment patterns of couples with children. Family policy interacts with

gender norms in the society through reflecting and influencing the gender norms, and these dynamics tend to hinder or support the social changes around women's employment (e.g., Pfau-Effinger 2017). The changes in gender norms can also indirectly influence the statistical discriminations (Anker 1997) of the employers, availability of the jobs for women and their career choices, and as a result the labour market in general. In addition, family policy, unlike most welfare and labour market policies, take into account the different life course experiences of women and men (Saraceno 2015, p.259-260). Thus, family policy, along with labour and welfare policies, is an important institution to be considered when examining the institutions shaping the labour market structures, especially the gendered patterns.

Family policy is generally considered to have positive impacts on women's labour market participation. As mentioned, it has been closely associated with the increased women's employment rate (especially among mothers) (see Hegewisch and Gornick 2011), as well as motherhood penalty on earnings to some extent (Budig, Misra and Boeckmann 2016; Misra, Budig and Boeckmann 2011). However, some scholars also argue that there is a trade-off between the generosity of the family policy and gender equality in a broader picture. For instance, when it comes to leave policies, their impact on women's employment often depends on the length of leave, as long and generous leave may result in women experiencing career/employment penalties (e.g., Budig, Misra and Boeckmann 2016; Morosow 2019). On the other hand, public sector jobs for childcare services have increased women's employment rate in a number of countries, but it may have a negative impact on women reaching top positions, as these 'female-type' jobs tend to be limited in advancement (Mandel and Semyonov 2006).

Although much research has been conducted on the impact of family policy on women's employment patterns, there are gaps in the literature that this thesis addresses. Firstly, welfare state paradox or trade-off theories focus mostly on women joining the labour market or reaching the top, and not so much on what type of jobs or the labour market disadvantages women have relative to men. Some studies examined earnings penalty (Budig, Misra and Boeckmann 2016; Misra, Budig and Boeckmann 2011) and part-time work (Pfau-Effinger 2012), but not on women's higher likelihood to be Outsiders, especially considering the combination of different labour market disadvantages (or precariousness). Secondly, these studies often focus on the direct impact of family policy on mothers (if not fathers) to focus on the motherhood penalty itself. However, more needs to be known about the indirect impact these policies may have on the labour market in general, especially for women without care responsibilities. Thus, this thesis contributes to knowledge on the welfare state paradox literature by examining the impact of family policies on women's relative likelihood of being Outsiders compared to men, without limiting to mothers. Through this, we will be able to understand whether family policies have been mitigating the gender inequalities in the labour market security or the quality of jobs to some extent, or paradoxically contributed in exacerbating them.

2. Contributions to knowledge

This thesis contributes to knowledge by providing empirical evidence of women's relative position in the labour market that is (broadly) dualized into Insiders and Outsiders. Using the combination of various labour market disadvantages/precariousness, this thesis further identifies in what aspect women are disadvantaged in the labour market or what kind

of Outsider risks they are faced with that is different from men. Finally, this thesis shows how women are limited to being labour market Outsiders with family policies potentially functioning as part of the structural mechanism that maintain the social norms around gender roles. The findings in this thesis not only provides us with an understanding of how family policies shape the gendered labour market patterns, but also insights for policy changes.

As mentioned above, instead of examining women's relative likelihood of showing different aspects of labour market Outsider-ness (e.g., part time, temporary work, low income, etc.) individually, this thesis examines women's relative position in the labour market as a whole, taking into account the various aspects together. By using the approach of combining the different labour market disadvantages/precariousness together, this thesis is able to identify clearer patterns of the disadvantages that women are more susceptible to. This is useful in terms of having a clearer idea of gender inequality in the labour market and finding a more specific and practical solution to the problem. This approach also rejects the existing assumption of how the labour market is divided, which may be gender bias given that the relevant theories were built based on the cases of male manufacturing workers (see also Emmenegger 2010). By deriving the labour market division based on the data, this thesis can also reduce this potential bias.

This thesis provides empirical evidence of gender inequality in the labour market across Europe. As mentioned earlier, gender has been used as one of the variables in the labour market analysis. However, this thesis brings gender into focus and specifically examine labour market inequality on the basis of one's gender. Over the decades, women's labour market participation has increased, but the gender inequality persisted by changing its faces. What used to be the male-employed/female-unemployed model may have only

changed to male-insider/female-outsider model as we see more women in the labour market than in the past. The results in this thesis show that we should not always take the rise of female employment rate too optimistically, as employment itself does not entail labour market inclusion into 'good jobs.'

On the other hand, this thesis finds that gender inequality in the labour market appears in different patterns across different countries in Europe. This shows that the national-level contexts have a role in shaping women's relative position in the labour market – and thus gendered patterns as a whole. Dualization theory argues that the institutions shape dualized patterns in the labour market and shows how certain demographics are more susceptible to be in one group or another. Specifically focusing on gender, the findings in this thesis highlight the need for more cross-national comparative and multilevel studies to better understand and expand our knowledge around labour market dualization, especially its gendered patterns.

Finally, this thesis finds that family policy is associated with women's relative position in the labour market, but this association is not necessarily positive. Different associations are identified for different policies, but one key finding is that the family policy might function as a tool to limit women into the low-income dead-end jobs instead of giving them the de-familialised (Esping-Andersen 1999; Lister 1994) autonomy to pursue their career or find/stay in the Insider jobs. It may help women to stay in the labour market, but not in the Insider jobs where they can have the economic autonomy or career that has opportunities for advancement. Thus, this leads us to questioning the direction of family policy or gender equality policies in Europe, and whether or not we are moving towards a more gender egalitarian societies.

3. Structure of the thesis

This thesis includes 10 chapters, including the Introduction and Conclusion. In the first chapter, I presented the issue of gender inequality in the labour market across Europe, what the literature has discussed so far, and how this thesis aims to address the gaps in the literature. I also presented some key contributions this thesis has on knowledge, which are also discussed throughout the thesis.

Chapter 2 through 4 are the literature review chapters that provide theoretical background for this thesis. In Chapter 2, this thesis provides the literature review on some key theories that discuss labour market divisions (e.g., Labour Market Segmentation theory, Insider-Outsider theory, Dualization theory). It is because I use Dualization theory (and the theories upon which it was built) as the main analytical framework to understand the gendered patterns in the labour market. By reviewing the literature on labour market division, this chapter aims to understand how the literature has defined Insiders and Outsiders and explained the role of institutions in shaping the labour market. The chapter ends with the gaps in the literature with relation to understanding gender inequalities in the labour market.

In Chapter 3, I review previous studies that examined gender with reference to the labour market segmentation, dualization and labour market Outsiders and provide a definition of the 'gendered labour market patterns.' I categorise the studies into three themes, which are 1) women's overrepresentation in the Outsider jobs, 2) gender difference within the Outsider jobs and 3) labour market division/dualization amongst women. This provides different perspectives of gendered patterns in the labour market, and presents the relationship between the labour market division/dualization and gender. Then, I provide some explanations as to why we see more women in the Outsider jobs compared to men, with

specific focus on motherhood penalty (e.g., Budig and England 2001; Chou et al. 2017; Drobnič, Blossfeld and Rohwer 1999) and occupational segregation by gender (e.g., Estévez-Abe 2006; Reskin 1993).

In Chapter 4, I provide theoretical background on how family policy shapes the gendered labour market patterns. The aim of this chapter is to provide a theoretical basis for examining the impact of family policy on the women's relative likelihood of being Outsiders compared to men. I review the studies that examined the impact of family policy on women's employment patterns, both mothers and non-mothers. For family policy, I specifically focus on the work-life balance policies and categorise them as work-reducing and work-facilitating policies based on Misra et al (2011). Since there is an extensive literature on the impact of family policy on mothers' employment, I was able to review it by different types of policies that are examined in this thesis, which are leave policies (for mothers and fathers) and childcare services. Next, I provide two main theories that explain how the family policies can influence women as a whole. I review the studies under two themes, which are statistical discrimination (e.g., Estévez-Abe 2006) and welfare state paradox (Mandel and Semyonov 2006).

In Chapter 5, I describe the data and research methodologies being used in this thesis and how the variables are constructed for the analyses. This chapter also provides justifications for the choice of data and methodologies in terms of its usefulness in answering the research questions in this thesis. It is important to note that this chapter only includes the independent variables for the thesis. The dependent variable is provided at the end of Chapter 6, as it is derived from the latent class analysis in that chapter.

Chapters 6 through 9 are the analytical chapters of this thesis. In Chapter 6, I conduct latent class analysis to examine how the labour market is divided across Europe. As mentioned above, the results from this chapter are then constructed into the dependent variables for the Multilevel analysis in Chapters 8 and 9. In Chapter 7, I conduct multi-group latent class analysis to examine the gendered patterns in the divided labour market that was found from Chapter 6. I examine the gendered patterns by simply comparing the proportion of gender in each group, but also by conducting the latent class analysis separately for women and men to see if the dividing structure vary across gender. In Chapter 8, I use the dependent variables derived from the latent class analysis from Chapter 6 to examine the extent to which gender matters in determining one's labour market positions (controlling for other relevant factors) and how this vary across countries. I use multilevel modelling to see how much the national-level differences account for the women's relative likelihood of being Outsiders across Europe. In Chapter 9, I include family policy variables to the models to examine the impact of family policy in shaping the gendered labour market patterns – namely, women's relative likelihood of being Outsiders and the cross-segment variations.

Finally, in Chapter 10, I discuss the overall findings of this thesis and provide a conclusion. I first summarise the key findings from the empirical analyses from Chapter 6-9, and discuss the limitations of this thesis that can be considered for the future studies. This chapter finishes with the contributions and implications of this thesis for the literature and some recommendations for social policy.

II. How the labour market is and becomes divided

Despite the development of welfare states, labour market inequality and its persistence have been one of the major issues of the post-industrial societies (Emmenegger et al. 2012a). In response, European welfare states in recent decades went through policy reforms aimed toward activation, emphasising labour market inclusion (Immervoll and Scarpetta 2012; OECD 2021). However, continued labour market inequalities have called this approach into question, especially as we see growing numbers of precarious jobs that do not guarantee one's job or income securities (Kalleberg 2018; Standing 2011). One way of explaining the labour market inequalities is the Human Capital theory (Becker 1993), which argues that one's human capital (e.g., education level) determines the differences in the labour market outcomes (e.g., income, job security) – often assuming competition in a single labour market. However, this theory has been contested as general education level increases and there are labour market inequalities that cannot be explained through the differences in human capital (see review in Leontaridi 1998). This debate was first introduced by the American scholars in 1960s and 1970s[2] (Doeringer and Piore 1971; Reich, Gordon and Edwards 1973), who argued that the labour market is not a single market but instead is segmented into non-competing markets – namely, the Labour Market Segmentation theory.

[2] The theory of labour market division has a long history. Some scholars have acknowledged and discussed the segmented nature of labour market and the immobility between the segments, such as John Stuart Mill, John Carines, and Pigou (see review in Leontaridi 1998). American institutionalists such as Dunlop and Kerr (who had a strong impact on the work of Doeringer and Piore) conceptualised the dual nature of the segmentation into internal and external labour markets, where the wage and job allocation are determined with different rules (see Leontaridi 1998). However, this thesis focuses on the theories on labour market division that is more relevant to understanding the labour market today.

They found that an individual's labour market status or outcome is not solely determined by the individual abilities but also the structural contexts.

Starting from the Labour Market Segmentation theory, scholars in different countries have been trying to explain the labour market inequalities based on the idea of labour market division. Depending on where and when, the labour market inequalities varied in its forms, and various theories have arisen accordingly. The division is often drawn between the Insiders and Outsiders, with the Outsiders being more disadvantaged in terms of wage level, job security, and opportunity for advancement (Davidsson and Naczyk 2009). In this chapter, I discuss four main theories that have been used to explain labour market inequalities taking the approach of the divided labour market: Labour Market Segmentation theory (also referred to as the Dual Labour Market theory) (e.g., Doeringer 1967; Doeringer and Piore 1971; Reich, Gordon and Edwards 1973), Insider-Outsider theory (e.g., Lindbeck and Snower 1986; 2001), Varieties of Capitalism theory (Hall and Soskice 2001) and Dualization theory (e.g., Emmenegger et al. 2012a; Eichhorst and Marx 2011; Palier and Thelen 2010). As mentioned in the introduction chapter, this thesis uses Dualization theory as the main theoretical framework to examine women's relative likelihood of being Outsiders. I review the other three theories in this chapter with the Dualization theory, firstly, because the Dualization theory was built upon the other theories and it is useful to have an understanding of the development of the idea around labour market division in a broader picture. Secondly, I review them because they provide important insights for labour market division or its relationship with the institutions from different perspectives that may be useful for our analyses. Lastly, I discuss recent studies that build on these theories that aim to examine the

labour market divisions using various labour market characteristics instead of starting from certain assumptions of how the labour market is divided.

1. Labour Market Segmentation theory

The Labour Market Segmentation or Dual Labour Market theory was introduced during 1960s of the post-war United States. 1960s in the United States, as Doeringer and Piore (1971, p.1) put it, could be characterised by "structural unemployment, technological change and automation, inflation, race discrimination, and employment and training services provided to the disadvantaged workers." What was especially puzzling for the scholars of that time was the persistence of poverty and income inequality despite the increase in the education/training policies and the anti-poverty policies, as the existing (and prevalent) Human Capital theory and other neo-classical economics could not provide sufficient explanations for this problem (Leontaridi 1998; Reich, Gordon and Edwards 1973).

The neo-classical economic theories assume that the labour market is a single competitive market, where wage and employment are allocated based on the individual skills (see Leontaridi 1998). In the single market, differences in wage or job allocation among workers could be equalised through competitions in the market. However, empirical studies showed that the differentials found among workers were not being equalised as predicted (see Reich, Gordon and Edwards 1973). Instead, there seemed to exist non-competing labour markets where the assumption of a single competitive market does not apply (Doeringer 1967; Doeringer and Piore 1971). This was especially evident when examining the wage

differentials and job differences among the individuals with equal skill levels (Reich, Gordon and Edwards 1973).

As an alternative theory to explain the labour market inequalities, Labour Market Segmentation theory argues that inequality within the labour market was not entirely due to the individual skill deficiency but to the fragmented nature of the labour market (Doeringer and Piore 1971; Reich, Gordon and Edwards 1973). The theory suggested that labour market is composed of non-competing groups where the wage and job allocation are influenced by the institutional and social factors (Doeringer 1967; Reich, Gordon and Edwards 1973; Vietorisz and Harrison 1973). In addition, Reich, Gordon and Edwards (1973, p.359) stated that it is "the historical process whereby political-economic forces encourage the division of labo[u]r market into separate submarkets, or segments, distinguished by different labo[u]r market characteristics and behavio[u]ral rules." 'Institutional barriers' between divisions disallow workers from moving between segments (Doeringer and Piore 1971; Vietorisz and Harrison 1973), thus leading to persistent inequality.

Labour Market Segmentation theory can be defined by three aspects: 1) how the labour market is divided, 2) how the division is explained, and 3) how the persistence of division is explained. First, *how is the labour market divided?* According to Dual Labour Market theory (which is one of the theories within the Labour Market Segmentation theory), employment stability guaranteed by a different set of administrative rules, which differs from the competitive market, is the key feature that divides the labour market into primary and secondary (Doeringer and Piore 1971; Reich, Gordon and Edwards 1973). To understand this division, it is first important to understand the Internal Labour Market theory. Internal labour market is defined as a separate administrative unit (often at the firm level) where pricing and

job allocation is controlled by distinct administrative rules that are different from the rules of competitive market as assumed by neo-classical economists (Doeringer and Piore 1971). According to Doeringer and Piore (1971), it is often generated by the combination of skill-specificity, on-the-job training, and customs or informal rules built within firms. This set of institutions together functions to separate internal labour market from the external labour market, where the competitive rules still apply. It also limits the mobility between two labour markets to 'insulate' the secure employment relationship into the internal labour market from the external. Consequently, the rise of internal labour market led to the division between workers who have secure employment relationship based on certain administrative rules (and thus enjoy the advantages provided from the firms such as the higher wage, promotion, and insurance) and those who do not. Applying this to the Dual Labour Market theory, the former constitutes the primary labour market, whereas the latter constitutes the secondary labour market (Doeringer and Piore 1971)[3]. According to Reich, Gordon, and Edwards (1973) the primary labour market is characterised by stable working habits, skills earned through on-the-job training, relatively high wage, and job ladders; while the secondary labour market is characterised by unstable working habits, relatively low wage, high turnover rate, and few job ladders. Reich, Gordon and Edwards (1973) further elaborate this definition through dividing primary labour market into two submarkets (independent and subordinate[4]).

[3] It is important to note that, however, not all internal labor markets fall into the category of primary labour market. According to the definition provided by Doeringer and Piore (1971), a primary labour market is composed of a series of internal labour markets; while, secondary labour market is composed of 1) unstructured external labour markets, 2) 'secondary' internal labour markets with many ports of entry, and 3) internal labour markets with few promotion opportunities.

[4] Both independent and subordinate market show stability in employment, but they have very different characteristics and mechanisms behind their employment stability. Workers in the independent market are often the professionals who have their own professional standards that will guarantee their jobs and wages (Reich, Gordon and Edwards 1973). Thus, they are not often governed by the administrative rules of the internal labour market of Doeringer and Piore (1971), and they show high voluntary turnover (Reich, Gordon

Second, *how did the labour market become divided?* There can be two explanations, which this chapter refers to as systemic (or functional) (Doeringer and Piore 1971; Reich, Gordon and Edwards 1973) and strategic (or conflict) (Reich, Gordon and Edwards 1973) views. The primary difference between the two views has to do with the role of actors in the formation of divisions. The former emphasises the natural process where the market's adaptation to certain changes in the society or labour market led to the divided labour markets. The latter focuses on how the actors or conflicts among actors have contributed to changes in the labour market. Taking the systemic view, labour market division was a natural consequence of industrial changes in the twentieth century in the United States (Doeringer and Piore 1971; Reich, Gordon and Edwards 1973). Considering the changing technology and the need for more specified skills, building internal labour markets, which guarantees stable employment relationship and thus reduce the labour turnover costs, was the most efficient choice for the employers (Doeringer and Piore 1971). Another systemic driver for the division was the difference in stability of product demands among firms (Reich, Gordon and Edwards 1973). Firms with stable product demand, usually the large ones, were able to pay necessary costs to make stable relationship with their employees, which was also required to meet the demand (Reich, Gordon and Edwards 1973). Taking this perspective, industrial dualism arose between firms with stable product demands and firms without them, creating the segmentation of the labour market. Once the internal labour market formed due to industrial changes, workers within the internal market were given certain privileges that could work as an incentive to remain in a closed relationship with their employers, to be more productive, and to maintain their acquired skills (Doeringer and Piore 1971). The privileges

and Edwards 1973). On the contrary, subordinate market is composed of workers with routinised jobs that are highly dependent upon the administrative rules of the firms (Reich, Gordon and Edwards 1973).

often included higher or increasing wage, more chances for advancement and insurance coverage.

While the systemic view puts more emphasis on the changes in technology and the need for specific skills in creating internal labour markets, the strategic view puts emphasis on the active role of the employers and their strategy against the labour (Reich, Gordon and Edwards 1973). During the time of competitive capitalism, strong unionisation was possible due to the homogeneity of jobs and workers' situations in general. However, with the rise of monopoly capitalism, employers sought for more control and power over their workforce. With the aim of de-unionising workers through creating heterogeneous working conditions, employers developed strategies such as introducing bureaucracy or hierarchy, restructuring the workforce to have job ladders, and providing welfare (both by the firm and the state) (Reich, Gordon and Edwards 1973). These new rules in the labour market made some workers more advantaged than the others, due to more benefits being attached to higher job positions. As a result, this could have caused different (or even conflicting) interests in terms of wage allocations or job security among workers. Unionised workers in the internal labour market were often the ones who had more benefits than the others, and the new system thus created gaps between the unionised and non-unionised or labour market entrants. This could explain the active role of the union in the taming strategy of the employers, which Reich, Gordon and Edwards (1973, p.361) call a "divide and conquer" strategy. It is important to note that the welfare system (through state) was also used as one of the different benefits that differentiated workers (Reich, Gordon and Edwards 1973).

Third, *how and why does the inequality persists?* Labour Market Segmentation theory explains the persistence of labour market divisions through the immobility between different

segments (Doeringer and Piore 1971; Vietorisz and Harrison 1973). Using the feedback model of analysis, Vietorisz and Harrison (1973) suggest the positive feedback of wage, skills formation, and productivity sustains the structure of each segment with different operating mechanisms and to not compete between segments. In other words, primary and secondary markets function in different mechanisms that do not allow workers to freely move between them. Some jobs allow mobility, which early theorists have referred to as the 'ports of entry', but they are often limited to the low-skill entry jobs for most primary labour market (although it varies by firms or industries) (Doeringer 1967; Doeringer and Piore 1971). Following the definition of primary and secondary labour markets by Doeringer and Piore (1971), the lack of entry ports characterizes the primary labour market, insulating the primary market from the secondary market. It could also relate to what they refer to as the 'irreversibility of internalization,' which argues that once the labour market is internalised (i.e., internal labour market is formed) and divided from the other markets, it is highly likely that the division persist or even enhance over time.

In summary, the Labour Market Segmentation theory sheds light on the structural divisions in the labour market that cannot be explained through the differences in human capital. Labour markets were found to be divided into two segments: primary and secondary. Primary labour market is characterised by its own administrative rules, which insulates the workers within it from the competitions with workers outside (or in the secondary labour market). As to the cause of the divisions, scholars have debated on the systemic view that the changes were functional due to industrial and technological developments and the strategic view that it was the taming strategy of employers. On one hand, workers may be protected from insecurities in market competitions and guaranteed of career and income advancements.

On the other hand, other groups of workers can be found without such protection, with limited opportunities to enter the protected market.

There are several insights that can be gained from this theory. It provides us an understanding of how the Insiders or what we often refer to as the 'standard employment relationship' were formed. It is important to note that the focus was rather on how the Insiders began to be protected in an otherwise competitive labour market. Moreover, better working conditions for the Insiders can be an outcome of the demands from both the employers and employees. The employers needed more stable employment relationship with skilled labour and the employees wanted more security and better working conditions.

2. Insider-Outsider theory

The Insider-Outsider theory further developed the literature of labour market division by focusing on the problem of persistent inequality with reference to the increased unemployment rates. The theory is especially important as it provided the conceptual framework of Insiders and Outsiders that are used in Dualization theory. The Insider-Outsider theory developed within the context of understanding high unemployment rates in the United States since the oil shock in the early 1970s (Lindbeck and Snower 1988). In the 1980s, the United States went through a different recovery path from the crisis than Europe (Lindbeck and Snower 1987; Blanchard and Summers 1986), as it saw the drop in the unemployment rate after reaching its peak in the early 1980s, which was not the case for some European countries (most specifically the United Kingdom, France and Germany). One of the puzzles scholars have found was the enhanced security and working conditions (most notably wage)

of those who were already securely employed despite the increasing unemployment rate, which led to the expansion of the gap between those in and out of secure employment (Lindbeck and Snower 1987).

According to the Insider-Outsider theory, the labour market is divided into two groups of workers: the Insiders and Outsiders (Lindbeck and Snower 1986). Insiders refer to those currently employed in the firm with relatively stable employment relationship, and thus in a more 'privileged' position (Lindbeck and Snower 1986; 1987; 2001). For the firms with unions, Insiders are mostly those in the unions with their better working conditions based not only on their stable employment status but also on the collective power they hold (Lindbeck and Snower 1987). On the contrary, Outsiders are those who are either unemployed or in the informal sector (Lindbeck and Snower 1988), and therefore less privileged (Lindbeck and Snower 1987; 2001)[5]. This division is based on the employment status and associated with their job stability due primarily to the labour turnover costs (Lindbeck and Snower 1986; 1987). Thus, Insiders are those "protected by the labo[u]r turnover costs" while the Outsiders are not (Lindbeck and Snower 2002, p.1). This division is further elaborated by including the (labour market) entrants into the discussion, namely those who have newly entered the firm (Lindbeck and Snower 1986). Both entrants and Insiders are currently employed in the firm, but entrants are assumed to have less turnover cost – thus, less bargaining power. These divisions also show how the Insider-Outsider division is not just about two distinctive kinds of labour but also about gradual changes and different degrees within each group, which the

[5] However, in the actual discussions, Outsiders only refer to those who are unemployed. Although they do not clarify what they refer to as the 'informal sector,' it is still notable that they took it into consideration. They explain that since statistically the unemployed are more likely to be working at home or underground, there is not a clear distinction between two groups of people (Lindbeck and Snower 1988).

authors refer to as the ‘degree’ of insiderness’ and the ‘degree of outsiderness’ (Lindbeck and Snower 1988; 2002).

Using this concept of labour market division, the Insider-Outsider theory seeks to explain 1) how the labour turnover costs become market power for the Insiders, and 2) how that market power affects the Outsiders and (un)employment rate as well (Blanchard and Summers 1986; Lindbeck and Snower 1988; 2001). This was to understand the persistent labour market inequality that exist between the employed (Insiders) and the unemployed (Outsiders). Although authors do not specifically define the market power, it could be inferred from the literatures that market power when applied to workers is the power workers have in the labour market when negotiating their wage or employment stability with employers (i.e., bargaining power).

How do labour turnover costs become a market power? There are several kinds of labour turnover costs that the literature discusses. First, there is cost related to the productivity of the workers, such as the costs necessary for hiring and training workers (Lindbeck and Snower 2001). This is usually the case for firms that need skilled workers to meet the needs of newly developed technology and changed labour markets. Second, there are costs related to the rent-seeking actions of the workers and its outcomes (Lindbeck and Snower 2001, p.167). They refer to the costs that occur when workers go on strikes as unions or the costs induced from the employment protection regulation (Lindbeck and Snower 1988; 2001). Third, maintenance or administrative costs may occur to maintain the existing structure within the firm (Lindbeck and Snower 1988). These various labour turnover costs discourage employers from firing the existing skilled workers (i.e., the Insiders), which provides the Insiders with the bargaining power (Lindbeck and Snower 1986). It is often the

wage and employment status of workers that are being negotiated. The Insider-Outsider theory focuses on how labour turnover costs allow Insiders to raise their wages to the extent where this change does not affect their turnover costs that may encourage employers to substitute them with Outsiders (Lindbeck and Snower 1988; 2001). Thus, although the Outsiders do not have a part in the negotiation process, their role as an alternative or substitute creates conflicting interests (Lindbeck and Snower 1986) and it puts Outsiders in a more disadvantaged position as the market power increases for Insiders.

How does the market power affect Outsiders and general (un)employment rate? Insider-Outsider theory argues that the conflict between the interests of Insiders and Outsiders eventually leads to the involuntary unemployment (Lindbeck and Snower 1986). Insiders use their market power to raise their wage, making it difficult for firms to hire more workers (Lindbeck and Snower 1986). The impact is reinforced as the underbidding is discouraged due to the possible non-cooperation by the Insiders towards the underbidding entrants (Lindbeck and Snower 1986; 2001). As a result, involuntary unemployment increases, and Outsiders are bound to accept 'bad jobs', restricted opportunities or choices, and/or unequal rewards for their individual attributes (Lindbeck and Snower 1988; 2001; 2002). This explains the persistence of high unemployment rate even after recovering from the economic recession (Blanchard and Summers 1986). The Insiders' effort to maintain their secure status in the firms during and after the time of high unemployment rate could have contributed to the high unemployment rate even after economic recovery.

Lindbeck and Snower (1988;2001) also connect the Insider-Outsider theory with the Labour Market Segmentation theory. They argue that the secondary labour market could be included as part of the Outsiders assuming that the workers in secondary labour market prefer

to enter the primary labour market (Lindbeck and Snower 1988). The secondary labour market is linked to the unemployed (or Outsiders) considering the limitations in the choices they have. Moreover, they attempt to explain some aspects of Dual Labour Market theory through labour turnover costs. They argue that primary workers have higher turnover costs than secondary workers, whereby the former have greater market power than the latter (Lindbeck and Snower 1988; 2001). The difference in market power among workers within same firms could be associated with having strong unions and collective bargaining, wage differentials, and the seniority, which is one of the key features of the primary labour market (Lindbeck and Snower 1988; 2001).

One of the most important contributions of the Insider-Outsider theory in the labour market division literature is the realisation of conflicting interests among workers, more specifically between the Insiders and Outsiders. It argues that while the unions and the centralised collective bargaining increased the market power for the Insiders, they may have contributed in Europe's comparatively less successful recovery from the recession compared to the United States in the 1980s (Lindbeck and Snower 1987). However, Blanchard and Summers (1986) argue that the effects of the Insider-Outsider divide are more prominent in the 'bad times,' and the role of unions is not crucial, after examining the hysteresis in terms of the European and United States unemployment rates. They argue that cases where the union roles are relatively smaller, such as the United Kingdom or the United States, unions play an insignificant role in explaining the persistence of unemployment rate (Blanchard and Summers 1986). Thus, although the unionised workers have stronger market power, it is the Insider position itself rather than the unionisation that is associated with the market power explained in the Insider-Outsider theory.

Compared to the early theories on the labour market segmentations, Insider-Outsider theory places greater focus on the division amongst the workers (including both the employed and unemployed) rather than the division at the market level and the role of employers. The main actors in the Insider-Outsider theory are the Insiders whose interests are in conflict with Outsiders, and therefore become more advantaged as Outsiders become more disadvantaged.

3. Varieties of Capitalism theory

Although Varieties of Capitalism (hereafter VOC) has its focus on the comparative political economy rather than the labour market division itself, it had been influenced by the previous theories discussed and provided a foundation for the Dualization theory that is discussed in the next section. They use the terms 'Insiders' and 'Outsiders', from which we can infer that the theory has the idea of labour market division as its premise in understanding the labour market. Moreover, VOC furthers the discussions initiated by Lindbeck and Snower in explaining the labour market division through factors such as skills formation, unions, and costs. This section examines the main ideas of the VOC literature and how it has connections to the literature on labour market divisions.

VOC aims to provide theoretical framework to explain cross-national variations found among the advanced capitalist political economies (Hall and Soskice 2001). It aims to explain why the different political economies respond differently to similar crises, and at the same time show stability in their political economy. It argues that there are two ideal types of political economy between which the capitalist societies lie, which are the Liberal Market Economy (hereafter LME) and Coordinated Market Economy (hereafter CME) (Hall and

Soskice 2001). The United States is considered to be the typical case of LME, whereas Germany and other continental European countries are considered to be the typical case of CME. Underlying mechanism behind this division among capitalisms has to do with institutions, or more specifically, how different set of institutions combine to shape an economy. It focuses on firms' behaviours on the production strategies, which is considered to be determined by a set of both the market and non-market institutions that are interconnected and complementary to one another (Hall and Soskice 2001). The institutions considered in the literature are industrial relations, vocational training and education, inter-firm relations, corporate governance, and coordination with employees. LME is shaped by the competitive market arrangements, which is unstable and thus gives less incentives for the employers to form long-term relationship with the workers. On the other hand, CME is characterised by the coordination of the market and non-market relationships, which gives them relative stability to invest in long-term relationship with the employees. Labour market is often more flexible in LME than CME, and LME tends to be based on the general skills of the workers, which can be acquired through general education not specific to certain firms or industries, whereas the CMEs are more based on the firm-specific or industry-specific skills.

Another important aspect to consider in VOC is the relationship between the market and social policy (Estévez-Abe, Iversen and Soskice 2001). Before the VOC, welfare state literature emphasised the role of social policy against market (e.g., Esping-Andersen 1990). On the contrary, VOC suggests that social policy is one of the institutions that create certain political economy, that is complementary to the existing market arrangements (Estévez-Abe, Iversen and Soskice 2001). They argue that firms are one of the major actors that have led to the introduction of social policies, by focusing on the relationship between the skills

formation strategy and the employment and unemployment protection policies. Four types of relationship are proposed. First, in countries with market based on industry-specific skills, workers tend to move around within certain industry, so the employment protection tends to be low and the unemployment protection tends to be high. Second, in countries with the firm-specific skills, both the employers and the employees prefer to have a secure employment relationship in the same firm, which leads to high employment protection. Since the employment protection is high (thus work as an unemployment protection in a sense that the workers will not become unemployed), actual means of unemployment protection tends to be low. This is considered to be the case of Japan and South Korea. Third, there are cases of high protections for both employment and unemployment (e.g., Germany), where the required skills are both industry-specific and firm-specific. Fourth, the opposite would be the case of the United States, where both protections are low. This system is possible because the market is heavily based on general skills.

Diverging from the conflict theorists who focused on the conflicting employer-employee relationship, VOC puts more emphasis on the coordination between the employers and employees. They suggest that the employees and employers may not always have conflicting interests and it is the coordination between the two that creates certain patterns and structures that lead to certain political economy, especially in the CME. This is closely linked to the Insider-Outsider theory which emphasises the negotiation between the Insiders and the employers that enhanced Insiders' protection from the insecure labour market of the Outsiders. The two ideal political economies can also be used to explain the puzzle Insider-Outsider theorists aimed to answer – namely, the differently trajectories of employment rates between the post-crisis United States and Europe. VOC can be useful in explaining how the

internal labour market is formed especially in the CME. CME is often characterised by the long-term employment relationship and institutions that give workers incentives to remain in the same firm, such as seniority-based wage and promotion system, corporate welfare, and strong social insurance system attached to employment status. These are what could be called administrative rules of internal labour market from the early literature on the labour market segmentation. However, questions still remain as to the explanations of Insider-Outsider divides in the United States, which according to VOC would be less likely the case.

4. Dualization theory

Building on the previous theories discussed above, scholars have reported on the dualization of the labour market (e.g., Emmenegger et al. 2012a; Palier and Thelen 2010) to explain the labour market inequalities found in post-industrialised societies since late 1990s, as we see increased non-standard employment relationships. Post-industrialised societies are often characterised by de-industrialisation, globalisation, increase in female labour market participation, and changing family structure. The theory focuses on the expansion of the labour market inequalities that are characterised by increasing unemployment (especially the long-term) and non-standard employment relationships (Emmenegger et al. 2012b; Eichhorst and Marx 2011; Palier and Thelen 2010; Rueda 2005; Schwander and Häusermann 2013). What was especially puzzling was the persistence of inequality despite the development of welfare states in Europe, which deviated from the expectations for welfare states in alleviating inequality through their redistributional social schemes (Eichhorst and Marx 2011; Palier and Thelen 2010; Rueda 2005; 2006; 2012; 2014).

Dualization theory furthers the existing theories by incorporating the roles of dualized institutions that divide the labour market into two – namely, Insiders (who often have relatively high job security) and Outsiders (those outside of that security) (Emmenegger et al. 2012b). Scholars have argued that political process or changes in policies could lead to worsening the existing division, widening it through having more Insiders to become Outsiders, or even creating new divisions (Emmenegger et al. 2012b). Thus, dualization is not an outcome, but a process in which politics and the 'policy outputs' in the form of institutions (which are affected by the politics) lead to actual 'divides' in the society ('outcome') (Emmenegger et al. 2012b, p.11). Structural drivers, such as the increase in global competitions and decrease in the manufacturing sector (or increase in the service sector), can lead to changing the collective bargaining system from being universal to being specifically applied to firms or certain industries (Palier and Thelen 2010). This could lead to unions representing certain groups of workers, thus leading to dualization in the industrial relations, which can dualize the labour market (expanding Outsiders to protect the core workers) and the welfare policies (dividing the system between the Outsiders and the Insiders) (Palier and Thelen 2010). Thus, institutions can dualize the Insiders and Outsiders in terms of accessibility or applicability of the policies (namely, the 'institutional dualism'), which could result in greater divisions within the labour market (Emmenegger et al. 2012b). Thus, dualization theory examines labour market division at a more macro-level with emphasis on the role of institutions. Below is the theoretical framework provided in Emmenegger et al. (2012b, p.11).

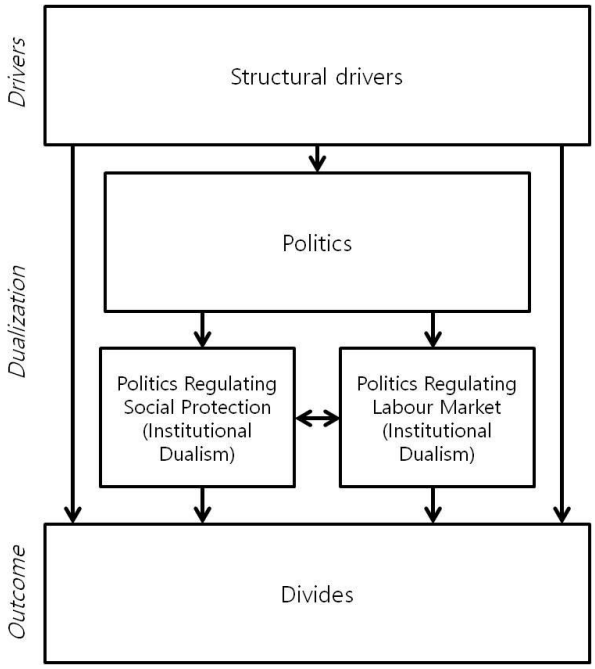

Diagram 1 Theoretical framework of Dualization theory

Dualization theory expands our understandings of how the labour market is divided. One key aspect of this is that the theory elaborates the definition of Insiders and Outsiders to incorporate the changing nature of post-industrial labour markets, that goes beyond one's employment status (i.e., employed vs unemployed). As discussed above, in the Insider-Outsider theory, labour market is divided primarily by the employment status (Lindbeck and Snower 1986). In Dualization theory, Insiders are those with typical employment relationship of the Fordist era, characterised by full-time, fully insured, and with secure or stable employment relationship (Emmenegger 2009; Eichhorst and Marx 2011; Palier and Thelen 2010; Rueda 2005; Schwander and Häusermann 2013). In turn, Outsiders are referred to as those who are not Insiders, including the workers with non-standard contracts, based on the idea that they are more at-risk of being unemployed or insecure. Non-standard jobs, which have increased rapidly since the 1980s and mostly in 1990s in most post-industrialised

societies, are characterised as more flexible (and less secure) and operating with different rules from the 'standard jobs' of the industrial period (Palier and Thelen 2010). Rueda (2005) argues that it was the increase in unemployment and non-standard work after the oil shock (along with the Insiders' protection achieved through the labour movements until early 1970s) that have led to the labour market division. Non-standard jobs are often simplified either part-time or temporary (fixed-term) jobs (Emmenegger 2009; Rueda 2005; 2006), and sometimes even those helping family members (Schwander and Häusermann 2013).

Some scholars further this debate by suggesting different aspects of Outsider-ness, to gain a more precise and accurate understanding of who the Outsiders actually are (Chung 2019b; Rueda 2005; Schwander and Häusermann 2013). Rueda (2005;2006;2012;2014) argues that there are two aspects of Outsiders, and they are 'precarious nature' of employment in terms of wage, protection, and rights, and the 'involuntary nature' of the jobs, although more emphasis is on the former (Rueda 2014). Based on this idea, he considers those who voluntarily hold non-standard contracts and do not want a full-time or permanent job as Insiders. Moreover, Häusermann and Schwander (2009;2012) argue that the Outsiders are not a homogenous group, taking a risk-based approach defining the Outsiders as those who are at higher risk of being unemployed or in non-standard employment. They also use a continuous measure of 'outsiderness' – namely, the degree (of the risk) of vulnerability to unemployment and atypical work compared to average vulnerability – in addition to using the dichotomous approach (Schwander and Häusermann 2013). This is useful to capture the (in)securities that the labour market status may not capture, especially the temporariness of the insecurity. Biegert (2014) examine this through examining the mobility between one's Insider/Outsider status using longitudinal data, while limiting the definition of Outsider as

the non-standard workers. Chung (2019) then argues the need to examine subjective insecurity to identify the actual experience of the workers that the objective measure may not capture.

How then does the labour market become divided? As discussed above, Dualization theory brings attention to the welfare policies and the politics around it, and argue that they shape the dualized structures in the labour market. A number of scholars have found it puzzling when significant reforms towards deregulation took place in Western European welfare states post oil crisis, deviating from their welfare regime typology (Emmenegger et al. 2012a; Palier and Thelen 2010; Rueda 2006), due to which some scholars questioned the convergence to American or neo-liberal welfare model (Andrew Glyn 2006 cited Palier and Thelen 2010 p.120). However, although the continental European countries did go through some policy reforms that are less 'solidaristic' or egalitarian than it used to be, it was not as 'harsh' as the American or neo-liberal model (Palier and Thelen 2010). Instead of going through liberalization, continental European countries, such as Germany and France (i.e., CME), have managed to maintain employment protection and regulation for certain workers (Palier and Thelen 2010). This led to a new equilibrium of dualized labour market between the protected standard workers and the non-standard workers who are often excluded from such protection. Scholars found that it was the countries with stronger protection for the workers (through regulations and unions) that was able to develop a more dualized labour market (Palier and Thelen 2010; Rueda, Wibbels and Altamirano 2015). It is because the dualized structure was created as they protect the core workers from the flexible neo-liberal market (Rueda, Wibbels and Altamirano 2015). Contrasting cases are the countries that are often categorized as the liberal welfare states or the LME whose labour market in general are

more flexible and insecure. However, this does not necessarily mean that there is no division or dualization in the labour market, instead the patterns might differ (Yoon and Chung 2016). This is further discussed in the next section in this chapter.

Building on the Insider-Outsider theory, Rueda (2005;2006) discusses how the conflicting interests between the Insiders and Outsiders can lead to conflicting preferences for policies. He argues that in the dualized labour market, the Insiders support employment protection or job security policies whereas the Outsiders support unemployment schemes such as the passive and active labour market policies according to their interests (Rueda 2005; 2006; 2014). As the Insiders have more political power compared to the Outsiders, these conflicting policy preferences could lead to the policy reforms more favourable to the Insiders than the Outsiders, which can eventually cause a more disadvantageous labour market environment for the Outsiders (Rueda 2005; 2006). However, Emmenegger (2009) criticizes this by arguing that it is difficult to assume that it is 'rational' for the Outsiders to be against the job security policies (which in Rueda's terms are the policies for Insiders). This is because deregulation of job security could also affect the Outsiders negatively, as they would want secure jobs eventually. On the other hand, Insiders are not necessarily all 'secure', as the increasing flexibilization and deregulation of the labour market could also lead to some of their income loss (Weisstanner 2020) and sense of job insecurity (Klandermans and van Vuuren 1999; Klandermans, Hesselink and Van Vuuren 2010; Reichert and Tauchmann 2017). Insiders can, thus, have an "ambiguous attitude towards dualization" because undermining the situations of the Outsiders could lead to the undermining of general labour market and affect them (Eichhorst and Marx 2011, p.75). Thus, although Insiders, often represented through the unions, had their role in dualization in the

period of expanding flexibilization, it is difficult to conclude that the Insiders and the Outsiders will necessarily have conflicting interests.

5. Diversity of labour market divisions

The theories discussed in the above sections start from certain presumption of how the labour market is divided, as their primary concern was to explain/understand why we see certain labour market inequalities. However, recent studies question such assumptions as they may not fully capture the complexity of the actual labour market and only highlight certain aspects of it. The inclusion of non-standard employment in the operational definition of an Outsider (Rueda 2005) has had important implications for understanding post-industrialised societies, that having a job does not necessarily guarantee security in the labour market (as opposed to the industrialised society where the labour market insecurity was more closely linked to being unemployed or in informal work – thus, not in wage work). Nevertheless, this definition is limited in incorporating various labour market insecurities that the employment type alone cannot capture. For instance, having low income and subjective insecurity does not necessarily coincide with having non-standard employment (Chung 2019b), especially for women (Eichhorst and Tobsch 2015). This criticism led to recent studies using different indicators to define an Outsider, such as one's individual characteristics (i.e., gender, age, skill level) (Schwander and Häusermann 2013), labour market status (i.e., different non-standard employment arrangements) (Emmenegger 2009), and risks both objective (i.e., low income) (Yoon and Chung 2016) and subjective (i.e., perceived insecurity) (Chung 2019b). Eichhorst and Marx (2012) also presented different

types of labour market Outsiders in Bismarckian welfare states, that have emerged from the cost-reduction strategies of the employers, such as the dependent self-employed, the low-income and the government sponsored employees who tend to have low prospects for advancement.

Considering the increasingly diversifying post-industrialised labour market, the assumption of 'dual' labour market has also been questioned (e.g., Jessoula, Graziano and Madama 2010; Lukac, Doerflinger and Pulignano 2019; Yoon and Chung 2016). Based on the income protection for unemployment, Jessoula et al. (2010) argue that there is a third group of workers in between the Insiders and Outsiders in Italy – the 'Mid-siders'; and based on the perceived employment security and the quality of employment, Paugam (2007) came up with four types of jobs: 'non-precariousness', 'instability-good quality', 'stability-poor quality' and 'instability and poor quality'. Some recent studies used latent class analysis with several indicators of labour market Outsider-ness/insecurity to examine labour market divisions. For instance, Yoon and Chung (2016) found a third segment in the UK labour market, which they call 'future insecure' (based on their insecurity in pension coverage despite their current employment security). Lukac et al. (2019) categorized the seven segments they found into three groups: 'managerial,' 'standard' and 'disadvantaged' based on the data from eleven European countries. Rather than starting from assumptions on certain types of labour market divisions, these studies empirically examined how the labour market is divided. This approach of labour market analysis is especially useful in cross-national comparisons. The assumption of labour market division based on the employment contract may not apply to different contexts. For instance, the United Kingdom and Southern

European countries show generally low employment protection, yet it does not mean that they have a non-dualized labour market (see Prosser 2016; Yoon and Chung 2016).

6. Conclusion

The literature on labour market division examined in this chapter provides an overview of how the labour market changed over time in different countries, and institutional explanations as to how its divided structures have been shaped. The Labour Market Segmentation theory sheds light on the divided nature of labour market, which was due primarily to the creation of internal labour markets that led to (two) non-competing labour markets (Doeringer 1967; Doeringer and Piore 1971). Building on that, Insider-Outsider theory focused more on the behaviour and the role of actors in the labour market, more specifically the Insiders, which contributed in maintaining and even enhancing the labour market division between the employed and the unemployed. In the firms where there are unions, Insiders mostly composed of unionised workers, whose collective power led to greater market power that benefited the Insiders while limiting the Outsiders in the most disadvantaged position (Lindbeck and Snower 1988). This influenced the idea of VOC (Hall and Soskice 2001) as it gives attention to the cooperation between the labour (usually the Insiders) and the employers. VOC furthers this debate by explaining how Insider-employer relationship could vary depending on the political economy of a country. Dualization theory focuses on the process of dualization, where the dualized policies and politics lead to the dualized labour market (Eichhorst and Marx 2011; Emmenegger et al. 2012a; Palier and Thelen 2010; Schwander and Häusermann 2013). Their notable contribution in

understanding the post-industrialised societies is the inclusion of non-standard employment contracts as part of the Outsiders (starting from Rueda 2005). On the other hand, some recent studies have argued that a presumption of certain labour market division may posit bias in capturing the actual labour market structure and provide a limited understanding of the role of institutions (e.g., Lukac, Doerflinger and Pulignano 2019; Yoon and Chung 2016). Instead, they take a new approach in understanding labour market division by empirically examining the labour market division from the data. This new strand of literature has opened up a new debate in the labour market division without limiting it to the employment status or contract types, and a potential for examining cross-national variations in the patterns of labour market segmentation and precarisation that are not limited to dual division of the labour market. This approach can also capture the labour market patterns that cannot be explained through the existing theories.

There are two limitations in the literature examined in this chapter that this thesis aims to address. Firstly, the literature is often based on the assumptions that are implicitly masculinist. The existing literature on labour market segmentation (as well as the theories that were influenced by it) as based on the cases of male manufacturing workers, who were more likely to be working in the formal sector, included into the internal labour market and thus be unionised, than women. Although there has been an increase in women's labour market participation rate, the 'protected core workers' discussed in the Dualization theory often refer to those in the male-dominated sectors. Moreover, there has been a lack of attention to different labour market experiences between women and men that are also associated with their different life course trajectories. For instance, women are much more likely to work part-time and be in low-income jobs without prospects for advancement

regardless of their security in the employment (Chou et al. 2017; McRae 2003; ILO 2019). Thus, the assumption of certain labour market patterns and analytical framework (of Insiders vs Outsiders) derived primarily from male workers may "falsely univesralis[e] implicitly masculinist" (Orloff 2009, p.319) labour market structure and lead to biased understandings. Using this implicitly masculinist lens, our interpretations may be limited to 'othering' or 'invisibilising' any experiences or employment trajectories that deviate from what is assumed.

The labour market is gendered, with women's higher likelihood of being unemployed and atypically employed (e.g., Esping-Andersen 1999; Schwander and Häusermann 2013). However, more needs to be known as *to how the labour market is gendered and how it becomes gendered*. With the aim to answer these questions, this thesis takes the approach from the recent studies (e.g., Lukac, Doerflinger and Pulignano 2019; Yoon and Chung 2016) that is discussed in the Diversity of Labour Market Divisions section above. It is useful tool to reduce the potential gender bias existing assumptions of labour market division may have by empirically deriving the labour market division from the data. How I do this is discussed in Methodology chapter. While I take this approach, I use the other theories discussed in this chapter as theoretical background, and mainly the Dualization theory for the theoretical framework. More specifically, I use the conceptual framework of Insiders-Outsiders to refer to the workers' relative labour market positions, and the institutional approach to explain the cross-national variations in the gendered labour market patterns.

Secondly, with relevance to the previous point, there is a lack of attention to the institutions around family in the dualization literature. One of the key arguments of the Dualization theory lies in the role of institutions in shaping the process of dualization – namely, how the welfare state has led to the divided labour market. However, the institutions

they examine have been limited to the welfare and labour market institutions, without taking into account the role of family and the relevant institutions. As has been pointed out in the welfare state literature (Lewis 1992; Orloff 1993), family is an important institution especially when considering the different life course and employment trajectories of women and men. Women tend to opt out of the labour market or enter part-time jobs due to childcare (Chou et al. 2017; Drobnič, Blossfeld and Rohwer 1999) and their income gets negatively affected as they become mothers (i.e., motherhood penalty) (Budig and England 2001; Sigle-Rushton and Waldfogel 2007). In recent decades, we have seen growing emphasis on the work-family balance policies which explicitly promote mothers' inclusion into the labour market. Studies have shown that these policies have been associated with increased women's labour market participation (see review in Hegewisch and Gornick 2011). Family policy, especially those that target work-family balance, also reflects as well as influences the gender norms in the society especially on mothers' (and women's) employment (Misra, Budig and Boeckmann 2011; Pfau-Effinger and Smidt 2011). Thus, family and the institutions around it are of crucial importance in understanding the labour market structure, and explaining women's relatively disadvantaged position found in the divided labour market, and will need to be included as part of the Dualization theory as it discusses the role of institutions.

Before getting into how I examine the gendered labour market patterns across Europe and the impact of family policy, the next two chapters discuss how the gendered patterns in the labour market can be understood with relevance to dualization, and how family policy may shape such patterns based on the gender and family policy literature.

III. Gendered patterns in the dualized labour market

The labour market is gendered, and this is often supported by women's higher likelihood of being unemployed and atypically employed (e.g., Esping-Andersen 1999; Schwander and Häusermann 2013). However, when we say the labour market is 'gendered', it includes broader range of structural differences/inequalities based on gender that incorporate both horizontal and vertical segregations in the labour market as well as the different experiences of precariousness between genders. Combining this with the framework of dualized labour market (i.e., Insider-Outsider), this chapter discusses the gendered patterns in the dualized labour market along three themes that are derived from the literature review: 1) dualized patterns among women, 2) women's overrepresentation among the Outsiders, and 3) gender differences in the Outsider-ness. By providing a review of the literature under these themes, this chapter aims to gender the labour market division literature to incorporate gender differences and female-dominated sectors (i.e., service industry). This chapter focuses on the Outsider-ness rather than Insider-ness, because this thesis aims to identify the different Outsider risks across genders. Gender differences in the Insider-ness is another important aspect of gendered patterns in the dualized labour market, especially considering the glass ceiling that hinder women from reaching the top, but is not included in this chapter to specifically focus on the Outsiders.

This chapter is structured as following. I first provide a review of the early literature on the labour market segmentation that has debated whether or not we can find labour market division for women as we did with men or male-dominated sectors. This literature was built under the context where the existing literature primarily (and almost entirely) focused on the

cases of men. Despite their significant contribution to knowledge in understanding labour market patterns for women, their interpretation of the findings were limited to the existing assumptions of 'dual' labour market based on the cases of male-dominated sectors. Then I introduce relatively recent debates around gendered patterns in the labour market that include both women and men. The second section reviews the studies that examined women's overrepresentation in the Outsider jobs. In this section, previous studies that show women are more likely to be Outsiders compared to men and its cross-national variations are discussed. In the third section, I discuss the gender differences in the Outsider-ness. This section emphasises how women are more disadvantaged than men even within the Outsider jobs, and how the Outsider risks vary across genders. Next, I discuss some explanations for the gendered patterns in the labour market, focusing on how mothers become Outsiders (i.e., motherhood penalty) and how women as a whole (i.e., including the women without care responsibilities) tend to be Outsiders, focusing on occupational segregation by male- and female-dominated jobs.

1. Different gendered patterns in the labour market

1) Dualization patterns amongst women

Reich, Gordon and Edwards (1973) were among the first scholars to include gender perspectives in the discussion of labour market segmentation, maintaining that gender can also be a source of segmentation. As examples, they mentioned the occupational segmentation, wage gap, and how 'female jobs' are mostly limited to 'serving' roles within the firms, which can then be extended to service jobs. In line with their theory that

segmentation was the result of employers' strategy to de-unionise the workers, Reich, Gordon and Edwards (1973) saw gender segmentation as one of the strategies that employers used. They argued that employers strategically included women in the division process and created the jobs specifically for women (female-dominated jobs that are usually closely related to what is considered to be the 'traditional' female role), because of the weak negotiation positions women and the nature of those jobs had (Reich, Gordon and Edwards 1973).

Nevertheless, the literature continued to be heavily based on the types of jobs mainly held by men, because the internal labour market was most likely to be found in the large firms in the male-dominated private sectors such as the manufacturing. Some argued that women's labour market does not show the signs of segmentation as men's (Dickens, W. and Lang 1993). They argued that unlike men's labour market which shows clear division between primary and secondary markets based on the Dual Labour Market theory, women's labour market (or what they refer to as 'pink collar jobs') showed obscure division. Women's labour market had the characteristics of both primary and secondary jobs, such as being in large firms in the primary market (primary) with higher education associated to better jobs (primary), yet previous experience being less significant in determining positions (secondary) and being 'typically dead-end' jobs (secondary). In addition, some also found that almost all women over the age of 30 were in the secondary market (Friedberg, Lang and Dickens 1988 cited Meyer and Mukerjee 2007 p.302).

Some scholars contested these analyses and argued that women's labour market also shows segmentation patterns (e.g., Ghilarducci and Lee 2005; Meyer and Mukerjee 2007). For instance, Ghilarducci and Lee (2005) examined the existence of non-competing markets

for women in the United States. Unlike the other theorists that focused on wage differentials, they examined employee benefit (pension and health benefits, which they refer to as 'wage compensation') in addition to wage. They found that women's labour market does show the characteristics of segmentation, but it is different from that of men (Ghilarducci and Lee 2005). What they found was that when focusing on wage differentials, the segmentation among women is not as clear as men, but the segmentation was more clearly found when it comes to pension and health benefits amongst women[6]. On the contrary, Meyer and Mukerjee (2007) found two wage setting mechanisms amongst women. The two groups divided by the wage level (i.e., high and low wage sectors) was found to be determined by the time out of the labour market, not necessarily by the education level (i.e., human capital). Career interruptions led to penalties for high wage sector, and tenure led to rewards in low wage sector (Meyer and Mukerjee 2007). They also pointed out that the study by Friedberg et al (1988 cited Meyer and Mukerjee 2007 p.302) is limited in taking into account women in their 20s and the career interruptions women tend to experience with marriage and childbirth.

These debates have several important implications for the labour market analysis today. Firstly, we need to be cautious of the gender bias of the assumptions we have. With the assumptions and findings based on the cases of men, some early scholars have argued that the labour market segmentation is non-existent amongst women, without taking into account different segmentation patterns that is not limited to wage differentials or human capital. This is a good example of falsely universalising the male experience, resonating with what was discussed in the Conclusion in the previous chapter. Secondly, that the labour market is divided by women and men – thus gendered. Although their interpretations have

[6] Note that segmentations were often examined based on the differences in wage setting mechanisms.

been contested, findings by Friedberg et al discussed above allows us to infer that in a segmented labour market women are more likely to be in a more disadvantaged position than men. This is discussed further in the next section. Thirdly, labour market segmentation patterns may be different for women and men. This is similar to the first point made that we cannot assume the segmentation patterns – namely, how it is divided and why – to be the same for women and men. Even in the same segment (whether that is Insider or Outsider, primary market or secondary market), the risks they have may vary. This is discussed further in the section following the next section.

On the other hand, it is important to note that the early studies are heavily based on the manufacturing sector, and is limited in providing explanations for the service industry, which is female-dominated. According to a comparative study based on service sectors, Germany and France went through different dualization patterns (Kroos and Gottschall 2012). Germany was found to be more dualized in terms of wage allocation, access to public protection, and the provision of training whereas in the manufacturing sector the division was formed primarily between different employment relationships. It provides an important insight that the dualization patterns found amongst women (or female-dominated industries) might differ from the ones found amongst men (or male-dominated industries), and the need to use various indicators to examine the different patterns. Thus, by including different indicators to examine the labour market division and its gendered patterns, this thesis is able to identify the various Outsider-ness that can capture the different Outsider risks of women and men, as well as of different industries.

2) Women's overrepresentation in the Outsider jobs

In a dualized labour market, Insiders often enjoy more advantages than the Outsiders, such as higher income, more job security, and more opportunities for advancement, and women are more likely to be the Outsiders (Davidsson and Naczyk 2009). This was hinted from early segmentation literature examined in the above section and Boston (1990). Boston found the segmentation between women and men, but also by their race (i.e., black vs white). Taking the intersectional approach, he examined earnings differentials for black women, white women, black men, and white men separately. Each group, although it varied in the degree, showed unexplained earnings differentials, which, according to him, was substantial enough to prove the existence of non-competing markets. As a result, he argues that the disadvantages experienced by women in the labour market could be explained through labour market segmentation – namely, the structural inequality that inhibits women from competing with men in the single market, not only through the discrimination by the individual employers.

In recent literature on dualization, gendered patterns are examined empirically based on the definition of Outsiders as those who are (or more likely to be) unemployed or atypically employed (e.g., Schwander and Häusermann 2013). They found that although there are cross-regime variations, in all regimes (Esping-Anderson's three welfare regime and the Southern European regime) women are generally at a higher risk of being Outsiders. According to Häusermann and Schwander (2009, p.31), young *female* low service workers are "not only potential [to be], but [are] actual outsiders." When examining the unemployment and atypical employment separately, they found that the low-skilled workers are more at risk of becoming unemployed, whereas women are more likely to become

atypically employed (Schwander and Häusermann 2013). Moreover, women are much more likely than men to work part-time and be in low-income jobs without prospects for advancement regardless of their security in the employment itself, especially during and after the years of childbirth and childcare (e.g., Chou et al. 2017; Drobnič, Blossfeld and Rohwer 1999; ILO 2019). It is also important to note that the 'feminine' or female-dominated (e.g., care work, service industry) jobs tend to be undervalued and low-paid (Levanon, England and Allison 2009).

However, as mentioned, cross-national variations do exist. Women's higher likelihood of being the Outsiders (namely, atypically employed or unemployed) are more prominent in the Continental and Nordic European countries (e.g., Germany, France), but the likelihood was relatively lower in the Liberal countries and Southern European countries (Schwander and Häusermann 2013). In Liberal countries, being low-skilled played similar role as being women in determining one's Outsider position, while similar was found with being young in the Southern European countries. As to the unemployment rate, women was found to show a higher unemployment rate compared to men in most European countries, while in the UK it was the opposite (Russell and Barbieri 2000 cited Davidsson and Naczyk 2009 p.12). Comparing France and Germany, French women in fixed-term jobs are more at risk of being unemployed or finding another fixed-term job compared to German women in the fixed-term jobs (Gash and McGinnity 2007)[7]. On the other hand, gender wage gap was much higher in Germany than France (Gash and McGinnity 2007). Nevertheless, as discussed in the previous chapter, the existing definition of Outsiders has limitations in

[7] It could be due to relatively better public protection for full-time working women in France than Germany (Gash and McGinnity 2007).

capturing the labour market patterns in countries outside of continental European countries, such as the UK (i.e., Yoon and Chung 2016). Thus, question remains as to either the liberal and Southern European welfare regimes do have less gendered Insider-Outsider patterns compared to others, or they still have strong gendered patterns but more based on income (or other factors) rather than employment relationships. What can be inferred from the previous studies is that women are at a higher risk of being Outsiders compared to men, yet the extent to which they are more likely to be Outsiders may vary across countries. In this thesis, I answer this by examining the extent to which women are overrepresented in the Outsider jobs and its cross-national variations, using the analytical framework that includes various labour market characteristics.

3) Gender difference within the Outsider jobs

While women are overrepresented in the Outsider jobs, some studies have shown that the Outsider risks they experience are different from those of the male Outsiders. As discussed above, women are at a much higher risk of becoming part-time workers, even in the Netherlands where the part-time job is considered more 'typical' (Plantenga 2002; Yerkes 2009). ILO (2019) shows how the risk of low-income is higher for women compared to men in most countries around the world even when focusing on the full-time jobs.

Even within fixed-term employment, women are often more disadvantaged than men in terms of their future risk of unemployment and getting another fixed-term job (Gash and McGinnity 2007). In other words, they are more likely to have another fixed-term job or become unemployed once having a fixed-term job compared to men. Biegert (2014)

examined the mobility between the divided labour markets, more specifically the likelihood of becoming an Insider from non-employment status, comparing Germany and the UK as opposing cases. In Germany, it is more difficult to leave non-employment status and more likely to obtain atypical jobs than in the UK, especially for women compared to men (Biegert 2014). According to Booth, Francesconi and Frank (2002), being temporary was more of a transitory status[8] in the 1990s UK, yet women's duration in the fixed-term jobs were longer than that of men. On the contrary, women were less disadvantaged for being fixed-term in terms of wage compared to men (Booth, Francesconi and Frank 2002). In other words, the wage gap between permanent and fixed-term workers was larger for men than women. However, the authors argue that this could be due to the high skill level of female fixed-term workers compared to the male fixed-term workers. They found that female temporary workers could also catch up with the permanent workers in terms of wage faster than male workers can, once they gain the permanent status, because the fixed-term jobs women are more likely to be in tend to be high-skilled or in public sector. Although the authors do not discuss this, we can also link this to the gender wage gap. Female permanent workers' average wage is lower than that of male permanent workers, so it is likely that 'catching up' would have different meanings between women and men.

Thus, in order to examine the gendered patterns in the labour market, we need to consider both women's overrepresentation in the Outsider jobs and the different Outsider risks between women and men, bearing in mind that the labour market segmentation patterns as a whole could also vary by gender. Both are explored in this thesis in Chapter 7. In the

[8] According to Gash, temporary employment was more of a bridge to a permanent employment than a 'trap' in France, West Germany, Denmark and the UK (Gash 2008).

next sections, I discuss some explanations as to why we see such gendered patterns in the labour market, with specific focus on why women become Outsiders. Some of the explanations that are mentioned above (e.g., motherhood penalty) are discussed more in detail.

2. Why is the labour market gendered?

As mentioned in Chapter 2, one of the most widely debated explanations for one's labour market position is the education level, based on the Human Capital theory (Becker 1993). In other words, one may have a more disadvantaged job (i.e., Outsider) because of their lower education level. Yoon (2015) also shows that, in the UK, chance of becoming an Insider gets higher with the higher education level. Thus, women's higher likelihood of being Outsiders may be due to their higher likelihood of having lower education attainment. However, while this may be true to some extent, the theory is contested as women continue to be overrepresented in the Outsider jobs despite the increase in their overall education level. From this we can infer that there needs to be other explanations as to why women become Outsiders, despite their generally high education attainment across Europe. In this section, I discuss two explanations, focusing on the motherhood penalty and occupational segregation. This thesis aims to provide the empirical evidence for women's relatively higher likelihood of being Outsiders and identify the gendered patterns in the dualized labour market, as discussed in the previous section. Explanations explored in this section and the next chapters can provide some theoretical background for us to interpret the findings later in the analytical chapters.

1) Outsider-ness as motherhood penalty

One of the major reasons that lead to women's Outsider-ness is the motherhood. Women and men tend to have different life course trajectories, especially with regards to family, which often leads to different labour market patterns. Women tend to experience higher likelihood of unemployment or part-time work especially during and after the years of childbirth and childcare (Chou et al. 2017; Drobnič, Blossfeld and Rohwer 1999). Low income is an important feature among mothers (Budig and England 2001), compared to both fathers and women who are not mothers (Sigle-Rushton and Waldfogel 2007). What this means is that even when women begin their career as Insiders, they may become Outsiders after they become mothers. Thus, while the childcare itself may change the parents' employment patterns to accommodate with the increased demands from home (i.e., chores, care), it has been women who are disproportionately affected by it. It is because they are considered to be the primary carer in most societies. Due to this reason, family structure or household characteristics is crucial in examining women's labour market trajectories and their position in the society (e.g., Orloff 1993).

This chapter focuses on two theoretical explanations for how mothers become Outsiders due to childbirth/care. Firstly, drawing from the Human Capital theory, the career interruptions experienced by mothers due to childbirth and care may impact their skills accumulation and as a result their earnings or career advancement. Although mothers' employment has increased over the last decades, childcare continues to be one of the major reasons for women's unemployment (e.g., Budig, Misra and Boeckmann 2016; Chou et al. 2017). It is because the childcare responsibilities are heavily placed on women in most households, and mothers are more likely than fathers to be in a position where they have to

choose between their jobs and family when it is difficult to balance them. This can be due to various reasons, such as time availability between the partners, differences in resources between the partners, but some scholars highlighted the importance of gender norms or "doing gender" (West and Zimmerman 1987). In other words, women tend to be the one leaving the job due to what is expected of them (as women) in the society – namely, the primary carer of the household. Since this thesis focuses on those currently working, the focus here is not those who left the labour market entirely but those who return after the 'break'. With the Insider jobs being built on the continued employment relationship between the employees and employers and the job ladder that is usually a part of that relationship (by definition), interruption in career means that you come down from the ladder. The longer the 'break', the less the skills accumulated (especially if the jobs required firm-specific or even industry-specific skills), and as a result less chance for them to re-join the ladder[9]. Thus, the career interruption due to childcare can lead to depreciation of skills, which then may lead to women becoming Outsiders, even when they started their career as Insiders.

Instead of leaving the labour market, mothers may find the jobs that can accommodate their family with work (or vice versa)[10]. Even when both partners work, women tend to take on much more 'routine' housework and childcare compared to men in heterosexual relationships, such as cooking and cleaning (Coltrane 2000). This often leads to having working mothers doing 'second shifts' at home after returning from work (Hochschild and Machung 2012). Due to this, mothers tend to find jobs that can accommodate the work at

[9] Leaving the job in one firm may not necessarily affect their career within the same industry if the skills they have is industry-specific. However, longer breaks can depreciate their skills in most cases (at least considered to be), and the jobs available may be the jobs that require general skills that are usually not Insider jobs.

[10] This can also be the case for those who return to the labour market after leaving their jobs but still has to balance family and work.

home – namely, part-time or flexible working. This takes us to the second explanation for mothers' Outsider-ness – that they may have to find or change to Outsider jobs to accommodate family responsibilities. This explains why we see higher likelihood of mothers in part-time jobs than other social groups in most countries (e.g., Chou et al. 2017). Although part-time work does provide opportunity to remain in the workforce and balance work and family, it is important to note that they are often marginalised even in countries like the Netherlands where it is more normalised (Yerkes and Visser 2006), and may maintain the gender norm where women are the primary carer. Along with flexible working, stigma is often attached to these working patterns, that the workers are not as devoted as the full-time workers, which may eventually have negative impact on one's career (Chung 2018b). The stigma often comes from the fact that it deviates from the idea of an ideal worker (Acker 1990), who is often characterised as those working long hours and always available. Although flexible working is not considered in this thesis, it is important to note its relevance to women's disadvantaged position in the labour market, as the stigma often stems from the fact that it is most likely the mothers who work flexibly. Thus, mothers' overrepresentation in the part-time of flexible jobs can be a result of the gender norms that expect mothers to balance work and family if they wish to work, but it also functions as a cause of the stigma attached to such working measures that disadvantage the workers in these jobs (most likely mothers). This then can lead to negative career outcomes such as the lack of job prospects and/or low-income.

On the other hand, mothers may also find the temporary jobs as they are not able to take all the responsibilities that the permanent jobs tend to require and also to gain more flexibility that the permanent jobs often do not have. Temporary jobs are not only insecure

in terms of job security but also do not add to one's career building in most industries[11]. As discussed above, career breaks (either due to changing the time/permanency of the contract or taking up a new job entirely) make it difficult (if not impossible) for workers to return to or join the Insider jobs which often require continued skills accumulation from long-term employment.

Some scholars argue that it is the 'preference' of mothers to work part-time or other precarious jobs to take their care responsibilities (e.g., Hakim 1998). However, this perspective has been contested as it does not take into consideration how the choice in the first place is constrained (Hobson 2011; McRae 2003). In other words, what seems to be a 'preference' may be the only choice within the context where they are expected to be primary carers.

On the other hand, gender norms that constrain mothers' choices can also impact working women without care responsibilities. It is important to note that women without family responsibilities still earn less than men (Sigle-Rushton and Waldfogel 2007), and women in general are more likely than men to work part-time even without caring duties (Yerkes 2009). It is because the socially expected trajectories that is different for women and men may lead to statistical discriminations that work against women and put them in a more disadvantaged position from the beginning of their career (Acker 1990; Reskin 1993). Statistical discrimination can be especially relevant to the national contexts, which is

[11] I emphasise 'most industries' here because it may not necessarily apply to some industries, such as the academia and IT industry, or the industries with project-based jobs that are inherently temporary. It is because in such industries, temporary jobs can contribute to one's career building. However, it needs to be noted that these are often high-skilled jobs which do not take up the majority of mothers working temporarily. Moreover, these jobs are not as flexible, especially considering the high level of workload and competitions associated with these industries.

discussed in the next chapter. The following section discusses other explanations for how women as a whole are more likely to be Outsiders, especially from the beginning of their career.

2) Outsider-ness as women's disadvantaged position

While motherhood is a critical point in women's life course that often creates gender gap in the labour market, it is important to note that inequalities still exist for all women (not limited to mothers) and from the beginning of and throughout their career. Women are more likely to have Outsider jobs compared to men, and as discussed in Chapter 2, it is difficult to (if not impossible) enter Insider jobs from Outsider jobs. Outsider jobs may be a stepping stone before entering the Insider jobs, but studies show that the insecurities experienced from being Outsiders tend to prolong until later in life, having scarring effect on the future career (Biegert 2014; Helbling, Sacchi and Imdorf 2019). Thus, Outsiders include both those who become Outsiders from Insiders and those who have been Outsiders throughout their career. It is important to understand women's overrepresentation in the Outsider jobs from both angles, and this section discusses it in terms of how women in general are more likely to be Outsiders, without limiting it to mothers. This section focuses on occupational segregation by gender with reference to the Outsider-ness of the service or female-dominated jobs. In other words, it discusses how the jobs that are more available or accessible for women tend to be the Outsider jobs. One of the important explanations is the discrimination – whether it be explicit or implicit, and this is not part of the main discussion in this section but rather implied. As mentioned above, the statistical discrimination by the employers is discussed further in the next chapter.

One of the explanations for gender gaps in the labour market has been the occupational segregation by gender (Reskin 1993). Occupational gender segregation can be understood in two ways in broad terms, which are vertical and horizontal segregations (Estévez-Abe 2006). Vertical segregation refers to the segregation by occupational status or classes (e.g., lack of women in managerial positions, overrepresentation of women in low-skilled jobs), while the horizontal segregation is often divided by industrial sectors (e.g., lack of women in manufacturing sector, overrepresentation of women in service sector). While the Insider-Outsider division can be understood as the vertical segregation (although not necessarily), gendered patterns in the labour market which puts women in the Outsider positions can be explained using horizontal segregation.

The rise of the service economy (and thus the expansion of the service sector) is one of the major changes brought by post-industrialisation, which is associated with the increase in women's employment rate. While the internal labour market in big firms (of Insiders) was often the case of manufacturing sector of the industrialisation period, the expansion of Outsider has been centred around the service sector. As mentioned, women have been more likely to be offered jobs that are associated with 'traditional' female roles (Reich, Gordon and Edwards 1973), such as care work and other service jobs, most of which are in (although not limited to) the service sector. This segregation is especially problematic as the jobs that are considered to be 'feminine' or female-dominated (e.g., care work, service industry) are most likely undervalued and low-paid (Levanon, England and Allison 2009). Devaluation of what is considered to be 'female' jobs leads to disadvantages for the people who have such jobs, who are most likely women. Consequently, this can lead to women's overrepresentation

in the Outsider jobs, and the Outsider jobs overrepresented in the female-dominated occupations/sectors.

According to the Dual Labour Market theory, demand for skill specificity and high productivity leads to the demand to build long-term employment relationship, consequently leading to higher wage or welfare that raise the costs in hiring and firing the workers. The nature of the service economy that does not produce certain commodities often makes it difficult to measure the productivity of such work which along with the stagnant economic growth and the economic crisis led to the less regulated (thus less protected) jobs in the service sector (see also Eichhorst and Marx 2012)[12]. The skills formation can also be linked to the bargaining power of the workers in this sector, as was discussed in the Insider-Outsider theory (Lindbeck and Snower 1986). The general skills required in the service sector (or at least considered to be) makes it easier for the workers to be hired but also be fired, especially with less regulation to protect the employment. It gives less bargaining power for the workers to improve or protect their jobs like the Insiders. Moreover, the trade unions were traditionally built from the male-dominated sectors, with the majority of the unionised workers being male (see review in Kirton and Healy 1999). The lack of unionisation or its limited power may have created more difficulty in protecting the workers within the sector,

[12] However, as discussed above, we see dualized patterns within the service industry, so not all service jobs are Outsider jobs. Existing literature on labour market division provides explanations for the increase in the non-standard working relationships with the expansion of service economy, but not the dualization within the service industry. Thus, as to why the dualization is found within the service industry, it could only be inferred that what was 'typical' in the industrial society could have influenced the formation of more protected internal labour markets within service industry. Another possible explanation is that the dualization can be an outcome of formalisation process of service work. In other words, it could be that as some service work, which is often undervalued and in informal sector, become more formal and valued in the labour market, the division might have occurred between those who became formalised and those who are not. Although this is an important research question to be explored, this is not discussed further in this thesis as it is outside of the scope of this thesis.

which may have eventually led to the increase in Outsiders among female-dominated sectors, and as a result, women.

Nevertheless, this does not necessarily mean that manufacturing sector jobs are not influenced by deregulation. With the unstable market, employers might reduce the workforce or hire less workers through standard employment contract. When it comes to the subjective insecurity, workers in manufacturing sector are more likely to be insecure than those in other industrial sectors (Chung 2019b). It can be because the reduction in the workforce and the increased probability of insecurity may lead to workers' subjective job insecurity (Klandermans, Hesselink and Van Vuuren 2010; Klandermans and van Vuuren 1999; Reichert and Tauchmann 2017). This is briefly discussed in Jaehrling (2017) that the increasing flexibilisation based on deregulation of non-standard workers also impacts the standard workers, by inducing their fear of losing their jobs. Similarly, Weisstanner (2020) found that the deregulation affects increasing wage inequality amongst Insiders, which may explain the divergence in the sense of security amongst Insiders. However, these risks may be quite different from those experienced in the service sector. Given that the manufacturing sector is male-dominated, we can assume that the Outsider risks may vary by gender if the occupational or industrial segregation is a major factor behind the gendered patterns in the labour market.

On the other hand, although there are cross-national variations, some service sector jobs are often part of the public sector, such as healthcare and education. Given that the public sector jobs are often associated with higher security in the employment and decent income, service jobs in some countries may not necessarily be associated with the Outsider jobs. Some studies have shown that the public sector jobs provide good working conditions for both

women and men, which has contributed in reducing gender wage gap in the Mediterranean countries, Ireland, and to some extent in the UK and Austria (Aláez-Aller, Longás-García and Ullibarri-Arce 2011). Moreover, while the public sector service jobs may not be the 'top' jobs (Mandel and Semyonov 2006), they also tend not to be the 'bottom' jobs as they are guaranteed certain level of working conditions (Korpi, Ferrarini and Englund 2013).

3. Conclusion

Labour market is dualized and gendered, and this chapter discussed how the latter can be understood in relation to the former – namely, how the dualized labour market in Europe is gendered. After reviewing the relevant studies, this chapter presents a conceptual framework of understanding the gendered patterns in the dualized labour market, based on the three themes found in the literature. First, dualized patterns can be found amongst women. The Labour Market Segmentation theory (and the theories that were built on it) was primarily based on the cases of male workers in the manufacturing sector. Some early scholars examined how then this theory can be applied to women, mostly on whether or not the dual labour market can also be found amongst women. The literature has discussed how women's labour market also shows segmented structure, which may not necessarily be the same as that of men. Second, labour market is gendered because women are overrepresented in the Outsider jobs. Women are more likely to be unemployed, atypically employed and low-income than men – thus, more likely to be the Outsiders in the labour market. Third, labour market is gendered because the Outsiders risks vary across gender. Women are at a higher risk of becoming part-time and low-income, and studies have shown that even in the same

positions (i.e., fixed-term employment), women tend to stay in the Outsider position longer than men. This indicates that even within the Outsider jobs, women are more likely to be at a more disadvantaged state.

How can we explain these gendered patterns in the labour market? In the second section of this chapter, I examined some studies that provide some explanations for women's higher likelihood of being Outsiders in the labour market. This does not take into account the national-level factors that are discussed in the next chapter. First, the gendered patterns can be explained through the motherhood penalty. Studies have shown that the motherhood is a critical point in women's life that tend to be associated with changes in employment status. Mothers tend to leave the labour market or take non-standard work to accommodate family responsibilities, while such tendency is not found amongst fathers. Thus, the motherhood penalty can be a factor that leads to women's higher likelihood of being Outsiders compared to men. Second, the gendered patterns may be due to deregulation ad devaluation of service jobs, which is female-dominated. In other words, the service sector has been more vulnerable to the deregulation and has been devalued historically, and women's overrepresentation in the Outsider jobs may be due to their overrepresentation in the service sector. The deregulation within the service industry can also be linked to the lack of bargaining power among the workers in the service industry or working women in general, due to the limited unionisation. Similar can be said about the skill level, as the higher skilled workers tend to have higher bargaining power than the lower skilled workers. However, the deregulation over the last few decades have also affected the male-dominated sectors, but in different ways from the service sector, suggesting the different Outsider risks for women and men.

Taking these factors into account, the next chapter discusses how the family policy impacts the gendered labour market patterns, focusing on women's higher likelihood of being Outsiders compared to men. Does family policy mitigate or enhance the gendered patterns in the labour market? Next chapter provides the theoretical background which may explain the cross-national variations in the gendered labour market patterns examined in this chapter. 'Gendered patterns in the labour market' and 'gendered labour market patterns' are used interchangeably in this thesis referring to the different gendered patterns in the dualized labour market discussed in this chapter.

IV. How family policy shapes the gendered labour market patterns

This chapter provides a review of the literature around the impact of family policy on women's employment patterns, with specific reference to the gendered labour market patterns discussed in Chapter 3. Through this, this chapter finds linkages between the dualization literature and family policy literature. It aims to expand the dualization theory/literature by incorporating institutions around family in explaining the labour market inequalities, especially across genders. As discussed in the previous chapters, while the literature touches upon women's overrepresentation in the Outsider jobs and the possibility of cross-national variations, more needs to be known as to how institutions shape such gendered patterns. Given that the family has a key influence on women's employment patterns, this thesis proposes a new theoretical framework of 'institutions regulating family' to analyse the gendered patterns in the dualized labour market. As a part of family institutions, this thesis focuses on family policy – more specifically the work-family balance policies. It is because these policies specifically target the labour market participation of working parents (especially mothers), and often reflect, if not strengthen, the cultural norms around gender and family, influencing and shaping women's employment patterns (Misra, Budig and Boeckmann 2011; Pfau-Effinger and Smidt 2011). The term family policy, used throughout this chapter, refers to the work-family balance policies.

Family policy has generally been associated with having positive impact on women's employment, as the studies show how it increased women's labour market participation and reduced motherhood penalty over the last few decades (see review in Hegewisch and Gornick

2011). While its impact itself – whether it be direct or indirect – has not been questioned, individual policies may have different impact on women's employment patterns (e.g., Misra, Budig and Boeckmann 2011). Depending on how the family policies are designed or the assumptions behind the policies, we can observe different behaviours of workers (e.g., Korpi, Ferrarini and Englund 2013) and employers (e.g., Estévez-Abe 2006; 2009) in relation to employment patterns. These can eventually shape the labour market structure, especially its gendered patterns. The policies may have direct impact on the changes in behaviours, but also indirect impact through statistical discriminations or changes in norms. Moreover, there may also be some unintended outcomes of the policies, where the generous family policy may limit women into 'female-type' jobs that are limited in reaching the top (i.e., in terms of advancement and earnings) (e.g., Mandel and Semyonov 2006). While family policy has increased women's labour market participation, more needs to be known about its impact on the quality of jobs and the general labour market patterns.

In this chapter, I review the literature on the impact of family policy on women's employment patterns with specific focus on their employment in the Outsider jobs. This chapter first discusses the impact of individual policies on women's higher likelihood of being Outsiders, focusing on mothers' employment patterns. It is organised into three sections based on the categorisation developed by previous scholars (e.g., Misra, Budig and Boeckmann 2011) and examine family policies based on their characteristics on what it facilitates/supports, namely: 1) work-reducing policies: mothers' leave, 2) work-reducing policies: fathers' leave, and 3) work-facilitating policies: childcare services. In the next section, I discuss the indirect impact of family policy on women's higher likelihood of being Outsiders. I focus on its impact on working women in general rather than limiting it to

mothers, with reference to the statistical discrimination[13] (focusing on the hypothesis from the Varieties of Capitalism literature) and Welfare State Paradox theory. As a result, this chapter provides an overview of how the family policy may impact women's relative likelihood of being Outsiders compared to men, which can potentially explain cross-national variations in the gendered labour market patterns. In this chapter, gendered labour market patterns (or gendered patterns in the labour market) is used interchangeably with women's higher likelihood of being Outsiders.

1. How family policy impacts mothers' Outsider-ness

There has been an increase in women's labour market participation over the last few decades, and family policy has had an important role in this change as it enables those with care responsibilities (especially mothers) to stay in the labour market. Family policies can be categorised into two dimensions. Firstly, there are policies that support parents to reduce work to take childcare responsibilities while guaranteeing their employment (and income in most countries) during this period. These are often in the form of leave policies, such as maternity leave, parental leave and paternity leave. Secondly, there are policies provided by the state that support parents to continue working, through the state taking the childcare responsibilities. It is often through the childcare services that are funded and/or provided by the state. Misra et al (2011) refer to these two types of family policy as the work-reducing and work-facilitating policies[14]. In both instances these policies promote the balance between

[13] Statistical discrimination is also briefly discussed in the first section

[14] Hook and Pettit (2016) also take a similar approach of categorisation, but refer to these as the policies that emphasise women's caregiving roles and the policies that emphasise mothers' employment.

work and family, especially for mothers whose employment is impacted by family/childcare responsibilities. This, as a result, has led to the increase in mothers' employment rate (see review in Hegewisch and Gornick 2011). Nevertheless, the impact of these policies on the gendered labour market patterns is not as simple or clear as its impact on the employment rate. In this section, I discuss how the two types of family policy impacts mothers' employment patterns and as a result shape the labour market to have more women in the Outsider jobs. Work-reducing policies in this section are divided into two sub-categories – mothers' leave and fathers' leave – as they have different impacts.

1) Work-reducing policies: mothers' leave

Some studies show that having generous maternity leave is often associated with reducing the motherhood penalties in working hours and wage (Budig, Misra and Boeckmann 2016; Misra, Budig and Boeckmann 2011). However, the short and long parental leave (i.e., extended leave, often given to mothers after maternity leave) are found to have less positive impact. It is because the short leave may facilitate women to return to the labour market sooner but may force them to find any jobs that can accommodate their childcare schedules, while the long leave may increase mothers' detachment from the labour market. In Sweden, women experience limited job advancement after returning to work after taking leave 16 months or longer (Evertsson and Duvander 2011). Morosow (2019) also finds that the short leave increases women's likelihood of leaving the labour market entirely (i.e., become inactive) (see also Keck and Saraceno 2013), while the long leave increases their likelihood of being unemployed even though they are in the labour market. Although, the findings in Keck and Saraceno (2013) show a slightly different picture, as they saw increased likelihood

of mothers' unemployment associated with short leave, but no clear association with the long leave. However, theoretically, the negative impact of long leave is expected to be due to skills depreciation followed by the long detachment from work and career interruptions. Long leave for mothers may also maintain gender norms for women to stay out of the labour market to take care of family (e.g., Budig, Misra and Boeckmann 2016; Misra, Budig and Boeckmann 2011). Hook and Pettit (2016) also find that the countries that developed policies emphasizing women's caregiving roles tend to show greater labour market segregation between mothers and non-mothers, suggesting greater motherhood penalty. As to those who leave the labour market due to childcare responsibilities and the lack of available job-guaranteed leave, they might return to the labour market but the new jobs are unlikely to be the same jobs they have left. As discussed in the previous chapter, career interruptions rarely work in favour of the workers, especially if the job requires continued skills accumulation. Thus, the workers who return after career breaks may end up taking general-skilled or lower skilled jobs. The barrier to entering an Insider job would be even greater in CMEs which is built upon the continuous employment relationship and maintenance of specific skills (Hall and Soskice 2001). As mentioned in the previous chapter, the career interruption is an important factor in determining wage for women – adding penalty for the higher income jobs and reducing rewards for the lower income jobs (Meyer and Mukerjee 2007). Thus, previous studies show that the length of leave for mothers, especially the parental leave, is an important factor in determining women's (especially mothers') employment patterns, and the countries with the moderate length of leave is expected to have a more positive impact on their employment as well as on reducing the motherhood penalty.

On the other hand, it is important to note that these mostly apply to the paid leave with benefit level sufficient to guarantee one's income security during leave. It is because even with long leave, if the leave is only paid for short amount of time, the effect might be similar to having short leave. Similar effects can be expected for the leave with benefit levels that are too low. This is especially crucial for the low-income mothers or those who do not have other financial means to support the living, as they may not afford the leave. Based on these, some scholars use effective leave or well-paid leave to take into account both the benefit and duration of leave. Effective leave is calculated through multiplying the duration of leave and replacement rate of the benefit (e.g., Kleinert 2018; Mandel and Semyonov 2006), and well-paid leave is calculated as the length of leave with replacement rate of 66% or more (e.g., European Commission 2010; Morosow 2019).

2) Work-reducing policies: fathers' leave

Fathers' involvement in childcare especially in early stage is another factor that can have a positive impact on women's continued employment after childbirth (e.g., Morgan 2009; Norman 2020). It shapes how fathers take up childcare duties in later stages of a child's life, which then can lead to equal share of childcare or housework (Bruning and Plantenga 1999; Gornick and Meyers 2003), reducing the burden of 'second shift' on mothers (see Hochschild and Machung 2012). Examining the Danish case over time, Andersen (20180 found that paternity leave is correlated with the increase in mothers' wage, which reduces the within household wage gap, eventually (potentially) leading to reduction of gender pay gap in the society. In order to promote this, some countries (e.g., Sweden and Norway) have earmarked certain period of parental leave to be reserved for the fathers which disappears if

they refuse to take it (i.e., 'daddy quota') (Rønsen and Sundström 2002). Long paternity leave can also indirectly reduce statistical discrimination of the employers. It is because taking child-related leave may become less associated with gender when fathers' involvement in childcare increases, and consequently prevent employers from discriminating against women. This is why it is important to consider the relative length of paternity leave to maternity leave rather than just focusing on the length of paternity leave (suggested in Andersen 2018). Statistical discrimination is discussed more in detail in the next section. Moreover, the level of benefit is also an important factor that may determine fathers' take up rate of the leave (Karu and Tremblay 2018; O'Brien 2009). It is especially the case for the households where men are the breadwinners, as the family may not be able to afford the leave if the benefit level is too low. Thus, it can be expected that the longer effective fathers' leave can reduce the extent to which women are more likely to be Outsiders compared to men.

3) Work-facilitating policies: public childcare services

Work-facilitating policies (i.e., full-time childcare coverage) are expected to have a positive impact on reducing mothers' likelihood of being Outsiders. Generous public childcare policy has been found to have a positive impact on mothers' employment and earnings (e.g., Budig, Misra and Boeckmann 2016; Keck and Saraceno 2013; Lefebvre and Merrigan 2008). Hook and Pettit (2016) also found that the countries with developed policies emphasising mothers' employment, motherhood becomes less of an issue in determining one's labour market position. It is because the public (or formal) childcare policy helps parents (especially mothers) with young children to return to work (Gornick 1999). Misra, Budig and Boeckmann (2011) find this to be especially true when it comes to childcare

services coverage for children under the age of 3 in childcare services. The lack of such services (especially public, given affordability) could lead to parents (especially mothers) changing their jobs to accommodate their life with work, or even start their career with the jobs that are more likely to guarantee that work-family balance (see review in Hegewisch and Gornick 2011). This is often the case for mothers who move to part-time jobs after childbirth, which is a trend we see in the UK and the Conservative welfare states, such as Germany and the Netherlands (Plantenga 2002; Pfau-Effinger 2012). I emphasise the positive impact of full-time coverage as the part-time coverage may enhance women's likelihood of going into part-time work. For instance, a case study in Quebec shows that there was a positive impact of full-time public day care services on mothers' labour market participation compared to the past when they had part-time or fewer services available (Lefebvre and Merrigan 2008). Thus, the higher full-time public childcare coverage is expected to reduce the gendered patterns in the labour market.

On the other hand, studies have shown that the childcare cost is another factor that needs to be taken into account. It is because the higher childcare costs are often associated with lower mothers' employment, especially for single mothers (e.g., Blau and Robins 1988; Han and Waldfogel 2001; Keck and Saraceno 2013). However, this is not considered in the main analysis because this thesis only focuses on the public childcare services which are most likely to be affordably priced if not free. It has also been found that the childcare costs do not have significant effect on mothers' decision to work in countries where they have more prevalent public childcare services (Del Boca and Locatelli 2006).

The family policy literature examined in this section shows how family policy may mitigate or enhance the impact of motherhood on mothers' likelihood of becoming Outsiders.

It depends on which policy we are focusing on and how it is designed, such as the duration of leave, benefit level, and childcare coverage. This is especially useful in understanding how women become Outsiders even if they start their career as Insiders. The direct impact of family policy to the Outsider mothers is not considered here as the family policy is expected to have a minor role to those who are already Outsiders even before entering motherhood.

The dynamics between the Outsider women and family policy when they become mothers are likely to differ from that of Insider women in most countries. Depending on eligibility conditions, the Outsiders may be excluded from the policy from design, or be more difficult to meet the eligibility criteria by not having enough continued working records. Some non-standard jobs may not be covered by the leave policies (e.g., zero hours contract in the UK and minijobs in Germany), which can be based on the legal coverage or the eligibility criteria. Chung (2018) also found that the Insiders had better access to family-friendly working time arrangements although cross-national variations can be found. Not having enough continued working records is especially the case for the temporary (agency) workers. On the other hand, as mentioned above, if the childcare services are expensive or the leave are unpaid or low-paid, it may not be possible for the workers from low-income household to afford the services and take time off from work. With the high cost of care, mothers may decide to stay home (if they cannot find other resources) to take the care role[15]. However, if the coverage of the policy is universal and the services are affordable, the leave policies could benefit the Outsiders as it guarantees job protection and income security.

[15] There are cash benefit systems to support mothers who stay home or are not eligible for the paid leave (which varies across countries), but some studies find that they have negative impact on women's employment (Hardoy and Schone 2008, Naz 2004, Rønsen 2009, Rønsen and Sundström 2002).

Questions remain as to whether family policy may impact women's higher likelihood of becoming Outsiders compared to men in general, without limiting it to mothers. In other words, does the family policy have an indirect impact on women entering the Outsider jobs? The question is further explored in the following section.

2. How family policy impacts women's Outsider-ness

As discussed in the previous chapter, motherhood is not the only factor that creates gendered labour market patterns. Women may become Outsiders from being Insiders due to motherhood, but they are still more likely to be the Outsiders from the beginning of their career compared to men (e.g., Sigle-Rushton and Waldfogel 2007; Yerkes 2009). In this section, I discuss the indirect impact family policy may have on all women's higher likelihood of being Outsiders, with reference to the Varieties of Capitalism (or statistical discrimination) and Welfare State Paradox theories.

1) Statistical Discrimination and Varieties of Capitalism

As briefly mentioned above when discussing fathers' leave policies, family policy may have an indirect impact on women's career through statistical discrimination. According to Varieties of Capitalism (VOC), depending on the skills formation strategies, employers' behaviour in hiring workers may vary. In Coordinated Market Economies (CME), where the industry often requires firm or occupation specific skills, career interruptions can have a detrimental impact on workers' skills. In these countries, women's higher possibility of career interruptions may affect the employers to avoid hiring more female workers in the first

place (Estévez-Abe, Iversen and Soskice 2001; Estévez-Abe 2006). From this perspective, family policy may have two contradictory indirect impact on women's employment.

Firstly, when the family policy is considered as an extra cost for hiring women compared to hiring men, it may add to the statistical discrimination employers' already have (Estévez-Abe 2006; 2009; Estévez-Abe, Iversen and Soskice 2001; Glass and Fodor 2011). Guaranteed leave for employers could mean that they will not have enough workforce for certain periods and have workers with skills stagnation. As the maternity leave tends to be longer than the paternity leave, guaranteed maternity leave (and the parental leave which is usually and expected to be taken by mothers) may enhance the gender norms that women are the primary carer and they are likely to take long leave. As a result, generous maternity leave may induce statistical discrimination against women in the first place. Moreover, considering the 'cost' in hiring Insiders, who have guaranteed employment and income protection, maternity leave may be another cost that the employers may not need to worry about when they hire men. Based on these scenarios, Estévez-Abe (2006, 2009) argues that the long maternity leave would have a detrimental effect on women entering Insider jobs in the CMEs compared to LMEs. It is because, in CMEs, the cost of hiring workers is already high and the continued skills accumulation is more important than LMEs. As a result, women may be more likely to be hired in jobs that require lower or general skills, which are often in lower paid service sectors, without much prospect for advancement. Linking this back to this thesis, it is likely for the CMEs to have more women in the Outsider jobs than LMEs, especially if they are coincided with longer leave for mothers. Based on the case of Hungary, Glass and Fodor (2011) also argue that the development of policies that emphasise motherhood without anti-discrimination policies can lead to discriminations against women. On the contrary, this

additional cost may not necessarily lead to statistical discrimination if similar cost is required for hiring men. If the leave guaranteed for fathers are equal to (or similar to) that for mothers, both the cost and the skills stagnation would not be expected to differ by gender. Thus, it is expected that the longer paternity leave (or the leave guaranteed for fathers) may reduce women's relative likelihood of being Outsiders compared to men.

However, using the same logic of VOC, we can argue that the maternity leave would benefit the highly skilled women. For the workers with skills that are difficult to be replaced with (often the Insiders), having the leave policies to maintain their employment relationship may be desirable for the employers. The access to leave can also provide women with more incentives to keep the job and be more committed to work after childbirth than those who do not have the access to the policy (Hegewisch and Gornick 2011; Rønsen and Sundström 2002). Nevertheless, this does not mean that the gendered labour market patterns would not exist. Rather, this means that only the women whose skills exceed their male competitors could benefit from this. This, in turn, may lead to dualization of family policy where the policy is more accessible to the high skilled workers but not the others (which was found in Chung 2018a). On the contrary, prevalence of public childcare services may benefit all workers as they support most women to stay in work.

Mandel and Shalev (2009a) also questions the arguments Estévez-Abe (2006, 2009) that the generous leave for mothers could be especially detrimental for women in the CMEs. They argue that the logic does not explain the CMEs found in Nordic European countries, which is considered to be more gender egalitarian with extensive and generous family policies. Rather, the more decommodifying welfare systems with regulated employment

protections in CMEs can provide better security for the Outsider women, as it did for the Outsider men[16].

2) Welfare State Paradox theory

Mandel and Semyonov (2006) argue that the family policy (which they refer to as the welfare state) may also have an unintended negative impact on women's jobs in spite of its positive effect on women's labour market participation rate (namely, welfare state paradox). Their study shows that progressive family policies could confine women to work in the female-dominated occupations which are often limited in advancing to the managerial positions and better paid jobs, and instead produce and potentially enlarge certain lower end jobs among female-dominated occupations – creating a 'female-ghetto'. They examine this using what they call a 'welfare state index' which is constructed with three indicators: "the number of fully paid weeks of maternity leave[17], the percentage of preschool children in publicly funded day-care facilities, and the percentage of the workforce employed in the public welfare sector[18] (Mandel and Semyonov 2006, p.1919)." An ideal type of state with progressive family policy, thus, can be characterised with the long maternity leave, prevalent public childcare, and the state as an employer. It is considered to be progressive because these policies help women to stay in their jobs but also create secure jobs for women (especially in childcare services). Questioning the relatively fewer number of women in the top jobs in the countries with progressive family policy, authors argue that although the progressive family

[16] In their study, they use 'lower class' instead of Outsiders.
[17] This is "the number of paid weeks multiplied by the percentage of wage replacement during the leave (Mandel and Semyonov 2006, p.1919)."
[18] Which includes the "public health, education, and welfare" sector (Mandel and Semyonov 2006, p.1919).

policy helped women to stay in the labour market, it did not change the gender norms fundamentally and still can create the 'glass-ceiling' for female workers (Mandel and Semyonov 2006). This is somewhat similar to what Pettit and Hook (2009) call the 'gendered trade-offs' of family policies, and the ambivalence of part-time work measures found in the Netherlands where the gender-friendly policy can also be gender-unequal (Plantenga 2002).

In response to the idea of 'welfare state paradox,' Korpi, Ferrarini, and Englund (2013) argue that although there seems to be a trade-off in the role of family policy on women's employment, negative impacts of the generous policies may have been 'overstated.' Comparing three types of family policy, which are 'traditional-family model', 'dual-earner/carer model', and 'market-oriented model', their study shows that there is no clear correlation between the generous (which is functionally equivalent with 'progressive' in the study by Mandel and Semyonov) family policy and the limitations of women's employment. Some of the countries that fit into the model of dual-earner/carer model (which are usually the Nordic European countries) do show limitations in the number of women in top positions, but the limitations are not much different from the countries in the other models. They, instead, showed more homogeneity among women compared to the other countries due to relatively better situations of women in the lower end of the labour market. Lastly, as to the occupational segregation by gender, authors argue that this is more of a horizontal segregation than a vertical one in the dual-earner/carer model countries, because the quality of the female-dominated (which are also public) jobs are relatively good (although not the best) compared to the other countries[19]. Nevertheless, more recent study suggests that even

[19] However, what the authors take less into consideration is that horizontal segregation itself can be detrimental in achieving a full gender egalitarian labour market. It could imply the persistence of gender norms constraining the workers to their expected gender roles and the power relations based on gender, especially if female-dominated occupations remain relatively low in quality.

in those dual-earner countries, there are vertical segregations and variations amongst women (Clarke 2015; Kleinert 2018).

3. Conclusion

Labour market is gendered, and women are overrepresented in the Outsider jobs. While there may be different individual-level factors that may cause women's higher likelihood of being Outsiders and thus create certain gendered labour market patterns (see Chapter 3), some studies have reported on the cross-national variations in these gendered patterns (Estévez-Abe 2006; Pfau-Effinger 2012; Schwander and Häusermann 2013). These suggest that the women's relative position in the labour market may vary depending on the national-level institutional context. This chapter specifically focused on the role of family policy in shaping these gendered labour market patterns. This chapter focused on the policies that are designed to support balancing between work and family demands – namely, the work-family balance policies, and help parents (especially mothers) to stay in the labour market. Three aspects of family policy are examined, based on Misra et al (2011), which are the work-reducing policies for mothers (i.e., leave for mothers), work-reducing policies for fathers (i.e., leave for fathers), and work-facilitating policies (i.e., public childcare services). The categories are based on the different assumptions and goals behind the policies. Using the existing literature on the impact of family policy on mothers' employment patterns, this chapter discussed how these policies are relevant to women's relative likelihood of being Outsiders compared to men. As a result, this chapter contributes to knowledge by providing a linkage between the dualization and family policy literature, suggesting dualization

literature to incorporate family institutions as a new dimension to understand the gendered patterns in the dualized labour market.

Since the type of Outsider jobs are still left to be explored (see Chapter 6), we cannot make a precise hypotheses or predictions on how family policies influence women's relative likelihood of being part of certain Outsider job. Thus, here I make some predictions as to how family policies may influence women's relative likelihood of being Outsiders as a whole based on what is discussed in this chapter. Firstly, with the mothers' leave (especially the extended/parental leave), the duration of paid leave can determine the type of job women are likely to be in. Having a short leave or long leave may enhance their likelihood of leaving their current jobs, which can lead to their higher likelihood of being Outsiders. The long leave can also have a negative impact on the statistical discrimination for all women, as the policy assumes mothers' long-term role in childcare which may enhance the gender norm that is built on the male-breadwinner model. Secondly, the duration of paid leave is also important for fathers' leave, and we can expect that the longer leave would be associated with less gender gap in the Outsider-ness. It is because with more men's role in childcare, the burden of childcare can be divided more equally between the couple. It can also be because with both women and men taking leave for childcare, it may change the gender norms as to who the primary caretaker is. Lastly, having more prevalent public childcare services can reduce gendered patterns in the labour market. It is because the childcare services facilitate parents' work through the state taking the childcare responsibilities and as a result help women's continued employment.

On the other hand, increased childcare services are also associated with increased employment for women, as the jobs in the care sector tend to be female-dominated. The

welfare state paradox literature argues that these jobs tend to be limited in terms of reaching the top positions, and as a result create what can be considered a "female ghetto." Korpi et al (2013) argue that this tend not to be true, as these jobs do guarantee certain level of quality. If the latter is true, countries with more prevalent public childcare services would have less women in the Outsider jobs compared to the other countries.

In this thesis, motherhood is considered as a critical point that can change women's labour market status from Insider to Outsider, which is why it is important to examine the role of family policy in the gendered labour market patterns. However, one thing that needs to be noted is that non-mothers are still more likely to be Outsiders compared to men. This may be due to the statistical discrimination or the potential Outsider jobs created in the female-dominated industries/occupations. Thus, women's overrepresentation in the Outsider jobs can be explained through both their becoming of Outsiders from Insider jobs as well as their higher likelihood of being in Outsider jobs in general. In order to fully capture the role of institutions shaping the labour market inequalities in the post-industrial societies, especially those existing between women and men, it is important to consider family and family policy as one of the key institutions. Based on this theoretical framework, this thesis explores the impact family policy has on women's relative position in the labour market in terms of their overrepresentation in the Outsider jobs and different Outsider risks they have to men, consequently creating cross-national variations in the gendered labour market patterns.

V. Data and Methodology

As discussed in the previous chapters, the aim of this thesis is to examine how the dualized labour market is gendered across Europe. With this question at the core, this thesis is structured into four stages of research to examine women's relative likelihood of being Outsiders compared to men, and how it is influenced by family policy. This thesis focuses on 30 European countries (namely, EU27, the United Kingdom, Norway and Switzerland) that are selected based on the comparability of the political, administrative and legal institutions and the availability of the comparable data. Europe is selected over other continents due to the extensive literatures on dualization and family policy that can be used to confirm the validity of the findings in this thesis, as well as the availability of the wide range of comparable data. I use quantitative methods to examine the general trend in the labour market structure across Europe and certain gendered patterns that arise empirically. In comparative studies, quantitative methods are often preferred over qualitative methods when the number of cases (i.e., country here) is large and the aim is to examine general trend or patterns (Amenta and Hicks 2012; Landman 2002).

Methodologically, this thesis can be largely divided into two sections. Firstly, I use the Latent Class Analysis (LCA) to identify the general trend in the labour market division in Europe. Then I use the results from LCA to examine to what extent women are more likely to be Outsiders and the varying Outsider risks across genders, which this thesis refers to as the gendered labour market patterns. Instead of starting from certain definition of an Outsider (e.g., unemployed, non-standard employment contract), this thesis conducts the LCA using several key indicators of labour market Outsiders, taking the approach from some recent

studies as discussed in Chapter 2 (e.g., Lukac, Doerflinger and Pulignano 2019; Yoon and Chung 2016). Through LCA, I can examine how the indicators combine to form clusters, creating certain labour market segments (Chapter 6). As mentioned earlier, using this framework derived from the data, I examine women's relative likelihood of being in each segment and whether or not the Outsider risks vary by gender. Secondly, using the results from the Latent Class Analysis as the dependent variable(s), this thesis conducts Multilevel Modelling to empirically examine the relationship between the family policy and the gendered labour market patterns. Multilevel Modelling is widely acknowledged as an important methodology in examining the relationship between the different level data (e.g., Budig, Misra and Boeckmann 2016; Chung 2019b; Pulignano and Doerflinger 2018; Van der Lippe and Van Dijk 2002). It is preferred over ordinary regression analysis in this thesis due to the 'nested' and hierarchical structure of the data and the large country cases (>15). Through this we will be able to examine how family policies as national-level institutions may shape certain gendered patterns in the labour market.

This chapter is structured in three sections. In the first section, I discuss the research aim of this thesis and how it is designed. There are four analytical chapters in this thesis, which is designed as four stages of analysis, with each stage building on from the previous stage(s). Here, I explain how each stage is designed and why, briefly mentioning the methodologies. In the second section, the data sets and the variables that are used for these analyses are explained. The data section focuses on the European Working Conditions Survey for the individual-level data and the Multilinks, OECD and Eurostat for the national-level data. I also discuss why they have been selected and their limitations. Along with the data, I explain which variables are used in the analyses, firstly in analysing the labour market

division in Chapter 6 (i.e., variables measuring Outsiders), and secondly the national-level variables that are used for the final stage of the analyses (i.e., variables measuring family policies). Some national-level control variables are also mentioned in this chapter. In the final section, two main methodologies that are used in this thesis are explained. I explain what they are, why they are useful for answering the research questions in this thesis, and how they apply to the research design of this thesis.

1. Research Aim and Design

1) Research Aim

This thesis aims to examine how the dualized labour market is gendered. As discussed in Chapter 3, the dualized labour market can be gendered by 1) having different labour market segmentation structure between women and men, 2) having women overrepresented in the Outsider jobs (which in turn means that women are underrepresented in the Insider jobs), and 3) having different risks of Outsider-ness by gender. To reiterate, the experiences of being an Insider can also vary by gender, but I do not discuss this as the focus of this thesis is on the Outsiders. To examine these gendered patterns, this thesis first examines how the labour market is divided/segmented, identifying different types of Outsiders. After examining the gendered labour market patterns, this thesis explores whether or not these patterns vary across countries and if the family policy can explain the cross-national variations. This thesis draws from the limitations in the labour market division/dualization literature that more needs to be known as to *how* the labour market is gendered and these patterns can be explained through institutions around family – namely, family policy (see Chapter 2). Dualization theory has

shown how the changes in the labour and welfare policies have shaped the dualized labour market – especially between the standard and non-standard employment contracts (e.g., Emmenegger et al. 2012a). However, why we see women overrepresented in the Outsider jobs and more so in some countries than others require more investigation. Based on what we know about the impact of family in women's employment patterns (see Chapter 4), this thesis brings the family into the dualization debate as another important dimension of institutions that can shape the labour market, especially its gendered patterns. Thus, this thesis adds to knowledge by providing empirical evidence for the extent to which women are overrepresented in the Outsider jobs and exploring institutional explanations for women's disadvantaged position in the labour market.

2) Research Design

The main research question of this thesis is *how is the dualized labour market gendered?* As mentioned above, the next part of this thesis is structured into four analytical chapters, with each chapter conducting different research to ultimately answer the main research question. The four chapters conduct four stages of research as presented in the Diagram 2.

Diagram 2 Research design in four stages

In the first stage, this thesis examines how the labour market is divided. As discussed in Chapter 2, this thesis takes the approach taken by recent studies (e.g., Lukac, Doerflinger and Pulignano 2019; Yoon and Chung 2016) that derive the labour market division from the data rather than starting from certain assumptions of how it is divided (e.g., by employment contracts, income). As discussed in Chapter 2, by examining the combination of different labour market (in)securities, this approach is able to capture the complexity of the post-industrialised labour market that cannot be explained solely through individual characteristics. Using Latent Class Analysis and five indicators of labour market Outsider-ness based on the literature, the first stage examines how these indicators form clusters, creating labour market segmentation/division. The five indicators include part-time work, insecure employment (including the dependent self-employed), low income, subjective job insecurity and lack of job prospects. The rationale behind the choice of both the method and indicators are explained in the next section on 'Data and Variables'. The number of labour market segments are decided based on a number of criteria that are suggested in the latent class analysis literature and the previous studies. These criteria are introduced in the 'Methodologies' section in this chapter. As discussed in Chapter 3, this approach is especially meaningful in reducing gender bias in the literature. It is because the existing assumptions may be implicitly masculinist, as they have often been based on the cases of male workers or male-dominated sectors. By deriving the labour market division from the data that includes both women and men and taking into account various types of labour market disadvantages/precariousness, it can provide a more precise understanding of the gendered patterns in the labour market.

In the second stage, the result from the first stage is used to examine women's relative likelihood of being Outsiders. By examining this, I also explore the three aspects of gendered patterns in the dualized labour market discussed in Chapter 3. First, I examine to what extent women are more likely to be Outsiders compared to men. Second, if there are more than one Outsider segments, I can identify if the Outsider risks vary by gender. In other words, if women are more likely to be in certain Outsider jobs more than others, and how it differs for men. Third, I examine the labour market division separately for women and men to investigate if the same labour market segments can be found for the two groups. The last analysis is important both theoretically and methodologically. Theoretically, as discuss in Chapter 3, it is important that we do not assume the same labour market structure for women and men, because our results may falsely universalise certain structure and neglect the differences that may be important in understanding the different labour market experiences of women and men. Methodologically, if the two groups have too different structures, it is not possible to directly compare the two. In that case, we can only conclude that women and men have different labour market structures, and possibly different Outsider-risks, but cannot examine women's relative likelihood of being Outsiders compared to men. How we define 'too' different (i.e., testing for measurement invariance) is discussed more in detail in the 'Methodologies' section in this chapter. For this stage, I use Multigroup Latent Class Analysis, as it not only can directly compare different groups but also can statistically test for the measurement invariance.

In the third stage, I examine the extent to which gender matters in determining one's labour market position (namely, Outsider) and how this varies across countries. For the simplicity of the analysis (see Chapter 6 for more explanation), the results from the first stage

will be made into binary variables based on which labour market segment one is more likely to be in. In the case of dual labour market division, the binary variable would be whether one is an Insider or Outsider. In the case of more than two labour market segments, there will be a binary variable of Insider-Outsider based on the broader definition, but also of individual Outsider groups with reference to Insiders. Since this can depend heavily on the results, the variable construction is discussed at the end of Chapter 6 after conducting analysis for stage 1. Using these variables, I examine the impact of gender as a determining factor on one's Outsider-ness, accounting for other relevant factors (discussed in Chapter 8). This is another way of examining women's relative likelihood of being Outsiders compared to men. By including different factors as control variables, we are able to test the findings from stage 2 and if gender actually matters in determining one's becoming an Outsider. Then, I examine if women's relative likelihood of being an Outsider (and different Outsiders) compared to men varies across countries. Multilevel logistic regression analysis is used in this stage, with random slopes modelling for examining the cross-national variations. As mentioned earlier, Multilevel modelling is used due to the nested nature of data (by countries) and the number of countries examined in this thesis. How the models are conducted and the rationale behind the choice of these methods are explained more in detail in the 'Methodologies' section in this chapter.

In the fourth stage, I include family policy in the models developed in the previous stage to examine whether the cross-national variations in the gendered labour market patterns can be explained through variations in the family policies. As discussed in Chapter 4, family policy will be limited to the policies that are specifically related to work-life balance, such as maternity or parental leave/paternity leave, and public childcare services, as they have

been known to have important roles in women's labour market participation (see review in Hegewisch and Gornick 2011). How each policy is measured is explained in the 'Data and Variables' section in this chapter. I examine whether the family policy is associated with women's higher likelihood of being Outsiders compared to men, and if it varies across Outsider groups (if we find more than one Outsider groups from stage 1). By doing so, I aim to examine whether family policy has been able to mitigate women's overrepresentation among the Outsiders, or if it has paradoxically enhanced such gendered patterns.

2. Data and Variables

With the aim to empirically examine gendered patterns in the dualized labour market and its relationship with family policy, this thesis conducts research using quantitative methodologies with secondary data. The data sets being used are at two levels, namely individual and national levels. Data from the European Working Conditions Survey is used as individual-level data throughout the thesis. For the national-level data, Multilinks database, OECD family database and EUROSTAT are used for data concerning family policies. National-level data will be used in Chapter 9 where I conduct Multilevel analysis. Each data set is explained in this section along with the variables being used. The rationale behind the choices of the data and variables are explained in the section below. As mentioned here, the analysis is limited to the cases in Europe for two major reasons: political/institutional comparability among the countries and availability of data. Although there are some variations, the 30 European countries examined in this thesis are similar in terms of political and institutional settings, which is necessary for cross-country comparisons. Moreover,

Europe has the biggest cross-nationally comparable data available to examine different labour market patterns.

When it comes to variables, I specifically focus on measuring Outsiders and family policies in this chapter. The former explains the choice of the five indicators used to identify the labour market divisions in Europe in Chapter 6 and how each variable is operationalised. The latter explains the family policy variables used and how they are operationalised. In the last part of this section, I briefly introduce some other national context variables that are considered for the control variables in Chapter 9. There are also individual-level control variables that are based on Chapter 3, and their operationalisation is presented in Chapter 8.

1) Individual level

European Working Conditions Survey

The European Working Conditions Survey (hereafter EWCS) 2015 data gathered at the individual-level is used to examine the labour market divisions across Europe and its gendered patterns, especially concerning women's overrepresentation in the Outsider jobs. Funded by Eurofound, EWCS was launched in 1990 with the aim to provide an overview of working conditions in Europe, and has been collecting the data every 5 years[20]. The 2015 EWCS was conducted in the then EU28 countries, Norway, Switzerland, Albania, North Macedonia, Montenegro, Serbia and Turkey. There have been six surveys, with the 2015 one being the sixth, and the seventh survey has been conducted in 2020 (but with delay due to

[20] For more information, see https://www.eurofound.europa.eu/surveys/european-working-conditions-surveys
https://www.eurofound.europa.eu/sites/default/files/ef_publication/field_ef_document/ef1634en1.pdf

COVID-19 pandemic). This thesis focuses on the then EU28, Norway, and Switzerland due to its comparability in terms of political, administrative, and legal institutions.

The survey was conducted through face-to-face interviews at the respondent's home. As the survey was conducted in 35 countries, it was translated into 32 languages and the questions were adapted to the cultural context when necessary. These indicate the reliability of the source. All residents above the age of 15 (16 for Bulgaria, Norway, Spain and the UK)[21] and in employment[22] were surveyed, and samples were randomly selected in each country. In order to prevent the sampling bias due to selection probability, stratification, and country size, the sample sizes for each country were weighted differently. Basic target number of interviews was 1,000 for each country, but in some countries the number was weighted differently. For instance, in Poland the number was 1,200, whereas in Italy, France, the UK, Germany, and Turkey the numbers were 1,400, 1,500, 1,600, 2,000, and 2,000 respectively. Belgium, Slovenia, and Spain provided additional funding and added their sample size to 2,500, 1,600 and 3,300 respectively. Overall, EWCS 2015 covers the sample size of 43,850 interviews in 35 countries. The average response rate of the survey was 0.425, and the gender proportion of each country sample is roughly half-half. In order to ensure the quality of the data, Eurofound has gone through a number of pre-tests including cognitive test and translation, and survey trainings[23].

[21] This number is based on the legal minimum working age.
[22] One is "considered to be in employment if they had worked for pay or profit for at least an hour in the week preceding the interview (ILO definition)" (Eurofound 2015).
[23] For more information, see the technical report by Eurofound from https://www.eurofound.europa.eu/surveys/european-working-conditions-surveys/sixth-european-working-conditions-survey-2015/ewcs-2015-methodology.

The survey consists of questions specific to working conditions of the workers in various European countries. This opens up a possibility of individual-level comparative studies on working conditions. Some of the topics covered include job security, working hours, work–life balance and household characteristics, income, different employment contracts, and the heterogeneity of self-employment. The EWCS covers a wide range data that were not available in other cross-nationally comparable sources, such as the various non-standard employment types including the dependent self-employed. As this thesis aims to empirically examine the labour market division derived from the data, it is important that the data includes various labour market characteristics that could guarantee a more precise analysis. Some of the key data in EWCS that are used in this thesis include the employment contract, income, subjective job insecurity, job prospects, and identification of the dependent self-employed.

Unlike some studies on dualization (e.g., Biegert 2019; Rueda 2005), this thesis only examines those who are currently working (both employed and self-employed), and not the unemployed. The unemployed has been an important group of Outsiders as their unemployed status itself creates insecurity. Similarly, inactive workers, often defined as those who are not working nor looking for jobs (i.e., not in the labour market) are not included in this thesis. Inactivity, along with unemployment, is an important aspect to consider when it comes to women's employment patterns, as women are more likely than men to leave the labour market entirely (i.e., become inactive) (see Morosow 2019). Thus, by excluding them this study has a limitation that those who may be considered the most insecure in the labour market may not be included. Although one of the major reasons for excluding the unemployed or inactive is due to the data availability, there are several advantages of

focusing on those in work. Firstly, the Outsider-ness experienced by the unemployed and the employed is likely to vary. The employed are by definition in a more advantaged state than the unemployed in terms of security, but there are variations in the quality of jobs even amongst the employed. We know from the literature that the employment contract matters (e.g., Eichhorst and Marx 2012; Rueda 2005), but the employed can also be differentiated through income level, subjective insecurity and future prospects. Secondly, by focusing on the employed we may be able to more clearly identify the gendered patterns in the labour market. Schwander and Häusermann (2013) found that while skill levels may be a key determinant for becoming unemployed, gender was more important for being atypically employed. Nevertheless, while the unemployed are not included in the individual-level analysis, unemployment rate and its gender gap will still be considered when examining the institutional contexts (see the section on control variables).

Thus, the cases in the EWCS data are limited to those who responded with 01 and 04 for Q2c: "please look at this card and tell me which of these categories describes your current situation the best?" The possible responses for the question were 'at work as employee or employer/self-employed/relative assisting on family farm or business[24]' (01), 'unemployed' (02), 'unable to work due to long-term illness or disability' (03), 'at work and on child-care leave or other leave' (04), 'retired' (05), 'full time homemaker/responsible for ordinary shopping and looking after the home' (06), 'in full time education (at school, university, etc.)/student' (07), 'other (e.g. military duty)' (08), 'DK/no opinion' (88), 'refusal' (99).

[24] Although assisting family farm or business may not have the same employment relationship as the usual employees, they are included in the analysis as they are included in the working population. Schwander and Häusermann (2013) also included this group in the atypical workers.

Those who are at work but are on leave (04) are included in the analysis, because they technically hold a job currently, which they can go back to after the leave.

Measuring Outsiders

Labour market Outsiders (hereafter Outsiders) are often defined as those socially excluded from the security Insiders have, such as employment security, income security, prospects for advancement and social protection (see review in Davidsson and Naczyk 2009). The literature on dualization (e.g., Rueda 2005; Schwander and Häusermann 2013) uses non-standard employment as a key indicator for the Outsiders, as the employment security is often directly linked to income and social protection (ILO 2016). The inclusion of non-standard employment (e.g., part-time and temporary contract) in the operational definition of an Outsider captures an important aspect of the post-industrialised societies, that having a job does not necessarily guarantee security in the labour market (as opposed to the industrialised society, where the labour market insecurity was more closely linked to being unemployed or in informal work – thus, not in wage work).

However, what differentiates the Outsiders from the Insiders is not only the employment status, but also (and more precisely) the disadvantages that follow, such as low or unstable income, job insecurity, and lack of opportunities for upward mobility (Davidsson and Naczyk 2009). Despite the significance of non-standard employment as an indicator of Outsiders, there are some key characteristics of the Outsiders employment contract alone cannot capture, which are *low income* (i.e., objective insecurity), *subjective insecurity* and *future insecurity*. Thus, this thesis uses five indicators of labour market Outsiders: part-time

work, insecure employment, low income, subjective job insecurity and prospects for job advancement. The operationalisation of each variable is described below.

Firstly, *part-time work* is a kind of non-standard employment which contrasts with the 'full-time' aspect of the standard employment contract. About a fifth of the employees in Europe are working part-time, and they are mostly composed of women (ILO 2016). Theoretically part-time is not necessarily directly linked to being an Outsider, as it may be a useful mean for someone who only wishes to work short hours. Thus, the voluntariness of the part-time work has been an important consideration for the dualization researchers, and the Outsiders are often defined as those who are involuntarily working part-time (Rueda 2005; Van Aerden et al. 2014; Yoon and Chung 2016). This would refer to (roughly) a third of the part-time workers in Europe who chose to work part-time only because they had no other alternatives (ILO 2016). However, is it fair to assume that those 'voluntary' part-time workers' choice of jobs was actually voluntary? A significant number of workers choose to work part time due to family responsibilities (i.e., care), and they are mostly women (Schmid and Wagner 2016 cited ILO 2016 p.79). This shows that part-time work could be the only option for many, especially for those who has the burden of unequal share of family responsibilities due to social and cultural expectations or lack of institutions (Pfau-Effinger 1998; 2012). Moreover, the fact that part-time work is mostly taken by women may imply that the choices are constrained (Hobson 2011; McRae 2003; Yerkes 2009; Yerkes and Visser 2006). Secondly, is it fair to assume that the voluntary part time workers are Insiders? If the quality of the job[25] does not differ from the full-time jobs other than the reduced hours as

[25] The quality of the job in this case can be characterised as the income, social protection, and employment security.

was often considered in the Dutch case (see Plantenga 2002), it is difficult to say that the part-time jobs are disadvantaged compared to the full-time jobs. Moreover, if the choice of the part-time job is entirely voluntary and the mobility between the full time and part-time jobs is high, a part-time job can be considered an Insider job, which allows an individual to manage one's own time and balance work and life or family (Plantenga 2002). Nevertheless, in most countries, quality of jobs varies between the full-time and part-time jobs (Yerkes 2009; Yerkes and Visser 2006). For instance, the growth in part-time work since 2003 in Germany has been associated with the lower wage work, which was not necessarily the case in the period before then (Burda and Seele 2016 cited Jaehrling 2017 p.174). From this we can infer that part-time work is still a more disadvantaged type of work compared to full-time work. In addition, some of the previous studies that used involuntary part-time work in their analysis of labour market division did not find significant results, which in some cases were not different from the voluntary part-time work (e.g., Van Aerden et al. 2014; Yoon and Chung 2016). Finally, it is difficult to differentiate the involuntary part-time workers from the EWCS data available (see also Chung 2018a). Thus, due to these theoretical and technical reasons, this thesis will use part-time employment itself (regardless of voluntariness) as an indicator for Outsiders. The Q3 in the questionnaire "does this person (respondent) work part time or work full time?" is used. The possible responses are part time (1), full time (2), Don't know/no opinion (8), refusal (9). In the analysis part time (1) is coded as 1, full time (2) as 0, and the rest as missing.

The second variable used is the *insecure employment,* which is defined as employment that is not permanent or secure. Insecure employment is an important variable to consider to identify the Outsiders, as not having permanent employment contract is

inherently insecure. This thesis defines insecure employment as the employed without an unlimited duration of contract, including the contract of limited duration (UK: fixed-term), a temporary employment agency contract, an apprenticeship or other training scheme, no contract, and the dependent self-employed. What distinguishes this study from the literature is the addition of the dependent self-employment in the precarious employment definition. Dependent self-employment refers to a kind of employment where the workers do not hold employment contracts (but rather hold contracts that resemble business contracts) but has similar dependence and authority as the employed in the services the workers provide (Hunter and Leslie 2018; ILO 2016; Williams and Lapeyre 2017). It is also known as disguise or bogus self-employment as it seems like self-employment on the outside but is actually not (Williams and Lapeyre 2017). Although the number of workers in this grey area of the labour market is not big (4.3% among EU workers, Williams and Horodnic 2018), they are growing in number in various industries such as media and culture and the newly expanding on-demand or gig economy (ILO 2016). Their share in the self-employed is not negligible as it constitutes 31% of the self-employed (Williams and Horodnic 2018). Moreover, they are disadvantaged compared to both the self-employed and the employed. Compared to the 'actual' self-employed, these workers do not have independence and authority over their work; and when compared to the employed, they are often excluded from the legal employment protections (e.g., on minimum wage, working hours, dismissals, social insurance) that are implemented to protect the employed workers. They also share much similarity in political preferences as the temporary workers which is likely to be based on their insecurity in both income and job (Jansen 2019). Thus, these workers are a new form of Outsiders that the labour market division literature needs to consider. EWCS data is especially useful because the survey includes the questions to identify these workers. Most

surveys that do not have measures to distinguish the dependent self-employed from the employed or self-employed due to its 'disguised' characteristics, even when there are legal definitions for it (ILO 2016). On the other hand, voluntariness of the insecure employment is also important to consider, as some may choose to work temporarily. However, given that 62% of temporary workers in Europe (in 2014) reported to be in temporary jobs because they did not have alternatives of permanent jobs (ILO 2016), it is fair to assume that the voluntariness of the job choice in temporary work is very limited.

Thus, this thesis constructs the insecure employment variable by combining the question on the permanency of the employment contract and the questions regarding the dependent self-employed. Firstly, question Q11 of the survey "What kind of employment contract do you have in your main job?" is used. The responses include: contract of unlimited duration (UK: permanent) (1), contract of limited duration (UK: fixed-term) (2), a temporary employment agency contract (3), an apprenticeship or other training scheme (4), no contract (5), other (6), DK/no opinion (8), Refusal (9). The responses from (2) through (6) are coded as 1 for having a precarious employment, and (1) as 0 for permanent/secure employment. Other values –namely 'DK/no opinion' and 'Refusal' will be treated as missing. This is strictly limited to those with employment relationship, thus no self-employed. Secondly, the dependent self-employment are defined as the self-employed who do not have employees (responded 'no' to Q9C[26]), and comply with at least one of the following criteria: 1) do not have the authority to hire or dismiss employees (responded 'no' to Q9A[27]), 2) do not have more than one client or customer (responded 'no' to Q9D[28]), and 3) do not make important

[26] "Regarding your business, do you have employees (working for you)?"
[27] "Regarding your business, do you have the authority to hire or dismiss employees?"
[28] "Regarding your business, do you generally have more than one client or customer?"

decisions on the business (responded with 'neither agree nor disagree, 'tend to disagree' or 'strongly disagree' to Q91E[29]). This operationalisation of the dependent self-employment is based on Hunter and Leslie (2018) and Williams and Horodnic (2018) [30]. Dependent self-employed are the only type of self-employed that are being added in the analysis. Those comply with the criteria above are coded as 1 along with those in non-permanent/secure employment to go under 'insecure employment', and the rest of the self-employed are coded as missing, along with the other values (Not Applicable (7), Don't know (8) and Refusal (9)). I code the rest of the self-employed as missing because this thesis does not include the self-employed in the analysis, except for the dependent self-employed.

The third indicator used is the *low income*. Low income is a key indicator of labour market precariousness (see review in Olsthoorn 2014) that shows the 'actual' Outsider-ness of those who are more likely to be Outsiders (Häusermann and Schwander 2009). It is not only an important indicator for the current state of security but also for the future, especially in institutional settings where the welfare benefits (including pension) are calculated based on prior earnings. Although the incidence of low income is often higher for the non-standard employment than the standard employment, low income still exists in standard employment, especially for women compared to men (ILO 2019; see German case in Eichhorst and Tobsch 2015). What is more, it was found to be a key indicator for defining the Outsiders in the UK, even more than the employment contract types (Yoon and Chung 2016). Based on previous

[29] "To what extent do you agree or disagree with the following statement? I make the most important decisions on how the business is run."

[30] Hunter and Leslie (2018) defined the dependent self-employed as the self-employed who answer 'no' to any of the first three questions, while William and Horodnic (2018) defined them as the self-employed who do not have employees and have two or more of the above criteria met. Although used same questions, this thesis slightly changed the operationalisation from these studies in order to have a comprehensive data of the population.

studies including Yoon (2015) that defined low income as those below 2/3 of the median (hourly) wage, this thesis defines the low income as those in the first three deciles of the income group within a country. This thesis uses deciles instead of actual income due to easier comparability amongst countries. The variable used is the within country income decile, calculated based on the individual net monthly income from one's main paid job. The low income (here defined as the 1st to 3rd deciles) is coded as 1, which the non-low income (4th~10th deciles) is coded as 0. Here, I define the first three deciles as the low-income group as that is the closest equivalent to the 2/3 of median income.

The fourth indicator is the *subjective insecurity*, which is another important indicator of the 'actual' Outsider-ness (Chung 2019b; Häusermann and Schwander 2009) that can incorporate lived experiences of workers that the objective measures often neglect. Green et al. (2001) found that it is highly relevant to the actual level of security one experiences in their job/employment (in relation to past, present and future (un)employment), even more than the employment contracts one currently holds. What is more, having a secure employment contract does not necessarily guarantee one's sense of security, and the association between secure contract and feelings of security varies across countries (Chung 2019b). These cross-national variations can also provide an insight that there are other societal contexts that may affect one's insecurity in the labour market other than the employment contracts. General sense of security in employment may be reduced by circumstances such as the lack of employment protection witnessed through the dismissal of colleagues (Klandermans, Hesselink and Van Vuuren 2010), or the increased flexibilisation through deregulation of non-standard workers that may induce standard workers' fear of losing their jobs (Jaehrling 2017). Using the question "To what extent do you agree or

disagree with the following statements about your job? – I might lose my job in the next 6 months." I code those who responded as strongly agree (1) and tend to agree (2) as 1 (insecure), and those who responded neither agree nor disagree (3), tend to disagree (4), and strongly disagree (5) as 0 (not insecure), and those who responded as not applicable (7), Don't know (8), and refusal (9) as missing. This operationalisation is based on Chung (2018).

The fifth indicator is the *lack of job prospect*. It is another indicator that needs to be included in order to identify whether one's Outsider-ness may be temporary (for whom the current status may be a stepping stone for an Insider job) or not (and thus 'trapped'). The lack of mobility into Insider jobs is an important characteristic of the Outsiders, which differentiates them from the labour market entrants who are likely to become Insiders in the future. Possibility for advancement itself was one of the key indicators that defined the Insiders in the early Segmentation Theory (Doeringer and Piore 1971). Future prospect is especially important in terms of one's sense of security that can be directly relevant to their perceived status in the labour market and political attitudes (see Marx and Picot 2020). It also has advantage in addressing the limitation of the cross-sectional studies in examining mobility between groups, as Outsider-to-Insider mobility can partially be inferred. Thus, future insecurity as an indicator can incorporate another dimension of precariousness in examining Outsiders – namely, the temporariness of the Outsider status. The question Q89b "to what extent do you agree or disagree with the following statements about your job? – my job offers good prospects for career advancement" is used to identify one's job prospect. The possible responses for the question are strongly agree (1), tend to agree (2), neither agree nor disagree (3), tend to disagree (4), strongly disagree (5), not applicable (7), Don't Know (8),

and refusal (9). Those who answered (1)-(2) are coded as 0 for high prospect, (3)-(5) are coded as 1 for low prospect, and the rest missing.

Table 1 Individual-level variables: measuing Outsiders

Variables		Code	*% Response*	*N*
Part-time Work	Full-time	0	79.06	31,554
	Part-time	1	20.94	
Insecure Employment	Permanent/secure contract	0	74.50	33,367
	insecure contract	1	25.50	
Subjective Job Insecurity	Subjectively secure	0	82.71	30,110
	Subjectively insecure	1	17.29	
Income Insecurity[31]	Higher income	0	68.28	28,698
	Low income	1	31.72	
Lack of Job Prospect	Have job prospect	0	37.98	31,491
	No job prospect	1	62.02	

While this thesis includes some indicators that the literature has paid less attention to (e.g., subjectivity, future prospects, dependent self-employment), there are several indicators previous studies have used that are not included in this study. Firstly, this thesis strictly focuses on different aspects of precariousness from the job, which differentiates from the predictors/antecedents of job precariousness (i.e., gender, age, occupational classes). It is because including them may blur the precariousness of the job itself with the risks that come from individual characteristics (see also Marx and Picot 2020). However, while they are not included in the main analysis, I use them as predictors that can explain who are likely to be Outsiders. Secondly, access to social protection (i.e., pension, unemployment protection) is not included as an indicator. Pension coverage was an important indicator that identified the future insecure from the secure (i.e., Insiders) workers in Yoon and Chung (2016), and the unemployment protection can distinguish the risks/security that are exogenous to the jobs that could enhance/reduce precariousness on top of one's job precariousness (Olsthoorn

[31] Note that income insecurity in this thesis only refers to low income.

2014). While these are important indicators to understand the precariousness one (will) 'actually' experience due to macro-economic and institutional contexts, it is not included in this thesis as the insecurities created through social security institutions are conceptually different from the insecurities of the labour market itself. Moreover, there are cross-national variations in the policies, which may make it difficult to examine the labour precariousness that are common across Europe. This thesis does discuss and examine the role of institutions (more specifically, the family policies) in relation to the dualized labour market, but rather on how it influences the divided labour market patterns as external factors, than them being one of the labour market characteristics.

2) National level

Measuring Family Policies

As discussed in Chapter 4, family policy is examined through three indicators: family policy expenditure, work-reducing policy (i.e., leave policies) and work-facilitating policy (i.e., childcare services). All the national-level variables are centred and standardised, using the 'center' and 'standardize' commands in STATA. Descriptive statistics for each variable by country is presented in Appendix 5.1, and the correlation between the variables can be found in Appendix 5.2.

The family policy expenditure variable refers to the state expenditure on family policy (both in cash and services) in percentage of GDP. It is an indicator to examine the general generosity of the family policy. The variable is from the EUROSTAT[32] 2015 data on the

[32] For more information, see https://ec.europa.eu/eurostat/web/main/about/who-we-are

social expenditure on family/children (net expenditure in proportion to GDP). EUROSTAT was first introduced in 1953 as part of the Statistics Division for the Coal and Steel Community and developed over time including more sectors. Also known as the European Statistical System, EUROSTAT provides statistical data through the partnership of European Union, European Economic Area countries and Switzerland. The family policy expenditure data used in this thesis includes all 30 countries of concern. Although not included in the analysis due to the limited number of available data (24 countries), OECD family database 2015 data is also used to test for the robustness of the result, although not included in this thesis[33]. For the countries that do not have data for 2015, the year closest to 2015 is used, such as the 2011 for the Netherlands and 2014 for Poland.

Work-reducing and facilitating policy variables are derived from Multilinks database and OECD family database. Multilinks Database on Intergenerational Policy Indicators 2011 (hereafter Multilinks)[34] data is mainly used to examine/compare the national-level family policies. Multilinks collected its data on 30 European countries including the 27 European Union countries (of 2011), Georgia, Norway and Russia in 2004 and 2009. Thus, it includes 28 countries of the 30 countries this thesis examines. The database focuses on how the intergenerational care responsibilities (not just limited to childcare) are embedded in institutions and allocated through public policies. The policies include childcare policies, leave policies, elderly care, family benefit and education. This is the most recent comparative database available for these policies that fall under the category of family policy including wide range of countries, and have been widely used in the literature (e.g., Keck and Saraceno

[33] Estimates can be provided upon request.
[34] For more information, see https://www.ggp-i.org/data/multilinks-database/

2013; Kleinert 2018; Lohmann and Zagel 2016). From Multilinks, this thesis uses the data on the leave policies and childcare services.

One major limitation of the Multilinks data is that the data is relatively old and may not capture the changes that occurred between 2010 and 2015 (which is when the EWCS was conducted). This limitation is addressed through using more recent data from the OECD family database. OECD Family Database[35] was introduced to provide indicators on family outcomes and policies that can be compared across countries. It was built based on the data available from OECD countries with the support of the EU member states. However, the data availability is not constant throughout the indicators, and it includes 25 European countries (that this thesis focuses on) for the leave policies and all 30 countries for the childcare services. Thus, rather than replacing the Multilinks data it is used to complement the findings from the Multilinks data.

Work-reducing family policy variables used in this thesis include various leave policy variables, which are effective maternity leave, effective parental leave, effective paternity leave, daddy quota, mothers' paid leave and fathers' paid leave. The three effective leave variables are constructed by multiplying the duration of paid leave and the replacement rate of the paid benefit. Maternity leave and Parental leave are in weeks, whereas the paternity leave is in days. Daddy quota is the number of months earmarked for fathers in the parental leave. These four variables are from the Multilinks. Mothers' paid leave and fathers' paid leave refer to the total available duration of leave for mothers and fathers in weeks from the OECD family database 2015 data and are included because they can complement the findings from the effective leave. Some argue that the effective leave variables are not an accurate

[35] For more information, see https://www.oecd.org/els/family/database.htm

indicator as it puts the long leave with well-paid benefit and the short leave with poorly-paid benefit as equivalents (e.g., Keck and Saraceno 2013). Although this thesis uses effective leave variables as the key variables, I use other two leave variables (i.e., mothers' paid leave and fathers' paid leave) to complement the findings as they strictly focus on the length of leave. Moreover, the two variables differentiate between the available paid leave for the mothers and fathers, accounting for all leave policies – namely, including the parental leave. While it is evident who the maternity and paternity leaves are for, the target of the parental leave has been unclear, although in most cases it is the mothers who use it. Because mothers are more likely to use the parental leave, the parental leave is often considered as the extended leave for the mothers after the maternity leave (e.g., Misra, Budig and Boeckmann 2011). However, such interpretation does not capture the availability of the leave for fathers, including the daddy's quota. The two variables focusing on the target population and the Daddy quota variable are useful to identify this.

Lastly, I use childcare services coverage for children under the age of 3 for the work-facilitating policies. The coverage is often based on the enrolment or the use of the services. Two variables are used, and they are general childcare services use and full-time childcare services use. The two variables refer to the percentage of children under the age of 3 using the childcare services, with the latter focusing on the full-time childcare services. They are from the Multilinks. Again, to confirm the validity of these results, another variable is used to examine the use of childcare services for children under the age of 3. It is from the OECD family database. The data is from 2015 or the closest year for the countries that do not have available data for 2015. For instance, Denmark 2017, Germany 2010, Estonia 2010, Spain 2010, Lithuania 2010, Hungary 2010, Malta 2014, the Netherlands 2017, Austria 2010,

Poland 2010, Portugal 2010, Slovenia 2010, Finland 2010, Sweden 2010, Norway 2010, and Switzerland 2014. I use 2017 data for Denmark and the Netherlands, as the only available data was from 2017. I use this variable since there are more recent available data, but it is only used to confirm the findings from the data from 2009, since there may be some errors due to the data being from different years. I specifically focus on the childcare coverage of the children under the age of 3, and not the age group 3-6, because children in this age group requires intensive care and thus have a more crucial impact on mothers' employment patterns (Chung 2019a; Korpi 2000). On the other hand, it is difficult to compare the childcare services for the children between the ages 3 and 6, due to the varying school age for children across Europe (Chung 2019a; Misra, Budig and Boeckmann 2011). In some countries these children may be part of the education system which are not part of the childcare services promoting mothers' work-family balance.

Table 2 National-level variables: measuring family policy

	Min	Max	Mean	Standard Deviation	N	N (country)
Effective maternity leave (2009)	3.262	40.5	15.698	5.738	23545	28
Effective parental leave (2009)	0	20.196	6.140	5.602	23545	28
Effective paternity leave (2009)	0	30	8.631	8.016	22839	27
Daddy quota (2009)	0	6.5	1.443	1.930	23545	28
Paid leave for mothers (2015)	14	166	59.949	43629	21486	25
Paid leave for fathers (2015)	0	28	7.272	8.651	21486	25
Childcare use (2009)	2	73	26.213	17.019	22756	27
Childcare use (2015)	2.9	59.3	31.085	17.009	24909	30
Full-time childcare use (2009)	0	63	15.083	12.988	22756	27
Family policy expenditure (2015)	1	3.41	1.968	.755	24909	30

Note: these are not standardised values that are used in the analyses.

One thing that needs to be noted when it comes to the policy analysis is the time lag in the policy effect. Although there is not a clear agreement in the comparative analysis

literature as to what the optimum number of years are, studies have often used one year (e.g., Pettit and Hook 2005; Ruhm 1998) or two (Misra, Budig and Boeckmann 2011). However, some studies also use the policy or contextual data collected at the time point closest to the year individual-level data is collected (e.g., Chung 2019a; 2019b). As discussed above, there are six years gap between the main national-level data (data for specific policies from Multilinks) and the individual-level data (from European Working Conditions Survey) in this thesis. The two time points are primarily selected based on the availability of the most recent comparable data, but this time gap is a sufficient time to examine the policy effect on the labour market patterns, as it is longer than the years that are often used for time lags in policy effects. One issue that can arise from this is if the countries have gone through major changes in the policies that could have changed their gender norms or regimes. However, even the cases that are considered to have gone through major changes (e.g., Germany, the Netherlands, the UK) have started this 'path-shifting' since the late 2000s (e.g., Morgan 2013) which the Multilinks data can capture. Moreover, as discussed earlier, this issue is solved through the complementary analyses using the data from 2015 or the closest year. What is important to note is that it is the relative positioning of the countries that matters, and since there has not been massive changes in the positions, the results would not change significantly. Thus, the time lag between the two data is not considered to be crucial in this thesis.

Other National Contexts as Control Variables

There are other national-level contexts that can impact the gendered labour market patterns considered in this thesis, and they are summarised in Table 3. By controlling for these variables, we can examine whether or not the family policy variables above have explanatory power over the other potential factors in shaping the gendered labour market patterns across Europe. It is important to note that each multilevel model limits the number of context-level variables to maximum of two using stepwise approach, as the it may lead to biased results, considering the complexity of the models and the limited number of countries observed (see Stegmueller 2013). Descriptive Statistics for each variable by country is presented in Appendix 5.3.

Table 3 National-level control variables

	Min	Max	Mean	Standard Deviation	N	N (country)
Female unemployment rate (2015)	4	28.9	9.905	6.010	24909	30
Female employment rate (2015)	39	62.4	52.395	5.173	24909	30
Gender employment gap (2015)	1.6	25.3	9.324	4.766	24909	30
Mothers' employment rate (2015)	54	84	69.055	7.493	24120	29
Gender norm (2014)	27.05	73.8	54.745	12.712	22341	27
Childcare cost (2015)	0	44	13.473	10.661	24203	29
Unemployment rate (2015)	4.3	24.9	9.756	5.340	24909	30
Union density	4.5	68.2	28.781	18.334	23004	27
Collective Bargaining coverage	8.5	100	59.482	28.443	24909	30

Note: these are not standardised, but the analyses use standardised variables

Female unemployment rate is the proportion of women unemployed between the ages 15-74 (Eurostat 2015). For Luxembourg, I use an estimated number due to break in time series. Female employment rate is from ILOSTAT data 2015. Gender employment gap refers to the gender gap in employment-to-population rate in percentage points. It is from OECD in 2015. Mother's employment rate refers to employment rate (%) for all mothers (between

the ages of 15-64) with at least one child under the age of 15 (OECD family database 2015). Gender norm variable is derived from the Eurobarometer 2014, and is the combined average of the respondents who answered 'tend to agree' or 'totally agree' to the statements that are closely related to the gender roles: 1) all in all family life suffers when the mother has a full-time job and 2) overall men are less competent than women to perform household tasks. Therefore, higher number represents stronger 'traditional' gender norms. The childcare cost refers to the net childcare cost of couples earning average wage in 2015, in proportion to the average wage (OECD[36]). The unemployment rate is percentage of those unemployed between the ages 15-74 (Eurostat 2015), again Luxembourg has an estimated number due to break in time series. The Union density and Collective bargaining coverage are from the OECD database on Institutional Characteristics of Trade Unions, Wage Setting, State Intervention and Social Pacts (ICTWSS). Both data are from 2015, or the year closest to 2015 for the countries that do not have data available for 2015 (Union density: Poland 2014, Greece 2013, France 2013, Bulgaria 2012; Adjusted collective bargaining coverage rate: Switzerland 2014, Norway 2014, Malta 2008, Luxembourg 2014, Latvia 2014, Ireland 2009, Finland 2014, Estonia 2014, Croatia 2014, Bulgaria 2014).

3. Methodologies

The two main methodologies used in this thesis are Latent Class Analysis (hereafter LCA) and Multilevel Modelling (hereafter MLM). LCA is first used to examine how the labour market is divided using the five indicators of Outsider-ness (Chapter 6) as discussed

[36] See https://data.oecd.org/benwage/net-childcare-costs.htm

in the above section. The results derived from the data are used to examine the gendered patterns in the labour market using Multigroup LCA in Chapter 7. Multigroup latent class analysis is explained below as part of the LCA. The binary variables of each Outsider group derived from the LCA are used as dependent variables for the MLM. MLM is used to examine the cross-national variations in women's higher likelihood of being Outsiders compared to men (Chapter 8), and its association with the family policy (Chapter 9). The construction of the binary variables is discussed in Chapter 6 based on the results from LCA. In this section, I explain each of these methodologies and their usefulness in answering the research questions discussed earlier in this chapter. Then, I discuss what needs to be considered in interpreting the results and examining the model fit. The research models used in this thesis are also presented in this section.

1) Latent Class Analysis

Latent Class Analysis (LCA) is a quantitative research method that derives the unknown or unobserved (latent) subgroups (classes) using the known or observed variables. It begins from an assumption that there are subgroups of individuals that share similar characteristics, and it identifies those subgroups by examining the clustering of the characteristics. It is useful in identifying the subgroups that we are not aware of (such as the labour market divisions) from the data and that may not be fully captured in existing knowledge. Recent studies have shown its usefulness to use LCA to examine the labour market divisions (e.g., Lukac, Doerflinger and Pulignano 2019; Yoon and Chung 2016), especially in capturing the complexity of the labour market which cannot be explained through examining individual characteristics separately (e.g., income, employment contract).

As discussed in Chapter 2, the first part of the analysis conducted in this thesis adds to this recent literature by incorporating both the objective and subjective measures of Outsiderness as well as the future prospects. By analysing a pool data of 30 countries, this thesis adds to knowledge through providing a general trend of labour market divisions that can be used as a framework for cross-national comparisons.

There are some other methods that also examine the latent variables, such as the Factor Analysis, Latent Profile Analysis, and Latent Trait Analysis (Collins and Lanza 2010). LCA differs from the other three methods in its use of categorical variables for both the indicator (observed variables) and the class (latent variable), while the others use continuous variables for either or both of them (Collins and Lanza 2010). The Diagram 3 depicts LCA in a simple form, with L standing for latent variable, A through C for observed variables, and e 1 through 3 for residuals. Residual here is a difference between the expected model and the observation. Although it is statistically correct to include them, the theoretical explanations and statistical calculations will only include the latent variables and observed variables, bearing in mind that there may be errors that have not been accounted for. However, LCA assumes that there is local independence, which means that these errors would not have a significant impact on the examined relationship between the latent variable and the observed variables. Thus, these errors can be ignored for interpretation as long as the assumption of local independence is satisfied. Local independence is further explained later in this section as it is one of the important criteria to test for model fit of the LCA models.

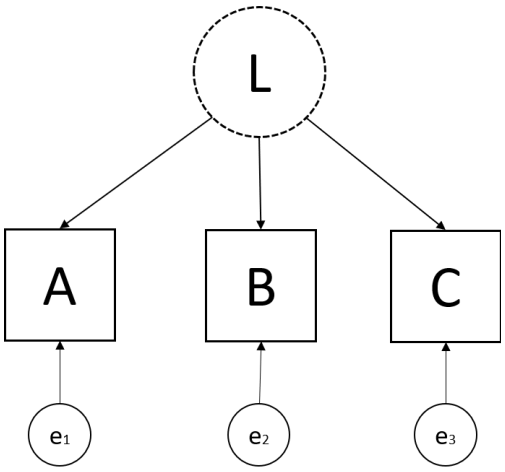

Diagram 3 Latent class analysis

Diagram 4 shows how the LCA is applied to the first research question in this thesis: *how is the labour market divided?* As discussed in the above section, five indicators of labour market Outsider-ness are used, which are part-time work, insecure employment, subjective job insecurity, income insecurity [37] and the lack of job prospects. Drawing from the Dualization theory, this thesis starts from a premise that the labour market is divided into two subgroups which are Insiders and Outsiders. Insiders are composed of workers who share patterns of 'secure' work characteristics (i.e., full-time, secure employment and income, feeling secure and prospects for advancement), whereas the Outsiders are those who deviate from this group. As discussed in the last section of Chapter 2, there may be more than two segments in the labour market, presumably the different Outsiders.

[37] Note that income insecurity in this thesis refers to low income

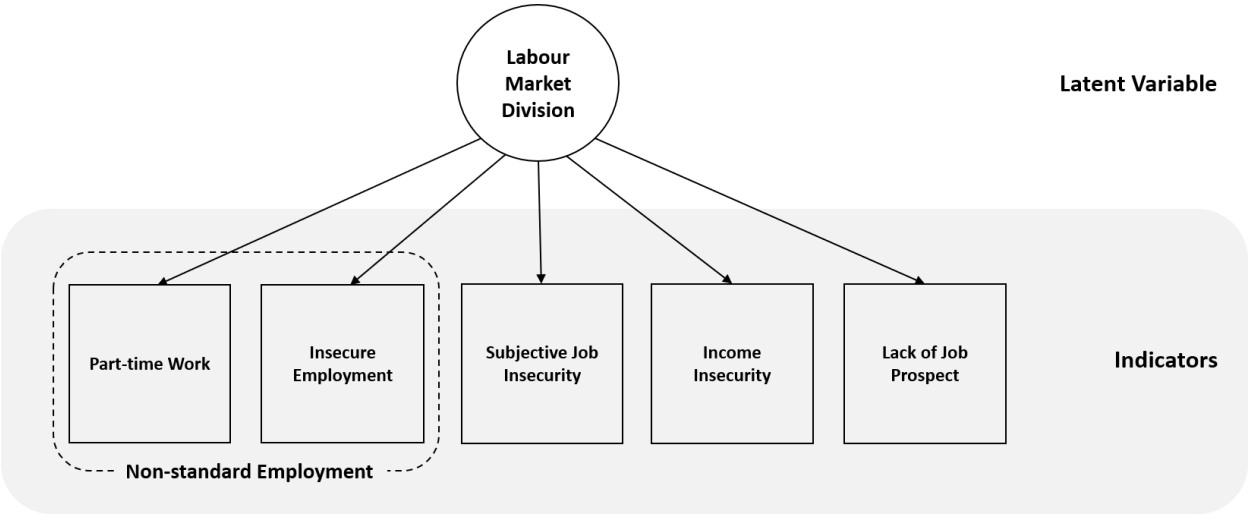

Diagram 4 Latent class analysis identifying the labour market division

Latent Class Model Equations[38]

The latent class modelling first starts from the assumption that the individual belongs to only one of the classes – namely, the mutual exclusiveness of the classes. Thus, when there are C number of latent classes (c) and the likelihood of belonging to each class is γ_c, below equation holds.

$$\sum_{c=1}^{C} \gamma_c = 1$$

Let j be the observed variable (j=1,…,J), r_j the response categories of each variable (r_j =1,… R_j), and item-response probability of each category ρ_j . The probability of responding to each category per variable in the given latent class also adds to 1, and it is expressed in the equation below.

[38] Note that the equations presented in this section is from Collins and Lanza (2010).

$$\sum_{r_j=1}^{R_j} \rho_{j,r_j|c} = 1$$

When y is a vector of certain response pattern, the probability of y can be derived from the below equation. Within a given class, the probability of an individual to respond to certain response pattern y is the product of each response for each question. Here, $I(\mathcal{Y}_j = r_j)$ is an indicator function that only equals 1 when the response of variable $j = r_j$, and $\mathcal{Y}_j$is the response of j in the response pattern y.

$$P(Y = y|L = c) = \prod_{j=1}^{J} \prod_{r_j=1}^{R_j} \rho_{j,r_j|c}^{I(\mathcal{Y}_j = r_j)}$$

When we take into account the probability of being in c class based on this, we get the probability of responding to y pattern and belonging to c class.

$$P(Y = y, L = c) = P(L = c)(Y = y|L = c) = \gamma_c \prod_{j=1}^{J} \prod_{r_j=1}^{R_j} \rho_{j,r_j|c}^{I(\mathcal{Y}_j = r_j)}$$

As a result, the probability of the response pattern y in total can be obtained through the equation below.

$$P(Y = y) = \sum_{c=1}^{C} \gamma_c \prod_{j=1}^{J} \prod_{r_j=1}^{R_j} \rho_{j,r_j|c}^{I(\mathcal{Y}_j = r_j)}$$

Interpretation of Results

With the statistics software Mplus, LCA is conducted by estimating the maximum likelihood (ML) using the Expectation Maximization (EM) algorithm. Two parameters are examined in LCA, which are the estimated latent class prevalence and item response probability. The former represents the proportion of individuals in each class divisions, and the latter represents the probability of responses to each indicator variables for each class, which shows the estimated profiles of the individuals in each class. In this thesis, the 'class' refers to the divided labour market or the labour market segment.

Strong relationship between the latent variable and the observed variable can be assessed if the 1) item-response probability for a variable of a class is different from the probability for the same variable of a different class, and 2) item-response probability is close to 1 or 0 (Collins and Lanza 2010). Moreover, in order to have clear class divisions, the item-response probabilities need to show high homogeneity within a class and high degree of differences between classes (i.e., latent class separation). Thus, when we have the results for how many segments are there in the labour market, we can use latent class prevalence to examine the proportion of workers in each segment. Then, using the item-response probabilities, characteristics of each segment (or how labour market is divided) can be examined. The probabilities that are higher than 0.7 are considered to examine characteristics of each segment along with relative proportions among classes (Collins and Lanza 2010).

Model Selection and Goodness of Fit: Deciding on the Number of Segments

LCA is often conducted several times with different number of classes to examine which of the models represents the sample data the best, and there are several criteria that can be used to choose the best-fitting model. The model can have an absolute fit without comparing with other models, or a relative fit in comparison to other models. Absolute fit of the model is assessed through the statistical test on whether or not the model fits the data being observed. Similar to the chi-square test, likelihood-ratio statistic G^2 (Agresti 1990 cited Collins and Lanza 2010 p.83) is calculated to test the absolute fit of the model. The model with the absolute fit is the one that supports the null hypothesis that the model fits the observed data, and the difference between the expected and the observed models are not significant. As the null hypothesis is more likely to be rejected with bigger value of G^2, models with smaller values are selected. However, if the degree of freedom is large and the sample size is small (i.e., $N/W<5$), the issue of sparseness[39] may arise and the G^2 is not used for examining absolute model fit. Although the sparseness is not an issue in this thesis, absolute fit of the models is not considered, because the aim of this thesis is not to find the absolute model that represents the reality, but the model that can *better* represent the reality. It also reflects the approach taken by the information theorists that there is no data or model that can represent the reality perfectly, as there can be errors in the data or the models itself (see Burnham and Anderson 2004).

Relative model fit stems from this very idea that there is not one model that shows the true reality, but instead a better model that is closer to the truth. Thus, the researcher

[39] The sparseness here "refers to the extent to which the average expected cell count is small" (Collins and Lanza 2010, p.85).

would compare the models to examine which one of the models represents the data the best. This relative model fit can be evaluated using several criteria, such as the information criteria (Akaike Information Criterion (AIC, see Akaike 1987) and Bayesian Information Criterion (BIC, see Schwarz 1978), Parametric Bootstrap, entropy as well as testing for local independence. Starting from a small number of classes (1 or 2), the analysis is often conducted by increasing number of classes until the model does not make sense (Nylund, Asparouhov and Muthén 2007).

Firstly, most widely used and simpler method to find a relative fit of a model is to compare the statistically derived information criteria for each model, AIC and BIC. The best fitting model is selected on the basis of simplicity, thus the smaller the AIC or BIC, the better fit the model has (Collins and Lanza 2010). It is often the case that the model with the smallest number of AIC or BIC is selected, but the differences in information criteria less than 10 is considered to be insignificant (Burnham and Anderson 2004). The equations for AIC and BIC are as below, with LL standing for loglikelihood, P standing for the number of estimated parameters and N standing for the sample size. Since the BIC penalises the large sample size along with the large number of parameters (as AIC), the BIC is often considered more useful for the models with large sample size (Kankaraš, Moors and Vermunt 2010).

$$\mathrm{AIC} = -2LL + 2\mathrm{P}$$

$$BIC = -2LL + [\ln(N)]P$$

However, AIC and BIC do not always show the same results, and it is important to decide which one to follow when deciding the model for the analysis. AIC and BIC stem from two different methodological background, so it cannot be concluded that one is better

than the other in all circumstances (Burnham and Anderson 2004). Burnham and Anderson (2004) suggest that each has its own advantages depending on the size or the complexity of the data or the methodological objective. On the other hand, some scholars suggest that in terms of deciding the number of classes in LCA, BIC performs better than the AIC (Nylund, Asparouhov and Muthén 2007). Since this thesis uses LCA with a large data, I put heavier emphasis on the BIC when deciding the number of classes (or labour market segments). If the numbers continue to decrease with the increase in the number of classes (as was the case in Yoon (2015)), other methods will be used to select a model, such as the Parametric Bootstrap Likelihood Ratio Test or local independence test that are explained below.

The second criteria used is the Parametric Bootstrap Likelihood Ratio Test (BLRT). Unlike the likelihood ratio difference test, the models being compared do not have to be nested (i.e., same number of classes), so it is more widely used to compare the models with different number of classes. This examines the model fit of the current model with reference to the model with 1 less class. For instance, if 3-class model is being analysed, its model fit is calculated based on its comparison with the 2-class model. When the p-value is significant ($p<0.05$), the model is better than the smaller class model. According to the Nylund, Asparouhov and Muthén (2007), BLRT has better performance in terms of model selection in LCA compared to the information criteria, as it showed consistent results for different models being tested.

As mentioned earlier, an important assumption of the LCA is that the indicator variables are independent of one another apart from their relationship with the latent variable (i.e., local independence) (Collins and Lanza 2010). Local independence is often examined through the Bivariate Residuals, as shown above, and the values bigger than 3.84 are

considered to show significant relationship between the variable (i.e., violation of the assumption, Schreiber 2017). It is important to note that the local independence can be improved through adding another class or removing a problematic variable from the model (Collins and Lanza 2010). The latter is often preferred as it is a more parsimonious model.

Aside from the model fit, usefulness of the model can be examined using the entropy and the interpretability of the model to decide on the number of classes. As quoted in Collins and Lanza (2010, p.74), entropy is often defined as the "degree of disorder or uncertainty in the system" according to the Merriam-Webster dictionary. In terms of measurement, entropy value ranges between 0 and 1, with the larger number indicating less entropy. In latent class analysis, the closer it is to 1 the more precise the classification of the model (thus less classification error). In this thesis, entropy values for both the general model and each indicator variable are examined. The former is used for comparing model fit amongst different models, and the latter for examining the robustness of the model especially in relation to the variable selection (e.g., Asparouhov and Muthén 2018). However, it is important to note that the classification error may arise simply due to the increased number of classes (Collins and Lanza 2010). Thus, it is also important to consider the interpretability of the model is often based on the theoretical background (e.g., Dualization Theory) and the interpretability of the profiles of latent classes. For instance, when the models with two and three labour market segments have similarly 'good' model fits, I may select the model with two segments as it is more interpretable based on the Dualization theory. Although this may seem arbitrary, when there are several models which show good model fit, the researcher may decide which model to use based on the expertise and knowledge in the topic. It needs

to be noted that there is no model that shows the truth itself, but the aim is to examine the model that is the closer to it.

Multigroup Latent Class Analysis

After finding how the labour market is divided through LCA, the next question this thesis aims to explore is to what extent the divided patterns vary by gender – creating gendered labour market patterns. We can answer this using the Multigroup LCA (hereafter MLCA), which can be used to examine how the labour market is divided in each group (male and female) and to what extent the results vary across different groups. This goes back to the debates on the labour market segmentation amongst women discussed in Chapter 3, whether the segmented structure of the labour market can also vary across gender or we find the same/similar labour market structure across genders.

When it comes to comparing different groups of population, it is important to consider the measurement invariance (Clogg and Goodman 1985). Measurement invariance assumes that the measurements/concepts being examined are equal across subgroups (Davidov et al. 2014). In LCA, it means that the groups show the same or similar (with differences insignificant) latent class structures – both in terms of number of classes and latent class profiles (Collins and Lanza 2010; Lanza et al. 2007). Only when the LCA model is measurement invariant we can compare the latent class prevalence of each group directly. For instance, if the measurement is invariant across genders, then we can directly compare the proportion of women in the Insider job to that of men.

To test the measurement invariance, this thesis first conducts the LCA separately for women and men to examine the number of latent classes. When selecting the models based on the criteria of relative model fit discussed above, the difference in MLCA is that the more parsimonious model is where the groups have the same number of classes (Collins and Lanza 2010). If the number of classes are the same, we can compare (1) the model with all item probabilities constrained to be equal for both men and women and (2) the model with free probabilities (Collins and Lanza 2010). The partial measurement invariance can also be observed but at different levels. For instance, we may find some of the labour market segments for both women and men to show the same/similar item probabilities (thus, similar characteristics) while the others are different. This can also be tested by comparing different models with different levels of free parameters (or different number of classes constrained to be equal).

Likelihood-ratio test is often conducted to examine whether constraints do not significantly worsen the model fit and measurement is invariant (p-value>0.05). However, AIC and BIC should always be considered together, especially if there is a large number of item-response probabilities, in which case the G^2 test results may not be as accurate (Collins and Lanza 2010). Moreover, the results need to be interpreted with caution as "the difference may be statistically significant, but not important" (Collins and Lanza 2010, p.132). In other words, there may be cases where the models vary statistically significantly based on the above criteria but are still similar when the item probabilities are examined closely, especially when G^2 is small (Collins and Lanza 2010). It this case, it can be decided at the discretion of the researcher to assume measurement invariance of the model, even partially (Lanza et al. 2007). In this thesis, if the two segments found among women and men show similar patterns

or combination of labour market characteristics, I consider them to be functionally equivalent, even if they are statistically different. Moreover, in the cases where there are two or more models with similarly good fit, the models with less variance will be selected as it is more parsimonious.

Below is the diagram that depicts MLCA, with G standing for observed subgroups in the data, which is gender for this thesis.

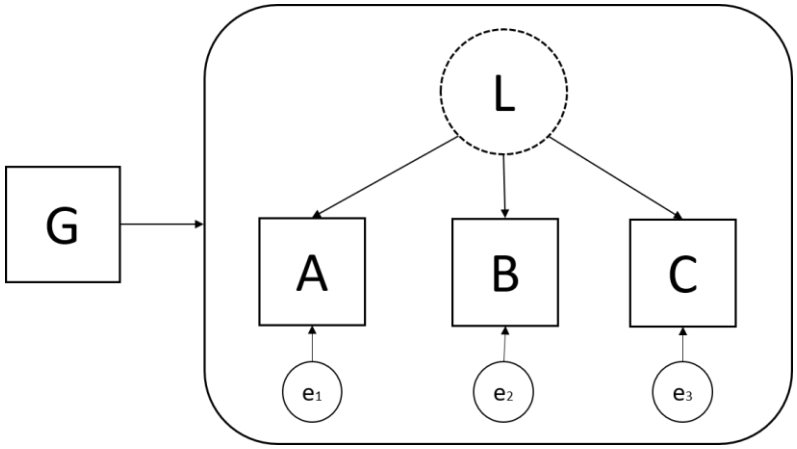

Diagram 5 Multigroup Latent Class Analysis

Within the framework of MLCA, the probability of an individual to belong to a latent class conditional to the group can be expressed in the equation below. V here represents the group variable with q=1, …, Q groups. As the group variable used in this thesis is binary gender, there are Q=2 groups. P(Y = y | V = q) represents the probability of response pattern y within q group, and Σ P(Y = y | V = q) = 1.

$$P(Y = y|V = q) = \sum_{c=1}^{C} \gamma_{c|q} \prod_{j=1}^{J} \prod_{r_j=1}^{R_j} \rho_{j,r_j|c,q}^{I(y_j=r_j)}$$

2) Multilevel Modelling

Multilevel Modelling (hereafter MLM) is used to examine the relationship between the variables that are measured at different levels, where the data is 'nested' (Hox 2002). The single-level regression analysis assumes that the observations are independent from one another. However, what is often not considered is that the individuals are 'nested' into and influenced by the higher-level groups, such as schools, organisations and countries. Acknowledging this hierarchy in the data, MLM is a methodology that takes into account both the relationship between the independent and dependent variables but also the variations within the higher-level groups. In other words, MLM starts from the assumption that the contexts matter, as the individuals' capabilities and preferences are often bound by the institutional contexts. Based on these assumptions, MLM is able to examine the association between the context-level data and the individual-level data.

We know from the literature discussed in the previous chapters that the institutions can shape the labour market through its impact on the workers and/or the employers. Adding to the literature, this thesis aims to examine how the family policy (as a national-level context) can shape the gendered labour market patterns that is most likely represented by the women's overrepresentation in the Outsider jobs (at the individual-level). MLM has been discussed as a useful methodology in identifying the relationship between the institutions and individuals both in the dualization research (e.g., Chung 2019b; Pulignano and Doerflinger 2018) and women's employment literature (e.g., Van der Lippe and Van Dijk 2002). Recent studies on family policy have also used MLM. For instance, Budig et al. (2016) used MLM to examine the relationship between the family policies and motherhood penalty, and Kleinert (2018) examined the relationship between the family policies and women reaching top positions.

Thus, MLM is widely used in the cross-national comparative research, especially in identifying the role of institutions in shaping the labour market. Building on these studies, this thesis uses two-level MLM to examine the relationship between family policies and women's overrepresentation in the Outsider jobs. This thesis specifically uses random slopes modelling, as the focus is not on women's proportion in the Outsider jobs itself, but their higher likelihood than men to become Outsiders. In other words, I examine cross-national variations in the gendered labour market patterns – i.e., relative likelihood of women to become Outsiders compared to men – and how family policy as an institutional context shapes such patterns.

Two parameters are of concern in MLM. First, there are regression coefficients from the multivariate logistic regression part of the model. Based on these, we are able to identify which of the family policies have significant impact on women's relative likelihood of becoming Outsiders. Second, there are the variance components. Based on these, we can examine to what extent one's likelihood of becoming Outsiders vary across countries. Adding the random slopes component by gender means that we examine how women's relative likelihood of becoming Outsiders compared to men varies across countries.

The simplest form of MLM without explanatory variables can be expressed as equation below. Y_{ij} represents the dependent variable, which in this thesis is one's likelihood of being an Outsider of an individual i in country j. β_0 represents the regression constant, which in this case is assumed to be the grand mean from which the individual country may deviate from. u_{0j} is the level 2 (i.e., country level) residual, which in this case represents the extent to which each country deviates from the grand mean. e_{ij} refers to the individual deviance from the mean within country j. In MLM, the assumption of normal distribution of

errors needs to hold and there are no correlations between the residuals across levels. This proposition is expressed below the equation. These assumptions hold for all MLM, so will not be repeated for the following equations. On the other hand, it needs to be noted that the e_{ij} is assumed to not exist as we conduct the logistic regression, and the Y_{ij} is the log odds (Sommet and Morselli 2017). Thus, the assumption of normal distribution in the level 1 residual $e_{ij} \sim N(0, \sigma_e^2)$ that holds for linear regression can be disregarded. This is applied to the rest of the equations in this section[40].

$$Y_{ij} = \beta_0 + u_{0j} + e_{ij}$$

$$u_{0j} \sim N(0, \sigma_{u0}^2)\ e_{ij} \sim N(0, \sigma_e^2)$$

If we are to examine the impact of gender on one's likelihood of being Outsiders allowing for the cross-national variance – namely, random intercept model, the equation can be modified as below with X as gender.

$$Y_{ij} = \beta_{0j} + \beta_1 X_{ij}$$

$$\beta_{0j} = \beta_0 + u_{0j}$$

$$\therefore Y_{ij} = \beta_0 + \beta_1 X_{ij} + u_{0j}$$

[40] Note that the equations presented in this section is from (Ringdal 2012).

However, as mentioned above, the focus of this thesis is more on women's relative likelihood of being Outsiders compared to men that can vary across countries – namely, random slopes model. Thus, we need to include another random effect to the equation, more specifically on the slope of explanatory variable gender, and it is expressed as below. Here, we assume the two national-level residuals to be normally distributed. Three random coefficients are possible with the one on the bottom left side of the matrix being the covariance between the two variances. This model is explored in Chapter 8, with consideration of the control variables that are not expressed in this equation.

$$Y_{ij} = \beta_{0j} + \beta_{1j}X_{ij}$$

$$\beta_{0j} = \beta_0 + u_{0j}$$

$$\beta_{1j} = \beta_1 + u_{1j}$$

$$\therefore Y_{ij} = \beta_0 + \beta_1 X_{ij} + (u_{0j} + u_{1j}X_{ij})$$

$$\Omega_u = \begin{bmatrix} \sigma^2_{u0} & \\ \sigma^2_{u01} & \sigma^2_{u1} \end{bmatrix}$$

Finally, this thesis aims to examine the association between the national-level family policies and women's relative likelihood of being Outsiders compared to men. Thus, I add the national-level explanatory variable Z to the random slopes modelling equation above, and they are expressed as below.

$$Y_{ij} = \beta_{0j} + \beta_{1j}X_{ij}$$

$$\beta_{0j} = \beta_0 + \beta_2 Z_j + u_{0j}$$

$$\beta_{1j} = \beta_1 + \beta_3 Z_j + u_{1j}$$

$$\therefore Y_{ij} = \beta_0 + \beta_1 X_{ij} + \beta_2 Z_j + \beta_3 X_{ij} Z_j + (u_{0j} + u_{1j} X_{ij})$$

Applying this to the model of this thesis with the key variable names replacing the algebraic symbols, and $\sum_p \beta_p X_{pij}$ representing all the individual-level control variables, the equation can be expressed as below. Again, the outcome $Outsider_{ij}$ is in log odds.

$$Outsider_{ij} = \beta_0 + \beta_1 gender_{ij} + \beta_3 family\ policy_j + \beta_4 gender_{ij} family\ policy_j + \sum_p \beta_p X_{pij} + (u_{0j} + u_{1j} gender_{ij})$$

Model fit

As mentioned above, an important assumption of the MLM is that there are significant differences at the higher level (in this thesis, countries) that cannot be explained solely through the differences in the individual characteristics. It is because even if the data is nested, if there is no significant variation in the context level, MLM is not necessarily better than the ordinary linear models (see Peugh 2010). Thus, it is first important to test if there are significant variations in labour market divisions across countries. This is often examined through the interclass correlation (ICC) (Hox 2002), which shows the proportion of one's likelihood of becoming Outsiders that can be explained at the country level and the correlation between the individuals within the same country. ICC higher than 0.05 means

that the hierarchical structure of the data cannot be ignored and thus it is necessary to conduct MLM (Ringdal 2012). MLM can still be conducted even when the ICC is lower than 0.05, but it is useful to be accompanied with robustness test with fixed effects models. On the other hand, MLM is the best choice for the research that examines 15 or more context-level data (i.e., countries). Assuming the covariance between the residuals of two levels to be 0, the sum variances in residuals $Var(Y_{ij})$ equals the sum of variance between countries $Var(u_{ij}) = \sigma_u^2$ and within country $Var(e_{ij}) = \sigma_e^2$. Thus, ICC (ρ) is calculated as below.

$$Var(Y_{ij}) = Var(u_{ij} + e_{ij}) = Var(u_j) + Var(e_{ij}) = \sigma_u^2 + \sigma_e^2$$

$$\rho = \frac{\sigma_{u_0}^2}{\sigma_{u_o}^2 + \sigma_e^2}$$

Since in logistic regression, σ_e^2 is assumed to be $\pi^2/3 \approx 3.29$, as we assume that there are no individual-level residuals e_{ij} (see above). Therefore, ICC can be calculated as:

$$\rho = \frac{\sigma_{u_0}^2}{\sigma_{u_o}^2 + (\pi^2/3)}$$

Nevertheless, ICC is not as relevant in random slopes models compared to the random intercept models. That is because ICC examines to what extent one's likelihood of becoming Outsiders varies across countries, not the variation in the extent to which women are more

likely than men to become Outsiders (i.e., gender gap). Thus, it is more relevant in this case to examine the significance of the random slope variance. This can be examined by comparing the explained variance of the models. Moreover, we can also use the changes in the log likelihood to examine if adding more variables in each model improves the model fit.

VI. How is the labour market divided in Europe?

1. Introduction

This chapter aims to examine the labour market divisions in Europe. While there are different types of precariousness (e.g., low income, part-time work, temporary work, subjective insecurity), the labour market segmentation literature (e.g., Doeringer and Piore 1971; Emmenegger et al. 2012a; Lindbeck and Snower 1986) often highlights two non-competing segments in the labour market, of those who are well-protected and those outside of the protection – namely, Insiders and Outsiders. With the increase in workers with non-standard contracts outside of certain employment protection which consequently could lead to reduced access to social protection, standard/non-standard division has been considered to be a key dividing line in the post-industrialised labour market (Rueda 2005). However, recent studies report on the evidence of diverse combinations of precariousness that the dichotomised understandings of the labour market may not fully capture. For instance, having a standard employment does not necessarily guarantee income security (Eichhorst and Tobsch 2015; ILO 2019), and nor does it guarantee one's sense of job or employment security (Chung 2019b). Thus, focusing on employment contracts alone has limitations in examining how the labour market is actually divided. It is important to examine how the different aspects of precariousness combine to form different segments in the labour market, as it can show both the heterogeneity of the labour market Outsiders as well as the various patterns of precarisation.

As discussed in Chapter 2, some recent studies have taken this approach using different types of labour market precariousness such as labour market status (i.e., different

non-standard employment arrangements, Emmenegger 2009) and risks both objective (i.e., low income, Yoon and Chung 2016) and subjective (i.e., perceived insecurity, Chung 2019b). Nevertheless, further research is required to incorporate these factors together, especially the subjective aspects of precariousness as the literature is often limited to the objective characteristics. Moreover, the dependent self-employed also needs to be included as a type of non-standard employment, as it represents the precarious contracts outside of the labour protection in most countries (due to it being de jure self-employed while being de facto employees) and is becoming more prevalent in the emerging economies, such as gig economy.

Thus, this chapter examines the patterns of labour market divisions in Europe by encompassing different aspects of precariousness, with the aim to understand who the different Outsiders are. This chapter takes the approach of the recent literature (e.g., Lukac, Doerflinger and Pulignano 2019; Yoon and Chung 2016) that empirically examines labour market divisions using Latent Class Analysis (hereafter LCA), instead of starting from the assumptions on certain types of divisions. LCA is a useful tool in examining how different types of precariousness (e.g., low-income, non-standard employment) tend to coincide but in different combinations to form segments in the labour market (see Chapter 5). This chapter differs from the previous studies in proposing a typology that incorporates wider range of factors contributing to labour market precariousness: objective characteristics of the employment contract (including the dependent self-employed), its future job prospects and income level, and subjective perception of the workers. Using the 6th wave of European Working Conditions Survey data and five indicators of Outsider-ness – namely, part-time work, insecure employment, subjective job insecurity, income insecurity (i.e., low income) and job prospects – I explore the labour market segmentation patterns across 30 European

countries. Finally, the labour market segments found in this chapter will be used as a dependent variable for the following chapters in this thesis, as the main research questions are how the dualized labour market is gendered and how family policy as an institution impacts such gendered patterns.

This chapter is composed of three sections aside from the Introduction. Firstly, the background of the research is briefly mentioned with the research question and hypothesis this chapter aims to explore. The background is a summary of what was discussed in Chapter 2. Next is the results from the LCA in the order of 1) model selection among the models with different number of classes, 2) the LCA result from the selected model, and 3) robustness check on the selected model based on LCA results of the models with different set of indicator variables. In the next section, this chapter explains how the results from the LCA will be constructed into the dependent variables for Chapters 8 and 9. Lastly, the conclusion summarises the chapter along with the contributions and implications of the findings in this chapter.

2. Theoretical Background

Criticising the neo-classical assumption of labour economics that inequalities in the labour market status depend on one's human capital, some scholars came up with Labour Market Segmentation theory. They argue that the labour market is segmented into non-competing markets where barriers between the markets protect those who are in a secure market (i.e., primary market) while it hinders the others (in the secondary market) from entering such market (Doeringer and Piore 1971; Reich, Gordon and Edwards 1973). They

show that the allocation of wage or job cannot be explained through differences in human capital, but rather through the divisions in the labour market based on the institutional and social factors – providing more structural and institutional explanations for the inequalities in the labour market. Depending on the institutional and societal contexts, different theories focused on different Outsiders, from which the institutions have protected the Insiders. At the core of these debates was the question: *How is the labour market divided?*

The literature often assumes two big non-competing segments – namely, the Insiders and Outsiders. However, how the dividing line is drawn between these two segments have varied depending on the focus of the research. The Segmentation Theory focuses on employment in the protected firms (i.e., internal labour market, Doeringer and Piore 1971) or wage differentials (Boston 1990). Insider-Outsider Theory divides the labour market based on the employment status (i.e., whether one is employed or not, Lindbeck and Snower 1986), while the Dualization Theory often defines Insiders as those with standard employment relationship, characterised by full time, fully insured, and with secure employment relationship (e.g., Schwander and Häusermann 2013).

Considering the increasingly diversified post-industrialised labour market, the assumption of 'dual' labour market has been questioned (e.g., Jessoula, Graziano and Madama 2010; Lukac, Doerflinger and Pulignano 2019; Yoon and Chung 2016). Rather than starting from assumptions on certain types of labour market divisions, these studies empirically examined how the labour market is divided. This approach of labour market analysis is especially useful in cross-national comparisons, because the assumptions based on certain contexts may not apply to others (see Prosser 2016; Yoon and Chung 2016).

Thus, this chapter aims to further the debates around non-dichotomous labour market segmentation by incorporating different aspects of labour market precariousness, and answer the research question: *how is the labour market divided?* I hypothesise that it is divided into more than two segments with several Outsider segments composed of different combination of labour market precariousness. This is based on the studies that show different labour market segmentation patterns in different countries (e.g., Eichhorst and Marx 2012; Schwander and Häusermann 2013; Yoon and Chung 2016). For the rationale behind the choice of indicators, see Chapter 5.

H1: *labour market is divided into more than two segments with different Outsider segments*.

3. Results

With the assumption that the labour market is divided into exclusive segments with distinctive characteristics of labour market precariousness (based on the theories on labour market divisions), this thesis conducted LCA to identify where the dividing lines are drawn in the post-industrialised labour market. I used the pool data of 30 European countries from the European Working Conditions Survey. Through this analysis we are able to examine the number of divisions/segments that exist in the general European labour market and the characteristics of each division/segment. Five indicator variables of labour market precariousness are used to derive labour market segments from the data, and they are Part-time Work, Insecure Employment, Subjective Insecurity, Income Insecurity and the Lack of

Job Prospect. The construction of variables can be found in the Methodology chapter (Chapter 5). I assume that the labour market segments are the combinations of these labour market precariousness indicators, or the clusters found among the $32(=2^5)$ response patterns. Mplus 8 mixture analysis is used.

1) Model Selection

Five models of different number of classes have been conducted and are analysed to answer the following two questions: 1) is the labour market divided? 2) if so, how many segments are there? The Table 4 below shows the comparison of different indices (BLRT p, AIC and BIC, Entropy) that are used to select the model best representing the data and can be interpreted better than the other models. Each model was run several times with different starting values in order to make sure that the maximum likelihood value is actually the maximum (i.e., global maximum) rather than a local maximum. The models with classes bigger than 5 are not considered in the analysis as they are not identified due to the negative degrees of freedom.

Table 4 Evaluating model fit of Latent Class Analysis

	Number of classes				
	1	***2***	***3***	***4***	***5***
LR χ2	nv	nv	20.107	nv	nv
Degree of Freedom	26	20	14	8	2
Loglikelihood (LL)	-87836.3	-83730.0	-83353.7	-83235.5	-83217.8
# of Free Parameters	5	11	17	23	29
AIC (LL)	175682.5	167482.0	166741.4	166516.9	**166493.7**
BIC (LL)	175724.6	167574.6	166884.5	**166710.5**	166737.8
BLRT p-value	-	0.000	0.000	0.000	0.000
Entropy	-	0.613	0.740	**0.751**	0.592
Part-time Work		0.312	**0.434**	0.313	0.215
Insecure Employment		0.208	0.425	**0.431**	0.237
Subjective Insecurity		0.131	**0.395**	0.313	0.140

Low Income	0.439	**0.548**	0.424	0.249
Lack of Job Prospect	0.126	**0.327**	0.224	0.221

Note: The loglikelihood, AIC and BIC are rounded up to the first decimal point. *** p-value<0.001, * p-value<0.05
'nv' stands for 'negative value.'

Firstly, the two information criteria examined show different results for the best representative model (model 5 for AIC and 4 for BIC). Although it is difficult to say which of the information criteria performs better (Burnham and Anderson 2004), this paper decides the model based on the BIC as it has been found to show more consistent results for the LCA compared to AIC, especially with a large sample size (Nylund, Asparouhov and Muthén 2007). On the other hand, the elbow method is sometimes used to examine the point where there is a sharp change in the plot (forming an 'elbow' shape) to decide the number of factors. The changes in the values with the increase in the number of classes show us how much of the model fit we gain by losing the parsimony of the model (i.e., a smaller number of classes is more parsimonious). The Figure 1 below shows that the gain in the model fit is large as we increase the number of classes to two and even to three, but not so much from four and higher. However, it is important to note that the information criteria in LCA do not share the same function as the eigenvalues in factor analysis, and the statistically insignificant difference between the information criteria needs to be below 10 (Burnham and Anderson, 2004). Nevertheless, it can be inferred from Figure 1 that while the European labour market is divided into several segments, it is largely divided into two.

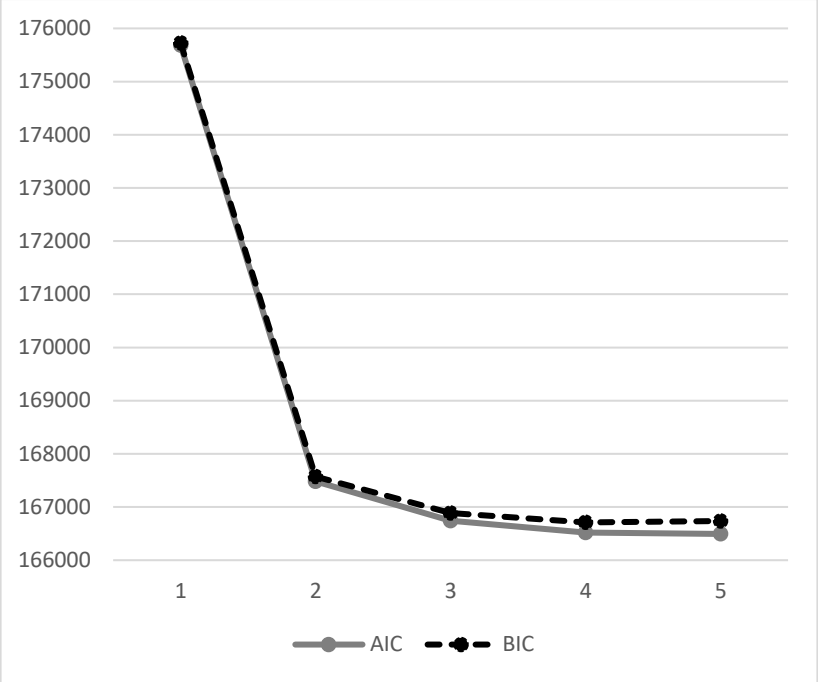

Figure 1 Changes in the information criteria with the increase in the number of latent classes

Secondly, the Parametric Bootstrap Likelihood Ratio Test is sometimes considered to show better performance in terms of model selection in LCA compared to the Information Criteria (Nylund, Asparouhov and Muthén 2007). However, it is not considered for model selection in this chapter as the results were significant ($p<0.05$) for all the models. What it does show is that the labour market is indeed segmented, as the representation of the model with more than two segments is significantly higher than the model with no segmentation (i.e., 1 class in LCA).

Thirdly, an important assumption of the LCA is that the indicator variables are independent of one another, apart from their relationship with the latent variable (i.e., local independence) (Collins and Lanza 2010). As discussed in Chapter 5, local independence is often examined through the Bivariate Residuals (see Table 5), with values larger than 3.84 considered to show significant relationship between the variables (i.e., violation of the

assumption) (Schreiber 2017). When the local independence assumption does not hold due to certain variables (in this case lack of job prospect), the model can be conducted without those variables to see if the model can be improved, as that would provide more parsimony than adding another class. Table 5.c shows the bivariate residual results for the 3-class model without the indicator 'lack of job prospect'. Although the numbers improved in general, it was not as good as the results found for the 4-class model (Table 5.b). The results suggest that the local independence improve significantly by adding a class in the analysis, more than removing the indicator harming the local independence the most (lack of job prospect). Thus, the results show the robustness of the 4-segment labour market division model.

Lastly, in terms of entropy, the model with four classes shows the highest value closer to 1, which means that the model is more useful in terms of explaining the data (or the latent class separation is high)[41]. The closer the entropy value is to 1, the less classification error there is in the model. In terms of the interpretability, model with four classes is better than the model with five classes, as the latter has a class that does not differentiate from the other class (i.e., lack of class separation) (see the result for model 5 in the Appendix 6.1). Model with three classes also shows a good class separation, considering both the entropy and the profiles (Appendix 6.2). However, it can be inferred that there may be some workers who are not necessarily Insiders included as Insiders in model 3, based on the bigger number of the workers in class 1 (which seems to be the Insider group due to the higher likelihood of security in employment and income) compared to the Insider group in model 4 (see Table 6).

[41] The entropy values for individual indicator variables, however, are generally higher in the model 3 than model 4, which means that the same indicators are more useful when explaining the model with 3 classes than 4. Entropy of each indicator variable is used to assess the usefulness of the variables when it comes to the variable selection for LCA (Asparouhov and Methén 2018).

Table 5 Bivariate Residuals for 3 and 4 class models

a. 3 class model (89.264)					
	Indicators	**1**	**2**	**3**	**4**
1	Part-time Work				
2	Insecure Employment	**12.998**			
3	Subjective Insecurity	0.754	**8.405**		
4	Income Insecurity	**8.340**	0.003	1.112	
5	Lack of Job Prospect	0.624	**38.331**	**11.367**	**7.356**
b. 4 class model (6.971)					
	Indicators	**1**	**2**	**3**	**4**
1	Part-time Work				
2	Insecure Employment	0.005			
3	Subjective Insecurity	0.115	0.003		
4	Income Insecurity	0.015	0.005	0.048	
5	Lack of Job Prospect	0.254	2.878	3.391	0.257
c. 3 class model without lack of job prospect (18.861)					
	Indicators	**1**	**2**	**3**	**4**
1	Part-time Work				
2	Insecure Employment	0.947			
3	Subjective Insecurity	0.451	**8.772**		
4	Income Insecurity	**5.112**	0.027	3.552	

Note: Pearson Chi-square test using z-score. Ones larger than 3.84 are highlighted with bold.

To conclude, after examining several indices to compare the model fit, taking into account the parsimony and interpretability of the five models with different number of classes, the model with four classes is selected for this thesis. Thus, *four* labour market segments are found for the European labour market, but largely two – an Insider segment and three Outsider segments. This supports the recent labour market segmentation literature that the post-industrialised labour market is divided into more than two segments (e.g., Jessoula, Graziano and Madama 2010; Lukac, Doerflinger and Pulignano 2019; Yoon and Chung 2016), while not neglecting the validity of the 'dual' labour market framework[42]. This proves the hypothesis of this chapter that there are more than 2 segments in the labour market, and

[42] However, in the two-segment model, while the Insider group showed similar characteristics, the other group was more marked by the higher likelihood of income insecurity and the lack of job prospects, with both labour market status indicators being insignificant. This shows the importance of using income and job prospects when examining labour market segmentation. Estimates can be provided upon request.

shows that the labour market is more complex than one group being all secure and the other being all insecure. How different labour market precariousness combine to form 4 different segments in the general European labour market is examined in the next section.

2) Insiders and three types of Outsiders

Given that there are four segments of labour market in general European labour market, the next question this thesis aims to answer is *how* it is divided – or who are more likely to be in each segment. The latent class profiles are shown in Table 6. The table shows the estimates for the likely responses or the response patterns (i.e., item probability) for each variable in each segment and the estimated proportion of the workers in each segment. The item probabilities that are higher than 0.7 are considered to identify the characteristics or profiles of each segment (Collins and Lanza 2010). Each segment is characterised by different combinations of labour market precariousness, and are labelled as *Insiders, Typical Outsiders, Dead-end Insiders and Subjective Outsiders* based on their distinguishable characteristics.

Table 6 Latent Class Analysis result for 4-class model

		Class 1 *Insiders*	***Class 2*** *Typical Outsiders*	***Class 3*** *Dead-end Insiders*	***Class 4*** *Subjective Outsiders*
Latent Class Prevalence		58.34%	15.46%	20.38%	5.82%
Part-time Work	Full-time	**0.946**	0.417	0.533	**0.951**
	Part-time	0.054	*0.583*	0.467	0.049
Insecure Employment	Permanent	**0.872**	0.000	**1.000**	0.552
	Insecure	0.128	**1.000**	0.000	0.448
Subjective Job Insecurity	Subjectively secure	**0.945**	*0.647*	**0.844**	0.000
	Subjectively insecure	0.055	0.353	0.156	**1.000**
Income Insecurity	Higher Income	**0.963**	0.151	0.217	**0.907**
	Low Income	0.037	**0.849**	**0.783**	0.093
Lack of Job Prospect	Have Prospect	*0.450*	0.287	0.247	0.357
	No Prospect	0.550	**0.713**	**0.753**	*0.643*

Note: Latent class prevalence: likelihood of one's being in each segment
The numbers ranging from 0 to 1 are the item probabilities – likelihood of the individuals in the given segment to respond to each item. The numbers higher than 0.7 are highlighted with bold and considered for determining the characteristics of each segment (Collins and Lanza 2010), and those with relatively higher likelihood are italicised.

The first segment is characterised by a high likelihood of full-time and permanent employment (i.e., standard employment), subjective job security and decent (i.e., non-low) income. It should also be noted that although job prospects for workers in Europe are generally low, this group of workers has relatively better prospects for advancement. Covering the majority of the employed population in Europe (58.34%), this group is labelled the *Insiders*, due to its similarity with the Insiders from the literature (e.g., Doeringer and Piore 1971; Schwander and Häusermann 2013; Yoon and Chung 2016).

The second segment accounts for 15.46% of the European labour market, and is characterised by having insecure employment, low incomes and a lack of job prospects. Although the difference is not significant (namely, neither likelihood is higher than 0.7, the threshold for determining a group (Collins and Lanza 2010)), this group is more likely to be part-time than full-time. As a group of individuals with coinciding characteristics of different labour market insecurities, it is labelled the *Typical Outsiders*, due to its characteristics being

similar to that typically associated with Outsiders in the literature (e.g., Doeringer and Piore 1971; Rueda 2005; Schwander and Häusermann 2013). What requires further investigation is the fact that this group has a higher likelihood of feeling secure rather than insecure, although the difference is not significant. One possible explanation would be that the temporary contract for some may not expire within 6 months, i.e., guaranteeing the employment security for the next 6 months.

What distinguishes this study from previous studies is the examination of the third and the fourth segments, with the former (Dead-end Insiders) accounting for roughly 20% of the employed population in Europe and the latter (Subjective Outsiders) 6%. The third segment is characterised by permanent employment and subjective job security, but insecurities in income and job prospects. Thus, this is the group whose employment status is stable (which is expected of Insiders from the literature), but are actually not secure due to low income and the lack of prospects in their jobs. The difference between part-time and full-time workers is not significant in determining the segment, although the likelihood of working part-time is greater than for Insiders or Subjective Outsiders (but smaller than for Typical Outsiders). Though members of this segment might be considered Insiders when only considering the permanency of the employment contract, they are in reality not Insiders as they face insecurities due to their low incomes and lack of prospects. Consequently, this segment is labelled the *Dead-end Insiders*. It needs to be noted that although labelled with 'insider', this group is considered to be an Outsider segment, as it is similar to the Outsider group found in previous studies (e.g., Eichhorst and Tobsch 2015; Lukac, Doerflinger and Pulignano 2019; Yoon and Chung 2016) and its relatively higher proportion of part-time workers.

The fourth segment is composed of workers who work full-time with a decent income, but do not feel secure about their employment. This segment is labelled *Subjective Outsiders*, as their Outsider-ness comes from their sense of insecurity regarding employment regardless of their actual employment contract. Their status in terms of the Insider-Outsider scale is not as clear as the other segments, since some of them may have been classified as Insiders had it not been for their subjective job insecurity. They may be either Insiders or Outsiders based on the objective employment insecurity. Nevertheless, this ambiguous segment supports Chung (2019b) that under certain conditions workers with permanent contracts are as likely to feel insecure about their jobs as those with precarious contracts. This resonates with recent studies (e.g., Jaehrling 2017) illustrating the divergence in the sense of security amongst the Insiders, which may be caused by increasing flexibility or deregulation, in turn inducing a fear of dismissal. This fear thus hints at a prevalent precariousness in the labour market not limited to traditional Outsiders. Thus, the subjective insecurity indicator allows us to examine the often-neglected lived experience of workers highlighting the importance of this group despite its small size.

3) Robustness Check

LCA is conducted using different set of indicators to examine the robustness of the model selected and the indicators used (see Table 7). Model 1 only excluded Part-time work from the indicators used in the main analysis, while model 2 excluded subjective job insecurity. model 3 excluded the binary income insecurity variable and replaced it with the three-level income variable (coded as low=2, medium=1, and high=0) (as done in Lukac, Doerflinger and Pulignano 2019), while model 4 excluded the lack of job prospects variable

and model 5 included all the indicator variables used in the main analysis (see Appendix 6.3 for the LCA results of each model). Since models 1-4 are not identified when analysed with four classes, the analysis was done with three classes. Thus, models 1-4 are compared statistically (model fit and local independence assumption) with model 5, then with the model selected. This is because if a model with fewer indicators shows improvement in the model fit with three classes, it would be a preferred to the 4-class model, since both the model fit and parsimony can be gained from it. The results are summarised in the Table 7. Insecure Employment and Income insecurity are not considered for exclusion in the models, as they are key and incontestable indicators of precariousness in the labour market and the models without these variables were not clearly identified.

Table 7 Robustness test with 3-segment models

		Model 1 *No Part-time*	***Model 2*** *No Subjective Job Insecurity*	***Model 3*** *3 level income*	***Model 4*** *No Lack of Job Prospect*	***Model 5*** *All 5 Indicators*
LR^2		Nv	Nv	Nv	Nv	20.108
df		1	1	27	1	14
Loglikelihood		-69565.5	-70182.2	-96405.7	-62728.3	-83353.7
# of free parameters		14	14	20	14	17
AIC		139159.0	140392.4	192851.4	125484.5	166741.4
BIC		139276.8	140510.3	193019.8	125602.4	166884.5
Entropy		0.721	0.664	0.712	0.730	0.740
	Part-time		0.427	0.397	0.447	0.434
	Precarious Employment	0.285	0.372	0.379	0.459	0.425
	Subjective Job Insecurity	0.045		0.361	0.370	0.395
	Income Insecurity	0.066	0.529	0.517	0.533	0.548
	Lack of Job Prospect	0.397	0.326	0.289		0.327
N		33437	33441	33442	33442	33442

Note: The loglikelihood, AIC and BIC are rounded up to the first decimal point. ‘nv’ stands for ‘negative value.’

Compared to model 5, local independence was improved for all models except for the model 3 (see Appendix 6.4). Comparing the information criteria, models 1, 2 and 4 show a better model fit than model 5. Since model 4 still shows some local dependence (see Appendix 6.4), only Models 1 and 2 are considered. When examining the latent class profiles of models 1-2 (see Appendix 6.3), the do not show better homogeneity and latent class separation than model 5 (latent class separation can also be inferred from the entropy). Finally, the entropy of the individual indicators did not improve much in general compared to model 5. Thus, excluding some variables from the model did not improve the model fit nor the interpretability than the model with all five indicators, which did not have as good a fit as the final model selected (with four classes).

4. Dependent Variable Construction

As mentioned in the beginning of this chapter, the latent variable (i.e., labour market division) derived from the LCA is used as the dependent variable for the Multilevel models in Chapters 8-9. Using the LCA result as either independent or dependent variable for further analysis is common in the LCA, and there are several ways of doing this. In a broader classification, there are two different methods, which are one-step and three-step analysis (Bakk and Vermunt 2016; Clark and Muthén 2009).

One-step analysis refers to conducting all the analysis (LCA along with the further analysis) at once. Thus, the variables for the further analysis (predictors or outcomes) are included while the LCA is being conducted. This is considered to be the least error-free amongst all the methods, but is not always used for several reasons (Clark and Muthén 2009).

Firstly, one-step analysis requires a long computing time that is not always feasible. Secondly, the added variables other than the ones used for LCA may affect the LCA to yield errors in the analysis. Lastly, it is especially not preferred in this thesis as both the LCA and Multilevel modelling are complex models. By including them all in a single model would be too complex for the models to be computed.

Three-step analysis, which is more commonly used than the one-step analysis, is structured into three steps: 1) estimating the latent classes, 2) classifying the individuals into the classes and deriving the latent variable from this, and 3) running regression analysis using the latent variable. By separating the first and third step as two models, it solves the issue of complexity One-step analysis has. The key here is that LCA results are changed into (a) variable(s) (step two) that is then used in the third step of analysis. There are two ways of conducting step two, which are called modal assignment and proportional assignment. The former is also called the crisp labels and the latter soft labels (Bakk, Oberski and Vermunt 2014; Dias and Vermunt 2008). The crisp labels are assigned based on the most likely class membership of the individual. For instance, if an individual showed 0.5 likelihood of being an Insider, 0.2 Dead-end Insider and 0.3 Subjective Outsider, that individual will be assigned to the Insider class. This is also known as the Most Likely Regression Method (Clark and Muthén 2009). However, as the example suggests, classification errors may occur during this process, especially if the class membership is close to 0 or 1. In other words, an individual may have equal or similar likelihood of being in two or more class at the same time. The soft labels also use one's likelihood of the class membership, but calibrate it into values between 0 and 1. In other words, individual will retain their likelihood of being in each of the classes. One way of doing it is to logit-transform the posterior probabilities (i.e., Probability

Regression Method) and another way is to weight the individual's posterior probability to be in each class (i.e., Probability-weighted Regression) (Clark and Muthén 2009). The classification error may still exist, but are less than the crisp labels, as the likelihoods of one being in all classes are considered, and the latent variable is not treated as an observed variable (Clark and Muthén 2009).

Either one- or three-step methods may have errors that could lead to biased results. The exception is when there is no relationship amongst the variables, where both methods tend to show similar results (Clark and Muthén 2009). However, the relationship amongst the variables is usually not evident, so the errors are always assumed when conducting the analysis. As an alternative to the one-step analysis, Clark and Muthén (2009) find most likely regression more useful than others, as it showed the least errors when the entropy was equal to or greater than 0.80. The model was still found to be useful when the entropy was bigger than 0.6. Collier and Leite (2017) also conducted several three-step analyses to investigate which one has the least errors, and concluded that the most likely regression worked best especially when the regression effect, entropy and sample size were equal to or greater than 0.3, 0.8 and 500, respectively. Entropy is especially a key here, because the bigger the entropy, the higher the class separation in LCA. This means that each class has distinct characteristics and individuals' chance of being in one class is evidently higher than being in other classes – minimising the potential errors in the second step in the three-step analysis discussed above. The Table 4 shows that the entropy of the model we selected (model 4) is 0.751, which is smaller than 0.8 but fairly close. Thus, we can assume that the three-step analysis with most likely variables can still yield meaningful results, while being more parsimonious and

feasible than the one-step analysis. Moreover, the sample size is much bigger than 500, which can reduce the errors from having limited number of cases to represent the data.

Thus, this thesis uses the most likely regression method of the three-step analysis. The latent variable of four-segment labour market derived from the LCA is constructed into binary variables that will be used as the dependent variable for Mutilevel models in Chapters 8-9. I use four dependent variables, which are the Outsider (which includes all three Outsider segments with the Insider being the reference group), and each Outsider segment as dummy variable with the reference group then being Insiders and the other types of Outsiders. This approach allows us to see how likely it is to be an Outsider vs an Insider (DV1), and then to examine how likely it is to be in a specific Outsider segment (and not the other segments). How the four variables are constructed is presented in the Table 8 below.

Table 8 Dependent Variable Construction

Latent class / DV	Insider	Typical Outsider	Dead-end Insider	Subjective Outsider
Outsider	0	1	1	1
Typical Outsider	0	1	0	0
Dead-end Insider	0	0	1	0
Subjective Outsider	0	0	0	1

5. Conclusion

The aim of this thesis is to examine how the divided/dualized labour market is division is gendered and the impact of family policy shaping the gendered patterns. As a first step, this chapter examined the general patterns of labour market segmentation in Europe. Drawing on the labour market segmentation literature, this chapter started out from the question *how is the labour market divided?,* considering the growing diversity of precarious

workers that is not limited to having non-standard work (e.g., Kalleberg 2018; Standing 2011). In line with recent literature questioning the 'dual' structure of the labour market (e.g., Lukac, Doerflinger and Pulignano 2019; Yoon and Chung 2016), this chapter used LCA on EWCS data to empirically examine the hypotheses that the labour market is divided into more than two segments, and more specifically with different Outsider segments composed of different combinations of precariousness. Outsiders differ from the Insiders not only in terms of the employment status, but also (and more precisely) the consequent disadvantages (i.e., income and job security) (Davidsson and Naczyk 2009). I therefore used different indicators of Outsiders along with non-standard employment to fully capture the complexity of the post-industrialised labour market, such as income insecurity (i.e., objective precarious outcomes), subjective insecurity and the future insecurity.

Using LCA, this chapter found that, in line with 'dual' labour market literature, the European labour market is divided largely into two segments – Insiders and Outsiders, but with three different types of Outsider jobs: Typical Outsiders, Dead-end Insiders and Subjective Outsiders. Insiders are characterised by the security in employment and income, while the Typical Outsiders are characterised by insecurity in employment and income, and the lack of job prospect. Dead-end Insiders are those who have secure employment and feel secure about employment, but have low income and low prospect for advancement. The Subjective Outsiders are those work full-time and have decent income but feel insecure about their employment. The findings show that having a standard employment relationship is no guarantee for job or income security. This confirms the importance of income and subjective insecurity (along with employment type) in identifying the 'actual' precariousness, an aspect often neglected when considering seemingly secure employment contracts.

This chapter has several important contributions to the knowledge of the labour market structure in Europe. Firstly, this chapter contributes to the knowledge of labour market division, as it provides empirical evidence by examining how the labour market is actually divided. It distinguishes from the previous studies by examining dualization patterns drawn from the data instead of pre-defining the outsiders as the unemployed or those in non-standard employment. The inclusion of the dependent self-employed, who are technically self-employed but share many characteristics of the employed, is especially notable as it has not been done in previous studies.

Secondly, the findings in this chapter suggests that the precariousness of the labour market coincide but in different combinations. The literature on the dual division of the labour market focuses on the employment relationships, often defining standard employment relationship as Insiders and non-standard employment relationship as Outsiders. This chapter adds to the literature by suggesting the labour market segments that exist in between these two: those who show security in some dimensions of the labour market but not in others, such as the Dead-end Insiders and Subjective Outsiders. The Dead-end Insiders even account for a bigger proportion of the Outsiders than the all-insecure workers (i.e., Typical Outsiders). Thus, this chapter captures the complexity of the post-industrialised labour market that cannot be explained solely through the employment contracts. These findings also suggest that when considering policies for the precarious workers, different aspects of the precariousness need to be considered together. It is important to understand that having a permanent or stable job does not necessarily lead to decent income, future prospects or one's subjective security for employment, and thus merely providing secure employment would not solve the issue of labour market inequality.

VII. How is the European labour market gendered?

1. Introduction

Using Latent Class Analysis, Chapter 6 identified four segments of labour market in Europe – namely, Insiders, Typical Outsiders, Dead-end Insiders and Subjective Outsiders. Based on this finding, this chapter aims to examine how the divided labour market is also gendered. As discussed in Chapter 3, women are more likely to work in atypical jobs and/or be in low-income jobs without prospects for advancement (e.g., Chou et al. 2017; McRae 2003; ILO 2019). Namely, women are overrepresented in the Outsider jobs (Schwander and Häusermann 2013; Esping-Andersen 1999; Taylor-Gooby 1991). On the other hand, the experience of being an Outsider in the labour market could also vary by gender (Biegert 2014; Booth, Francesconi and Frank 2002; Gash and McGinnity 2007). This often refers to the different types or the intensity of precariousness experienced by women and men while they are both categorised as Outsiders. On the contrary, the labour market segmentation patterns itself may also vary based on gender (Dickens, William and Lang 1993; Ghilarducci and Lee 2005; Meyer and Mukerjee 2007). In other words, the labour market segmentation found amongst women may be different from that of men. Based on these studies that show different aspects of gendered patterns in the labour market, as discussed in Chapter 3, this chapter examines how the four-segment labour market found in Chapter 6 is gendered.

One of the key contributions of this chapter in the literature is that it brings gender to the front of the dualization thesis. It provides a clearer picture of how women are more disadvantaged than men in terms of the types of jobs or the level of security, and how the

Outsider risks may also vary by gender. As has been criticised by some scholars (e.g., Emmenegger 2010; Schwander and Häusermann 2013), the existing literature on labour market dualization is gender-biased as it was built based on the cases of male manufacturing workers, who were more likely to be working in the formal sector, included into the internal labour market and thus be unionised than women. What is more, it has been slow in incorporating gendered views and approaches, as was the case in the organisation literature (e.g., Acker 1990) and the welfare state literature (e.g., Lewis 1992; Orloff 1993). Considering the gender segregation in the labour market (Reskin 1993), the labour market patterns and analytical framework (of Insiders vs Outsiders) derived primarily from male workers may "falsely universalis[e] implicitly masculinist" (Orloff 2009, p.391) labour market structure and lead to biased understandings. Thus, analysing the Insider-Outsider divide through the gender lens can address this limitation of the literature and provide a key to understanding *how* women are disadvantaged in the labour market. It is especially noteworthy that instead of starting from certain assumptions of divisions based on the existing cases, this chapter builds upon the four-segment framework that is derived from the data that includes both women and men and various labour precariousness indicators.

Thus, this chapter combines the literatures on dualization and gender segregation, and provides new evidence of how the labour market is divided as well as gendered. Multi-group Latent Class Analysis is used to investigate where women stand in the divided European labour market and how the divided patterns vary across gender. As mentioned in the Introduction, 'gender' is limited to the binary definition of gender being women and men due to the limitation of the data, which may neglect some important variations across different gender identities, and will have to be further investigated in the future studies.

This chapter is structured as follows. The introduction is followed by the theoretical background regarding gendered patterns within the divided labour market, which briefly summarises the literature review examined in Chapter 3. Hypotheses are presented in this section based on the literature review. In the third section, the analytical models ran in this thesis are described with the aim of examining each model (See Chapter 5 for detailed description of the methodology). In the fourth section, results from the MLCA by gender are provided. The results are used to define the 'gendered patterns in the labour market' or 'gendered labour market patterns' (used interchangeably in this thesis) that are being used for the rest of the analytical chapters. Lastly, the conclusion summarises the findings and reiterates the contribution of this chapter.

2. Theoretical Background and Hypotheses

As discussed in the literature review chapters (more specifically Chapters 2 and 3), one of the limitations of the Dualization literature is that it is inherently gender-biased, especially in its lack of consideration on different labour market trajectories of women and men (Emmenegger 2010). The theories on Labour Market Segmentation and Insider/Outsider, on which the literature is based, are built based on the cases of unionised workers in the manufacturing sector, which has been dominated by men. Thus, the idea of dual division may provide a narrow representation of male workers' labour market. For instance, discussing the labour market segmentation amongst female workers, Dickens and Lang (1993) concluded that there is no segmentation amongst female workers as they could not find the binary segmentation that was found among male workers. However, later studies have shown that

women's jobs do show certain segmentation patterns, but are different from those of men (Boston 1990; Dickens, William and Lang 1993; Ghilarducci and Lee 2005; Meyer and Mukerjee 2007). Thus, measurement of women's labour market based on the criteria derived from the men's labour market may lead to gender-biased results, where what is 'different' may be interpreted as 'non-existent' and become 'invisible'.

This thesis actively engages with and addresses these biases, by incorporating gender perspectives in deriving the labour market divisions and analysing gendered patterns in the divided labour market. In this section, I briefly summarise the review of the literature on the gendered patterns in the dualized labour market, discussed in Chapter 3. There are three themes that were found from the literature, which are 1) women's overrepresentation in the Outsider jobs, 2) different Outsider risks between women and men, and 3) different labour market segmentation patterns between women and men. Three hypotheses will be drawn from the literature and the findings from the previous chapter (i.e., on the four-segment labour market), that are tested in this chapter.

1) Women's overrepresentation in the Outsider jobs

One of the earliest studies of examining gender difference in the labour market segmentation literature, Boston (1990) found unexplained earnings differentials between women and men, which suggested that there are non-competing markets (i.e., segmentation) in the labour market, which puts women in a more disadvantaged position than men. From the findings, Boston infers that it was not the lack of skills, nor just the discrimination of individual employers alone that caused women's precariousness in the labour market, but the segmented labour market with women in more disadvantaged positions. In the labour market

that is largely divided into Insiders and Outsiders, women are more likely to be in the Outsider jobs (Davidsson and Naczyk 2009; Esping-Andersen 1999; Schwander and Häusermann 2013). This was evident from the early phase of women's labour market participation, as they were more likely to be hired in 'serving' roles in the firms (Reich, Gordon and Edwards 1973), or dead-end jobs if not tokens in the top positions (Kanter 1977 cited Acker 1990 p.143). Based on these studies I hypothesise that:

H2: *women are more likely than men to be in Outsider jobs*

2) Different Outsider risks by gender

Some scholars found that even when both women and men are Outsiders, the experience of being an Outsider or their Outsider-ness varies (Biegert 2014; Booth, Francesconi and Frank 2002; Gash and McGinnity 2007). Women are more likely to have another temporary job or be unemployed after temporary employment, or less likely to leave the non-employment status (Biegert 2014; Gash and McGinnity 2007). Thus, the effect of being in temporary job is less likely to be temporary for women compared to men. On the other hand, the wage gap between the fixed-term and permanent workers were found to be smaller for women than men (Booth, Francesconi and Frank 2002), meaning the gap between temporary versus permanent jobs may be more accentuated among men. While the authors argue that it has to do with the higher skill level of the female fixed-term workers and the higher likelihood of them being in the public sector, it could be linked to the higher incidence of low income among female workers, including those in permanent positions. As was found

in the previous chapter, not all permanent workers can be considered as labour market Insiders who enjoy advantages of high/decent income, and there is a possibility that more female permanent workers could have been in the Dead-end Insider jobs compared to their male counterpart.

H3: *Amongst the Outsider jobs, women are more likely to be Dead-end Insiders than others*

3) Different labour market segmentation patterns by gender

On the other hand, as mentioned above, some argue that the labour market structure of the female workers is different from the structure of the male workers. Early studies on the labour market segmentation were limited as the labour market they examined were predominantly male-focused. Addressing this gap in the literature, some scholars examined the labour market segmentation amongst female workers and found different segmentation patterns from those found amongst men (Boston 1990; Dickens, William and Lang 1993; Ghilarducci and Lee 2005; Meyer and Mukerjee 2007). Recent literature assumes the labour market to be the same for women and men, although women are disadvantaged within that structure. However, these studies provide an important insight that the labour market mechanisms for women and men might be different and cannot be directly compared. This is important, because if they are significantly different and this difference is not taken into account, the analysis may become biased and falsely universalise certain group's labour market. Based on this, the below hypothesis can be drawn.

H4: *The labour market segmentation patterns vary by gender*

3. MLCA models

With the aim to examine the gendered patterns in the four-segment labour market in Europe, this chapter conducts Mutligroup LCA (hereafter MLCA). Based on the three aspects of gendered labour market patterns examined in Chapter 3 and the above section in this chapter, MLCA is conducted to answer the following three questions.

Firstly, to what extent women are more likely to be Outsiders compared to men? Gender difference in the latent class prevalence is examined to see differences in the likelihood of women and men being in each segment. This is conducted by fixing the coefficients of the indicator variables and making the item probabilities equal for both women and men so that only the class prevalence vary by gender. From this, we can examine to what extent women are overrepresented in the Outsider jobs as was suggested in the literature (H2). It can also examine whether or not women's relative likelihood of being an Outsider compared to men varies across Outsider groups (H3).

Secondly, does the labour market segmentation patterns vary by gender? Measurement invariance is tested to statistically examine to what extent the labour market structure varies by gender (Davidov et al. 2014). To test the measurement invariance, this study compares several models with different level of variance in labour market structures/patterns by gender (Collins and Lanza 2010), using Likelihood Ratio Chi-square Test and Information Criteria. This is to see if we can assume the same labour market

segmentation patterns to hold for both women and men (H4), so that we can compare women and men directly.

Lastly, how does the Outsider risks vary across genders? Labour market division is examined separately for women and men (i.e., MLCA without any constraints) and compared to examine their similarities and differences. While the results are computed in the second analysis, this last analysis discusses the differences that may be statistically insignificant yet important to be considered for interpretations. This, along with the first analysis, can examine the varying Outsider risks by gender (H3).

4. Results

1) Descriptive Analysis: Gender Differences in five Labour Market Precariousness Indicators

Figure 2 presents the proportion of women and men in each of the indicator variables for labour market precariousness. This is on average across the countries being examined. In general, there is a bigger proportion of women in precarious positions, especially in terms of working part-time and having low income, confirming the existing data (see ILO 2016; 2019). Based on these figures, we can already see that women are more likely to be the Outsiders compared to men in general European labour market, even without the consideration of the unemployed or inactive.

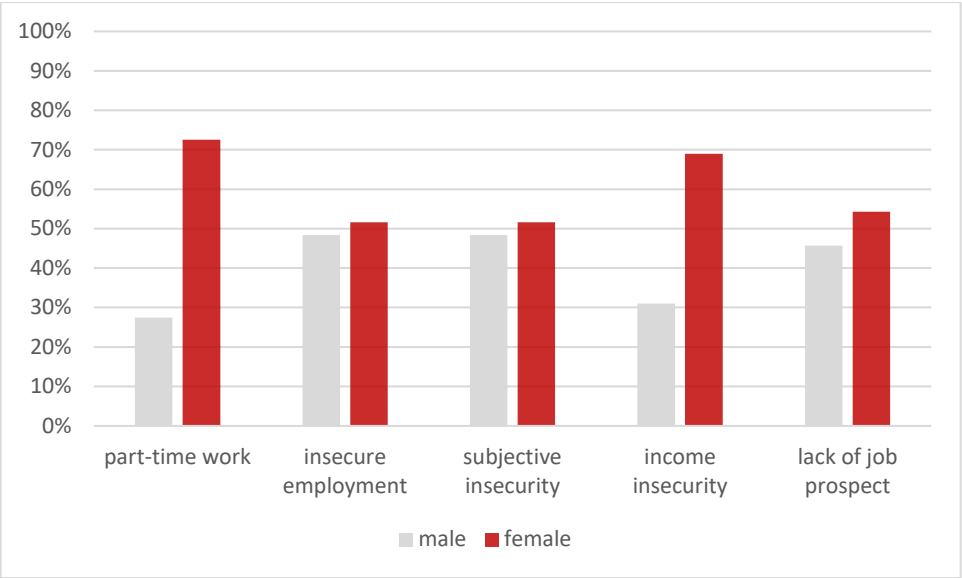

Figure 2 Gender distribution in part-time work, precarious employment, subjective insecurity, income insecurity, and lack of job prospect

2) MLCA: identifying the gendered patterns in the labour market

Feminisation of Outsiders

Next, I examine whether or not women are overrepresented in certain segments of the labour market using equality constraints (limiting item probabilities to be equal across gender) and fixing the segments to be the same as the four-segments found in the previous section (i.e., fixed value constraints[43]). Table 9 presents the results.

[43] This is done by fixing few variables by the estimated threshold coefficients found in the four-class model in the previous section. Only the ones with statistically insignificant coefficients were fixed.

Table 9 MLCA result with fixed value constraints and equality constraints

		Class 1 *Insiders*	***Class 2*** *Typical Outsiders*	***Class 3*** *Dead-end Insiders*	***Class 4*** *Subjective Outsiders*
Latent Class Prevalence	*Male*	33.09% (69.75%)	6.01% (12.67%)	4.22% (8.89%)	4.12% (8.68%)
	Female	22.17% (42.18%)	9.50% (18.08%)	18.99% (36.14%)	1.89% (3.60%)
Part-time Work	Full-time	**0.976**	0.404	0.533	**0.957**
	Part-time	0.024	*0.596*	0.467	0.043
Precarious Employment	Permanent	**0.867**	0.000	**1.000**	0.552
	Precarious	0.133	**1.000**	0.000	0.448
Subjective Job Insecurity	Subjectively secure	**0.946**	*0.651*	**0.860**	0.000
	Subjectively insecure	0.054	0.349	0.140	**1.000**
Income Insecurity	Higher Income	**0.952**	0.170	0.341	**0.851**
	Low Income	0.048	**0.830**	*0.659*	0.149
Lack of Job Prospect	Have Prospect	*0.455*	0.288	0.263	0.349
	No Prospect	0.545	**0.712**	**0.737**	*0.651*

Note: Latent class prevalence: likelihood of one's being in each segment
The numbers ranging from 0 to 1 are the item probabilities – likelihood of the individuals in the given segment to respond to each item. The numbers higher than 0.7 are highlighted with bold and considered for determining the characteristics of each segment (Collins and Lanza 2010), and those with relatively higher likelihood are italicised.

On average across Europe, men are much more likely to have an Insider job than women, while more than half of the women are likely to be in some sort of Outsider position, confirming the hypothesis 2 in this thesis and literature (e.g., Schwander and Häusermann 2013). Roughly 70% of the male workers are Insiders while only 42% of female workers are. What is more, men are relatively evenly distributed amongst the Outsider segments. whereas women are overrepresented in the Dead-end Insiders group (which this study defines as one of the Outsider segments), confirming the hypothesis 3. Women are four times as likely to be the Dead-end Insiders compared to men, and their likelihood of being in this segment is as high as their likelihood of being an Insider. The Dead-end Insiders resemble the distinct 'ambiguous' labour market from Dickens and Lang (1993), which show both the characteristics of an Insiders (being in large firm or primary market) and Outsiders (which they call 'typically dead-end'). This provides further evidence as to why we need to consider

diverse definitions of precariousness. If only the employment contracts have been considered – i.e., through permanent contract statuses, much of the female precarious workers who experience low income and lack of prospects may not be considered Outsiders. Women are also more likely to be Typical Outsiders compared to men, although the difference is not as prominent as the one found for the Dead-end Insiders. Thus, women's precariousness in a relative term is characterised by their overrepresentation in jobs with low income and lack of prospects for advancement more than their employment types.

On the other hand, men are more likely to be Subjective Outsiders than women, again confirming the hypothesis 3 on the different Outsider risks by gender. However, it needs to be noted that this has to do with the lower likelihood of women being in this segment. It is because men's likelihood of being Subjective Outsiders is similar to that of being Dead-end Insiders and Typical Outsiders. Figure 3 specifically compares one's likelihood of being in each labour market segment for women and men, separately.

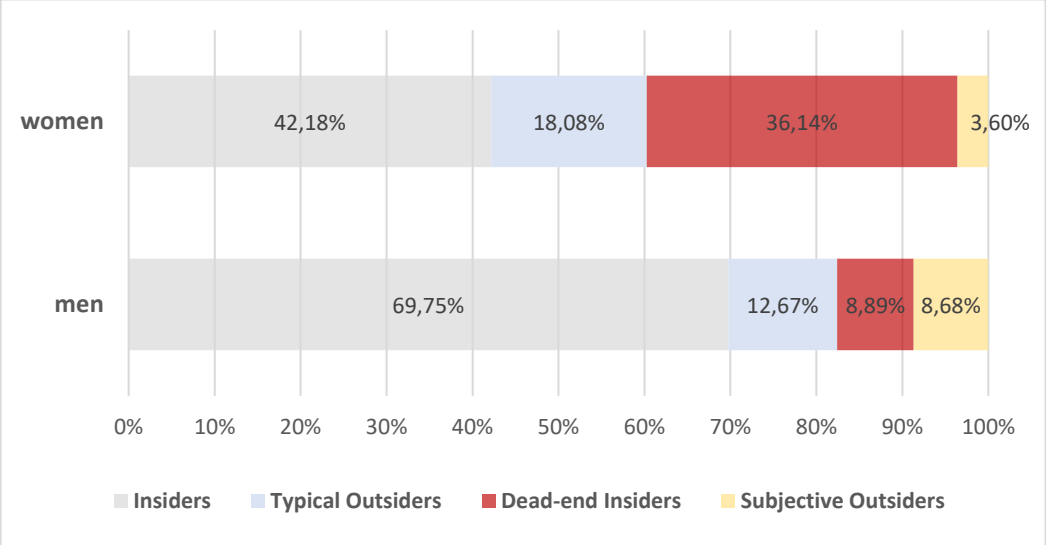

Figure 3 Likelihood of being in each segment among women and men
(Note: Each number represents the likelihood of an individual being in each segment in percentage)

Can we assume the same division for women and men?

However, this direct comparison would not make sense if the labour market segmentation varies significantly by gender (i.e., measurement is variant). Thus, measurement invariance is tested with several models (with different level of constraints) to examine if there is significant variation in the labour market structures for women and men, and if so, how they vary. The number of classes are limited to four classes for all models examined, upon confirming that the 4 classes model fits the best for both women and men[44] (see Appendix 7.1). The models examined are summarised in Table 10, with the models 4 through 6 representing "partial homogeneity" (Clogg and Goodman 1985). This is "to find the model with the lowest level of inequivalence possible that fits the data well" (Kankaraš, Moors and Vermunt 2010, p.11).

Among the indices presented, BIC is used as a key indicator for finding the best fitting model, as it is preferred to AIC and likelihood ratio chi-square test when the sample size is large (Kankaraš, Moors and Vermunt 2010). The BIC results suggest that the labour market structures of four given segments do not vary significantly across gender, thus supporting the results from the direct comparison in Table 9.

Nevertheless, it is important to acknowledge that some variations may still exist when considering the likelihood-ratio tests and the item probabilities from model 1 (see Table 11),

[44] Although the smallest number of the information criteria for men was found in model 3 and model 5, the model 4 was selected due to two reasons. Firstly, as the difference in the information criteria between the models with the smallest information criteria with model 4 were both smaller than 10, the goodness of fit for the model 4 is as good as the other models. Secondly, since the 4 classes have been found for women and the general labour market, model 4 would be the most parsimonious model (Collins and Lanza 2010).

especially concerning the fourth segment. The likelihood ratio chi-square test compares the models of different constraints level (models 2-6) with the model without any constraints where the labour market segmentations are examined completely freely and separately for women and men (model 1). The result with significant p-value (<0.05) indicates that the measurement is variant (Collins and Lanza 2010). Table 10 shows that the difference in the labour market structure between women and men is statistically significant, based on the likelihood-ratio tests for model 2 and model 3 with model 1. However, when examining the class profiles for women and men for model 1, there is a similar pattern in the labour market division, except for one segment (class 4) and the higher likelihood of income insecurity for women for class 2 (see the Table 11 below). This suggests that either partial measurement invariance may hold or the variance may not be important for interpretation, despite its statistical significance (see Collins and Lanza 2010). Models 4 through 6 are tested to examine whether there is a partial invariance between women and men, and model 4 shows that there is, as the p-value for the statistical test was >0.05.

Given this partial invariance, and the fact the BICs are significantly smaller for the models with restrictions, this thesis assumes the invariance to hold for the following chapters as we examine cross-national variations in women's overrepresentation in Outsider jobs. Thus, I reject the hypothesise 4 that the labour market segmentation patterns vary by gender. However, this thesis still acknowledges that there are some differences between women and men, especially in terms of the Subjective Outsiders. The following section, thus, examines the results from the model 1 of Table 10. This is to ensure that some gender variation that may be important for interpretation is not neglected despite its statistical insignificance (see Collins and Lanza 2010). It is important to note that when a specific class (i.e., segment in

this thesis) is different while the rest is similar across groups, that class is often considered either group-specific or non-comparable (Kankaraš, Moors and Vermunt 2010). In that case, caution is required in interpreting the results when directly comparing the groups for that particular class. The last section is especially important as this chapter aims to examine the gendered patterns in the labour market without falsely universalising certain results that might solely represent men or women.

Table 10 Measurement Invariance Test

	Model 1 *Unrestricted Model*	***Model 2*** *Equal with fixed values*	***Model 3*** *All classes equal*	***Model 4*** *1 class equal*[45]	***Model 5*** *2 classes equal*	***Model 6*** *3 class equal*
Loglikelihood	-105070.69	-105149.38	-105098.54	-105076.86	-105085.35	-105098.541
# of free parameters	47	22	32	42	37	32
Scaling factor	1.0519	1.0049	1.0217	1.0286	1.0266	1.0217
Likelihood-ratio Test[46] (p-value)		<0.001 (<0.001)	<0.001 (<0.001)	**0.078** (0.030)	0.004 (0.001)	<0.001 (<0.001)
Pearson χ2	23.051	199.694***	75.636***	**26.487**	56.469***	75.636***
LR χ2	42.028***	63.050*	103.742***	**24.627**	49.315**	103.742***
χ2 df	16	41	31	21	26	31
AIC	**210235.371**	210342.760	210261.081	**210237.724**	**210244.701**	210261.081
BIC	210630.984	**210527.941**	**210530.435**	**210591.250**	**210556.141**	**210530.435**

*** p-value<0.001, ** p-value <0.01, * p-value <0.05

Different Outsider Risks by Gender

As mentioned, the Table 11 is a summary of the results from the model 1 in Table 10, which is the MLCA model where the labour market segmentation was examined separately for women and men without any constraints. While the characteristics were similar for

[45] When conducting MLCA with any one class to be equal across gender, what was previously considered the Subjective Outsiders are found in both women and men. However, the difference was found among the Dead-end Insiders, as there is higher likelihood of low income for women compared to men (See Appendix 7.2).

[46] This is calculated based on two likelihood ratios, with one calculated based on the loglikelihood values and the other also including the scaling factor. The former is in the parentheses.

Insiders and Typical Outsiders, there were differences found for some aspects of Dead-end Insiders and the fourth segment.

Firstly, among those categorised as Dead-end Insiders, we see variations of their labour market characteristics across gender lines. Men in this group are more likely to work full-time than women, while women are more likely to have low-income than men in the same group. It can be inferred that women's Outsider-ness is more characterised by low-income and part-time work, supporting previous studies (e.g., Meyer and Mukerjee 2007), arguing that women's labour market division was marked by wage differentials rather than the employment status, which was a key factor for men. While the permanent employment contract is likely to be linked to being an Insider, for women there is also a high likelihood of them being in Dead-end Insider jobs that is low-paid. Dead-end Insiders can be a good explanation for the previous study that the income gap between permanent and temporary workers was bigger for men than women (Booth, Francesconi and Frank 2002).

Secondly, the fourth segment showed different patterns by gender. For men, the fourth segment can be characterised by the high levels of subjective insecurity *despite* having permanent full-time contracts. For women, the fourth segment includes those who are in precarious contracts and *thus* feel insecure about their jobs. This, along with a relatively large proportion of men in this segment (8% of male workers), shows that the discrepancy between the subjective and objective security may be a distinct characteristic found amongst male Outsiders. While this needs further investigation, this distinct feature of male Outsiders could be due to the threat they feel as Insiders with the increasing flexibilisation and deregulation as mentioned above.

Table 11 MLCA results without any constraints (4 classes)

Male		***Class 1*** *Insiders*	***Class 2*** *Dead-end Insiders*	***Class 3*** *Typical Outsiders*	***Class 4*** *Subjective Outsiders*
Latent Class Prevalence		31.086% (65.52%)	4.847% (10.22%)	7.680% (16.19%)	3.828% (8.07%)
Part-time Work	Full-time	**0.978**	**0.704**	0.478	**0.975**
	Part-time	0.022	0.296	*0.522*	0.025
Precarious Employment	Permanent	**0.867**	**1.000**	0.124	*0.612*
	Precarious	0.133	0.000	**0.876**	0.388
Subjective Job Insecurity	Subjectively secure	**0.956**	**0.841**	*0.668*	0.000
	Subjectively insecure	0.044	0.159	0.332	**1.000**
Income Insecurity	Higher Income	**0.971**	0.384	0.235	**0.937**
	Low Income	0.029	*0.616*	**0.765**	0.063
Lack of Job Prospect	Have Prospect	*0.455*	0.248	0.307	0.365
	No Prospect	0.545	**0.752**	*0.693*	*0.635*
Female		***Class 1*** *Insiders*	***Class 2*** *Dead-end Insiders*	***Class 3*** *Typical Outsiders*	***Class 4*** *Full-time Outsiders*
Latent Class Prevalence		27.47% (52.36%)	15.28% (29.08%)	8.79% (16.72%)	1.02% (1.94%)
Part-time Work	Full-time	**0.903**	0.507	0.391	**0.802**
	Part-time	0.097	0.493	*0.609*	0.198
Precarious Employment	Permanent	**0.877**	**1.000**	0.000	0.000
	Precarious	0.123	0.000	**1.000**	**1.000**
Subjective Job Insecurity	Subjectively secure	**0.907**	**0.847**	*0.632*	0.000
	Subjectively insecure	0.093	0.153	0.368	**1.000**
Income Insecurity	Higher Income	**0.962**	0.182	0.072	**1.000**
	Low Income	0.038	**0.818**	**0.928**	0.000
Lack of Job Prospect	Have Prospect	*0.444*	0.246	0.273	0.324
	No Prospect	0.556	**0.754**	**0.727**	*0.676*

Note: Latent class prevalence: likelihood of one's being in each segment

The numbers ranging from 0 to 1 are the item probabilities – likelihood of the individuals in the given segment to respond to each item. The numbers higher than 0.7 are highlighted with bold and considered for determining the characteristics of each segment (Collins and Lanza 2010), and those with relatively higher likelihood are italicised.

5. Conclusion

This chapter aimed to examine how the divided labour market is gendered using the four-segment labour market framework derived from LCA in Chapter 6. There has been a wide range of literature on labour market and organisation that discuss women's relative disadvantages in the labour market compared to men (e.g., Acker 1990; Esping-Andersen

1999; Reskin 1993; Schwander and Häusermann 2013; Taylor-Gooby 1991). Using the Insider-Outsider framework, it can be examined in three aspects: 1) women's overrepresentation in the Outsider jobs, 2) different Outsider risks between women and men, and 3) different labour market segmentation patterns by gender. Based on the previous studies, this chapter examined if the four-segment labour market shows these gendered patterns in the labour market, using Multigroup Latent Class Analysis.

As a result, the first two hypotheses have been confirmed but the last one was rejected. Firstly, I examined if and to what extent women are overrepresented in the Outsider jobs (hypothesis 2). Using the four labour market segments that were found in the previous chapter, this chapter found that men are roughly 10%p more likely to be Insiders than women. On the other hand, roughly 70% of men are likely to be Insiders, as opposed to 42% of women. Secondly, I examined if women's relative likelihood of being Outsiders compared to men varied across Outsider groups, thus the Outsider risks varied by gender (hypothesis 3). I found that while women are more likely to be Outsiders, they are more specifically overrepresented among the Dead-end Insiders, who are distinguished for their low income and a lack of prospect despite their secure employment. On the contrary, men are more likely to be Subjective Outsiders compared to women. Lastly, I examined if the divided structure of labour market varies across gender (hypothesis 4). Through the measurement invariance test, this chapter found that the difference can be considered to be statistically insignificant. However, there were still some differences that need to be taken into account for interpretations for the following analytical chapters. While a group of male Outsiders distinctively *feel insecure* about their positions despite having objective security in terms of their employment and income, female Outsiders are more characterised by *low income* and

part-time. Thus, the gendered labour market patterns in this thesis refers to women's overrepresentation in the Outsider jobs in general and the differing Outsider risks by gender.

There are several important contributions this chapter has on the literatures of labour market segmentation/dualization and gender segregation. Firstly, this chapter provides an empirical evidence of women's disadvantaged position in the labour market. The findings on women's overrepresentation in the Outsider jobs (especially among Dead-end Insiders) have two facets: *women are more likely to be Outsiders* and *Outsiders are more likely to be women*. Unlike the wide belief that women are more likely to take part-time jobs voluntarily based on the flexibility such jobs offer, studies show that the 'choice' is in reality constrained (e.g., Hobson 2011; McRae 2003). Moreover, low income amongst women is not only due to motherhood (Budig and England 2001) but the devaluation of 'feminine' or female-dominated jobs (Levanon, England and Allison 2009). Women often end up taking the Outsider jobs, which could be due to the Insider jobs not being able to accommodate with women's life course experiences, or the jobs available for women being precarious.

Secondly, it provides a new analytical framework that can identify the different Outsider risks between women and men. This chapter draws from the limitation in the labour market division literature that the existing assumptions on the labour market division/dualization is inherently gender-biased (e.g., Emmenegger 2010; Schwander and Häusermann 2013). It is because the literature has often been based on the cases of the male workers or the sectors that are male-dominated (e.g., manufacturing). Thus, the existing assumptions on the labour market – that it is divided mainly by employment contracts or that it is divided into two – may falsely universalise men's experiences, which may lead to misled understandings of women's labour market. The findings in this study show that being an

Outsider may not hold same meaning for women and men. Women's overrepresentation in the Dead-end Insider jobs indicate their higher risks of having part-time and low-income jobs, and relatively higher risk of holding insecure employments. On the other hand, men's relative Outsider risks do not have as distinct characteristics, except that they are more likely to experience subjective job insecurity than women. These findings confirm the usefulness of the four-segment labour market framework in identifying the gender differences in the Outsider risks.

Lastly, by testing for measurement invariance, this chapter critically tests the validity of direct comparison between women and men in the labour market analysis. Unlike the early segmentation studies that examined women's labour market differences (Boston 1990; Dickens, William and Lang 1993; Ghilarducci and Lee 2005; Meyer and Mukerjee 2007), recent studies often assume a more or less gender-neutral labour market. In other words, not much is considered for the different meaning of insecurity for women and men. Although this chapter does not examine the actual experiences of the workers, it provides empirical evidence that could hint on different experiences. Even in the seemingly similar dead-end jobs and temporary jobs, women are most likely to be low-income while for men the likelihood is lower. Moreover, when a worker feels insecure about their jobs, it is likely that for *her* it is associated with the insecure employment contract, whereas for *him* it can also be despite their secure employment contract. The results of the measurement invariance test rejected the hypothesis 4 that women and men show significantly different labour market segmentation patterns, statistically, but it is still important to acknowledge the nuanced differences that may have impact on the actual lives of the people.

In the next chapter, I examine if gender remains a significant factor in determining one's Outsider-ness even after controlling for other individual-level factors. At the same time, through the individual-level variables, we will be able to examine socio-demographic and job characteristics of the workers who belong to each labour market segment. In other words, we may be able to identify who they are, and potentially explain the nuanced differences between women and men. Using the Multilevel modelling, I then examine if the gendered labour market patterns vary across countries. As a result, this sets the scene for the final analytical chapter on the role of family policy as institutional context in shaping the gendered labour market patterns.

VIII. Does gender matter equally everywhere?

1. Introduction

This chapter aims to examine to what extent gender matters in determining one's labour market position, when accounting for other individual-level factors explaining one's likelihood of being an Outsider, and whether or not it matters equally across Europe. Using Multigroup LCA, Chapter 7 has found that women are more likely to be in Outsider jobs compared to men, especially the Dead-end Insider jobs. While the gap is not as prominent, women are more likely to be the Typical Outsiders compared to men, while the opposite is true for the Subjective Outsiders. This is supported by the literature which suggested that the labour market division itself is gendered and women are overrepresented in the more disadvantaged jobs (e.g., Esping-Andersen 1999; Reich, Gordon and Edwards 1973; Schwander and Häusermann 2013).

Nevertheless, there are different individual characteristics that could increase one's likelihood of being Outsiders, such as age, education level, skill level, having trade union and firm size (e.g., Biegert 2014; Chung 2019b; Häusermann and Schwander 2012; Yoon 2015). Changes in the workplace such as the reduction of the workforce may increase one's sense of insecurity (Klandermans and van Vuuren 1999; Klandermans, Hesselink and Van Vuuren 2010; Reichert and Tauchmann 2017). Moreover, although it is not just the mothers who are disadvantaged, family structure – especially the childcare responsibilities – has been one of the most crucial factors that are associated with women's overrepresentation in the Outsider jobs (e.g., Budig and England 2001; Chou et al. 2017; Drobnič, Blossfeld and Rohwer 1999). Thus, we can have a more accurate understanding of the role gender has in

determining one's labour market position when we account for these various factors together with gender. In other words, does gender still matter when the other characteristics are controlled? It is important to note that the significance of gender may also vary depending on which Outsider group we are focusing on – leading to certain gendered patterns in the labour market. While the cross-segment variation has been identified in the previous chapter, this chapter will examine this controlling for the said characteristics to confirm the identified patterns.

When certain gendered patterns in the labour market is confirmed, this chapter then examines the extent to which these patterns vary cross-nationally. As discussed in Chapter 3, cross-national variations in the women's overrepresentation in the Outsider jobs have been examined by some scholars – defining Outsiders as the unemployed or atypically employed (Schwander and Häusermann 2013). This chapter takes the debate further by examining the cross-national variations in women's relative likelihood of being Outsiders using the four-segment labour market framework. This could also provide a basis for explaining the gendered patterns in the labour market through the national-level institutional factors and not just the individual factors. The cross-national variations could allow us to infer if women's relative disadvantaged position in the labour market compared to men may be more enhanced or mitigated through the national contexts.

Thus, there are three focuses of this chapter. Firstly, this chapter examines if women are still more likely to be the Outsiders than men even when we account for the other relevant factors from the literature that are known to determine one's disadvantaged position in the labour market. Secondly, this chapter examines if gender matters equally across all Outsider segments. Thirdly, this chapter examines if such gendered patterns are found equally across

countries. In this chapter, I use the four binary dependent variables constructed in Chapter 6 based on the LCA results – namely, whether one belongs to the Outsiders (all three) as opposed to Insiders, and the same variable for each Outsider segment (Typical Outsider, Dead-end Insider and Subjective Outsider) with reference to Insiders. Since the data is nested, I conduct Multilevel logistic regression analysis.

This chapter is structured as follows. The first section briefly discusses the theoretical background of this chapter and present the hypotheses. Much of the background was discussed in Chapter 3. In the next section, I introduce the models conducted in this chapter, along with the description of the variables that are used in these models. Next, I present the results from the models. After conducting the main analyses, I conduct two additional analyses for Robustness Check. Then, as an additional section, I briefly discuss the role of childcare in women's relative likelihood of becoming Outsiders. This is to have some understandings of women's Outsider-ness in relation to the motherhood penalty, which would be useful in interpreting their relationship with family policy. Lastly, I summarise the findings and discuss the contribution of this chapter in relation to the literature as well as the following chapter. 'Gender' is limited to the binary definition of gender being women and men due to the limitation of the data.

2. Theoretical Background

According to Häusermann and Schwander (2009, p.31), young female low service workers are "not only potential [to be], but [are] actual outsiders." Thus, it is not just gender but also the occupational classes (based on the skills level and types of jobs) and the age that

can determine one's labour market Outsider-ness. As mentioned, this chapter aims to examine whether or not gender remains a significant factor even when controlling for the relevant factors and whether or not it matters equally across countries. In this section, I briefly summarise the discussion in Chapter 3 on how women become Outsiders, from which I draw the hypothesis that gender would still matter. Then, I briefly introduce the cross-national variations in the women's overrepresentation in the Outsider jobs from recent studies.

1) How women become Outsiders

Motherhood penalty

As discussed in Chapter 3, family structure or household characteristics is crucial in examining women's labour market trajectories and their position in the society (e.g., Emmenegger 2010; Orloff 1993). Women tend to experience higher likelihood of unemployment or part-time work especially during and after the years of childbirth and childcare (Chou et al. 2017; Drobnič, Blossfeld and Rohwer 1999). Moreover, low income is especially an important feature among mothers (Budig and England 2001), even compared to the women who are not mothers (Sigle-Rushton and Waldfogel 2007). This is largely due to the gender norms in most societies where women are considered to be the primary caretakers while men are the primary earners (i.e., breadwinner). As women tend to take on the majority of the childcare, they are more likely to be the ones to face the choice between work and family – having to balance work and family, compared to men. The jobs they take as they balance between the two are often part-time, temporary, and/or low-income jobs. Such seemingly mother-friendly jobs are not only marginalised (Yerkes and Visser 2006),

but also stigmatised (Chung 2018b). Moreover, some leave the labour market to take the care role for certain period of time, which may hinder their career development (Merlino, Parrotta and Pozzoli 2018). This is especially the case if their jobs require continued on-the-job training. Thus, the parenthood often leads to penalty for women (Budig and England 2001). This is important in understanding the gendered labour market patterns because the parenthood tends to have the opposite effect for fathers – often referred to as the fatherhood bonus (Hodges and Budig 2010). However, it needs to be noted that the fathers who decides to take the caring role as mothers and balance between work and family also experience the stigma at workplace (Chung 2018b).

However, having a child may have different impact across different Outsider segments. Since it was found not to have a significant impact on workers' subjective insecurity (Chung 2019b), it may not be an important predictor for the Subjective Outsiders, who are also more likely to be men, based on the findings from Chapter 7. Moreover, considering certain characteristics of precarious jobs that the mothers tend to be in (e.g., part-time and low-paid), it may be that the motherhood may have a greater impact on being in Typical Outsider or Dead-end Insider jobs compared to the other outsider segments.

Nevertheless, as discussed in Chapter 3 and emphasised throughout this thesis, it is not only the motherhood that may lead to gender differences in the labour market position. Women without family responsibilities still earn less than men (Sigle-Rushton and Waldfogel 2007), which can also be hinted from the gender pay gap that is often not limited to mothers. There are two explanations this chapter focuses on, which are: 1) statistical discrimination and gender sorting, and 2) devaluation of 'female' jobs.

Statistical Discrimination and Gender Sorting

Why are women more at risk of becoming Outsiders from the beginning of their career? One possible explanation has to do with the potential childcare responsibilities – namely, statistical discrimination (Acker 1990; Reskin 1993). In other words, socially expected trajectories that are different for women and men may bias employers' decision during the hiring process, to choose men over women in the hiring process. This would be especially the case for the jobs that require firm-specific skills, as the on-the-job training is a crucial part of the employment, which is the cost that the employers are likely to be willing to pay on the basis of the long-term employment relationship (see Chapter 2). Thus, the possibility that women are more likely to leave their jobs due to childbirth/care may create the bias regardless of the actual life course trajectories of the individual workers. This statistical discrimination may occur throughout one's career, starting from the initial stage of the hiring process, as it may also influence employers' decisions in assigning the jobs and/or promotions. An example from Denmark shows that it is difficult for women to be promoted unless they move to another firm for higher positions (Merlino, Parrotta and Pozzoli 2018). Some scholars also found that it may just be the gender sorting itself where certain genders are associated with certain jobs, even when the skills accumulation is not of importance (Fernandez-Mateo and King 2011). They found that even during the screening process of the temporary projects, women are more likely to be shortlisted for the lower-paid jobs compared to men.

On the other hand, the gender sorting may also occur from the employees' side to some extent (Fernandez and Friedrich 2011). For instance, women may apply for jobs that are considered to be more 'feminine' or associated with socially constructed characteristics

of women. On one hand, mothers tend to 'choose' the jobs that may allow work-family balance, as discussed above. On the other hand, workers may also 'choose' certain jobs from the beginning of their career when such jobs may not disadvantage workers based on gender, which is especially the case for women. Women may choose a more female-dominated jobs as they may provide better work-family balance or a less stigmatising culture around it, or because their gender would not work as a disadvantage for their career. These 'choices' may also be due to the expected gender roles in the society that is often socialised from early childhood (Correll 2001). That being said, it is difficult to argue that these are pure 'choices' because they are shaped by the social context. Regardless, this gender sorting from the labour supply side may not necessarily lead to women's higher likelihood of Outsiders, if the quality of jobs were to be the same. What is important to note is that the more female-dominated jobs (often in the service sector) tend to have more Outsider jobs. How these jobs become Outsiders are discussed in the following paragraphs.

Service Sector and the Devaluation of "female" jobs

The rise in the service economy (and thus the expansion of the service sector) is one of the major changes brought by the post-industrialisation. While the internal labour market in big firms (i.e., Insiders) were often found in manufacturing sector during the industrialisation period, the expansion of Outsider has been centred around the service sector. The nature of the service economy that does not produce certain commodities often makes it difficult to measure the productivity of such work, which along with the stagnant economic growth and the economic crisis led to the less regulated (thus less protected) jobs in the service sector (see also Eichhorst and Marx 2012). On the other hand, overrepresentation of

the Outsider jobs in the female-dominated jobs can also be explained through the devaluation of women's work. It has been found that the increase in the proportion of women in an occupation is often associated with the decrease in the pay (Levanon, England and Allison 2009). This provides an important insight that the value of work is created within certain social context, where the job associated with 'feminine' characteristics are considered to be of low value and can also be easily flexibilised.

Nevertheless, manufacturing sector (or male-dominated) jobs are not necessarily Insiders. With the unstable market, employers might reduce the workforce or hire less workers through standard employment contract. When it comes to the subjective insecurity, workers in manufacturing sector are more likely to be insecure than those in the other industrial sectors (Chung 2019b). The reduction in the workforce and the increased probability of insecurity may lead to workers' subjective job insecurity (Klandermans and van Vuuren 1999; Klandermans, Hesselink and Van Vuuren 2010; Reichert and Tauchmann 2017). Thus, changes in the workforce (especially with deregulation) may lower the subjective insecurity among the workers who may seem to have Insider jobs. Moreover, service sector jobs are not necessarily Outsider jobs, as some of them may be hired in the public sector, which is considered to be more secure. However, there are cross-national variations in terms of the income level among the workers in the public sector (Aláez-Aller, Longás-García and Ullibarri-Arce 2011). Thus, although these jobs may not be the 'bottom' jobs (Korpi, Ferrarini and Englund 2013), they may also not be 'top' jobs (Mandel and Semyonov 2006).

2) Cross-national variations in the gendered labour market patterns

Cross-national variations in the gendered labour market patterns are also discussed in the previous studies. Women's higher likelihood of being Outsiders (namely, atypically employed or unemployed) is more prominent in the Continental and Nordic European countries, but the likelihood was relatively lower in the Liberal countries and Southern European countries (Schwander and Häusermann 2013). In Liberal countries, being low-skilled played similar role as being women in determining one's Outsider position, while similar was found with being young in the Southern European countries. Similar cross-national variations have been suggested in the Varieties of Capitalism literature (Estévez-Abe 2006; 2009), as they argue that the motherhood has more detrimental impact in CMEs than LMEs. It can be because in CMEs, the firms and the Insider jobs tend to require more specific and continued skills. This can also be related to the gender regime of the Continental European countries, where they show a stronger male-breadwinner model compared to other countries (Korpi, Ferrarini and Englund 2013; Pfau-Effinger 2012). Thus, based on these studies, we can predict the continental European countries to show the most gendered labour market, followed by the Nordic countries.

However, as discussed above, the existing definition of Outsiders has limitations in capturing the labour market patterns in countries outside of continental European countries, such as the United Kingdom (i.e., Yoon and Chung 2016). The UK is another country that is characterised by the male-breadwinner model, as are the continental countries (Lewis 1992). The UK also shows a high proportion of mothers among part-time work, similar to Germany (Pfau-Effinger 2012), and part-time jobs in the UK are especially marginalised with low pay (Yerkes and Visser 2006). On the other hand, according to the study by Pfau-Effinger (2012),

Spain (i.e., Southern Europe) tends to show higher employment rate and less women among part-time jobs, and similar was found for Poland (i.e., Eastern Europe). Thus, question remains as to either the Liberal and Southern regimes (as well as Eastern European regime) do have less gendered Insider-Outsider patterns compared to others, or they still have strong gendered patterns but more based on other labour insecurity (e.g., low income, subjective insecurity, lack of job prospects) rather than employment contracts.

To summarise, due to the social expectations or contexts around gender and gender roles, women are at a higher risk of becoming Outsiders compared to men. Thus, I expect to see similar gendered patterns found in Chapter 7, even after other relevant factors (of determining one's Outsider-ness) are controlled. This is especially evident when it comes to the difference impact of childcare on women and men, and the persistent gendered patterns in the labour market despite the high education level amongst women across Europe.

H5: *gender matters in determining one's Outsider-ness, even after controlling for other relevant factors*

It is important to note is that there are different types of Outsiders in Europe, which can be categorised into three (i.e., Typical Outsiders, Dead-end Insiders and Subjective Outsiders from Chapter 6), and women's relative likelihood of being an Outsider compared to men may vary depending on which Outsider job we look at (as was found from Chapter 7). On the other hand, cross-national variations may also exist in these gendered patterns as women's relative likelihood of being in each Outsider jobs may vary depending on the

national contexts. Based on the previous studies, I can infer that gender matter but to different extent across countries, with some countries showing a more gendered labour market than others.

H6: *gender matters to different extent across countries*

3. Multilevel Logistic Regression Analysis and Variables

This chapter aims to examine to what extent gender matters in determining one's labour market position, when controlling for the other relevant individual-level factors. This chapter conducts multilevel binomial logistic regression analysis between the Insiders and the Outsiders, and for each Outsider groups – Typical Outsiders, Dead-end Insiders and Subjective Outsiders. Largely, the main analyses in this chapter includes three models. The first model only includes gender as an independent variable, and the second model includes all the independent variables including gender. By comparing the effect of gender in the two models, we can gain a more accurate idea of the extent to which gender matters in becoming a labour market Outsider as well as the extent to which the other variables matter which may reduce the effects of gender (H5). The third model then examines the cross-national variations in women's relative likelihood of being Outsiders compared to men, using Multilevel random slope modelling (H6). This is to examine whether or not gender matters equally across countries. The three models are repeated for all four dependent variables (explained further in the following sub-section), to examine the variations across different Outsider groups.

This chapter then conducts two analyses to check the robustness of the results from the main analyses. Firstly, multilevel multinomial logistic regression analysis is used to test for robustness of the second model, with all four categories included as a categorical manner and 'Insider' as the reference. It is because the analysis with covariates is often conducted using multinomial regression analysis in the LCA literature (e.g., Collins and Lanza 2010; Yoon 2015). One main reason for choosing binomial regression over multinomial regression is that it is more simple to interpret the results with odds ratio than with relative risk ratio. As long as the results do not vary significantly, it would be preferred to choose a more parsimonious model. Thus, this chapter uses binomial regression analysis for the main analysis, and use multinomial regression to confirm the validity of the results. Since the focus of this thesis is on gender, I focus on the impact of gender when comparing the two results, not the other factors.

Secondly, the robustness of the multilevel random slopes model is examined by analysing the fixed effect of gender and country interactions. I do this because while similar comparative studies have used Multilevel analysis (e.g., Budig, Misra and Boeckmann 2016; Kleinert 2018), Multilevel analysis is not always preferred especially when the number of cases is small and the data is not nested (Hox 2002; see also Morosow 2019). Multilevel analysis is still preferred in this thesis because of the relatively large number of country cases – namely, 30 – and the nested structure of the data. The fixed-effect regression analysis is conducted to test for the significance of cross-national variations in the gendered patterns.

Lastly, as a side analysis, I examine the interaction effect of childcare and gender, to examine whether or not women's overrepresentation in the Typical Outsider and Dead-end Insider jobs are due to their motherhood. This is based on the literature examined in Chapter

3 that shows the importance of motherhood as a cause of women's higher likelihood of being Outsiders. This additional analysis is conducted to provide some background before analysing the impact of family policy on the gendered labour market patterns in the next chapter.

1) Variables

Dependent Variables

As mentioned in Chapter 6, this chapter uses the most likely classes of the individuals as the dependent variable. In other words, individuals will be categorised into one of the four labour market segments that they are most likely to be in. The chapter examines one's likelihood of being an 1) (all) Outsider, 2) Typical Outsider, 3) Dead-end Insider and 4) Subjective Outsider compared to the likelihood of being an Insider. Four dichotomous dependent variables are used, and they are operationalised as follows. Firstly, for the variable *Outsider*, workers who are most likely to be an Insider is coded as 0, and 1 if they are most likely to be in any one of the other three segments. Secondly, *Typical Outsider* is coded as 1 if one is most likely to be a Typical Outsider, and 0 if one is in the other three segments. Thirdly, *Dead-end Insider* is coded as 1 if one is most likely to be a Dead-end Insider, and 0 if one is in the other three segments. Lastly, *Subjective Outsider* is coded as 1 if one is most likely to be a Subjective Outsider, and 0 is one is in the other three segments.

Independent Variable

As mentioned above, the analysis includes twelve individual-level independent variables in addition to gender. A summary of the variable construction can be found in Appendix 8.1. *Gender* is a dichotomous variable coded as male (0) and female (1). *Age* is divided into 5 groups of working age population, which are ages 16-25, 26-35, 36-45, 46-55, and 56-65. It is a dummy variable with the age group of 16-25 is used as a reference group. The youngest group has been selected for the reference group as the youth are more likely to be Outsiders or precarious compared to the older populations across Europe (e.g., Chung, Bekker and Houwing 2012; Marques and Salavisa 2017; Schwander and Häusermann 2013; Yoon 2015). From this we can examine whether or not it is the younger workers who are more likely to be the Outsiders. Thus, the variable is constructed as a categorical rather than linear to examine the impact of different life course experiences, instead of merely examining the impact of increase of the age.

Education is another important factor that may determine one's labour market position. In the EWCS, it is surveyed based on the International Standard Classification of Education (see UNESCO 2012), but has been divided into three groups in this chapter based on the proportion of each group. 'Low education' group consists of those with the education level of lower secondary or below (i.e. early childhood education, primary education and lower secondary education), 'middle education' group consists of those with the upper secondary education before entering tertiary education (i.e. upper secondary education and post-secondary non-tertiary education), and the 'high education' includes those with the tertiary education or above (i.e., short-cycle tertiary education, bachelor/master/doctorate degrees or equivalent). It is a dummy variable with the low education group being a reference

group. Low education is used as a reference group on the basis of their higher likelihood to be Outsiders. Although some studies include vocational as a separate education level (Biegert 2014) or divide the high education into diploma and degree (Yoon 2015), this study uses three levels that can be more standardised. This is because the thesis includes 30 countries with different educational systems, while the mentioned studies have designed the analyses considering the contexts of the UK and/or Germany.

As discussed earlier and in Chapter 3, family structure has an important impact on an individual's employment trajectories, and there are several variables that are considered in this chapter. *Having partner* is a dichotomous variable consisting of having partner living together (1) and not (0). *Breadwinner* is based on the question whether or not the respondent "contribute[s] most to the household income." Those who answered that contribute most to their household income are coded as 1 while those who answered to either contribute equally to the household income or less than other household member are coded as 1. Parenthood is divided into two variables, which are having at least a child under the age of 18 and 5. *Having a child under the age of 18* is constructed through those with at least a child under the age of 18 in the household (1) and the rest (0). *Having a child under the age of 5* is constructed through those with at least a child under the age of 5 in the household (1) and the rest (0). This is constructed based on the questions for the household members: their relationship with the respondent (child) and their age (below 18 or 5). For both variables, 'the rest' includes those who do not have any children and those who have children but are aged 18 or above (and 5 or above for the latter). The children here are limited to those living together in the household, which is a good proxy of parenthood in terms of having to take the 'care' role.

Based on the literature, it is expected that having a partner or children increase the likelihood of becoming an Outsider for women.

Some scholars have focused on occupational class or the skill levels as one of the key characteristics that determine one's Outsider-ness (e.g., Häusermann and Schwander 2012; Yoon 2015). The *occupation* variable is constructed using the International Standard Classification of Occupations 1988 2 digits (ISCO 88-2d) adopted by Oesch (2006), Häusermann and Schwander (2009; 2012) and Yoon (2015). From the four major groups suggested in Yoon (2015), professional/managerial occupational class and associate professional/managerial class are merged into one due to the relatively small size of associate professional/managerial occupations (4.94%). The digits are based on Häusermann and Schwander (2009). The three groups are 'low-skilled', 'general-skilled or vocational' and '(associate) professional/managerial', with the low-skilled as the reference group. Occupational classes are defined based on skill levels rather than the work logic as suggested by Oesch (2006) and Häusermann and Schwander (2009; 2012), as this thesis focuses on the required (and perceived) skill level of the occupation[47]. The low-skilled is used as a reference as the literature suggests that the low-skilled jobs are more likely to be Outsider jobs.

As discussed above, whether or not one is in public/private sector and which industry they are in are important factors that may determine one's labour market Outsider-ness. *Public* is coded as working in the public sector (1) and private sector (0). Given the security or relative stability of the public sector, being in private sector may increase the likelihood

[47] While the results did not have much difference from the definition of occupational classes used in this chapter, the analysis was also conducted using this definition. Estimates can be provided upon request.

of being an Outsider. *Industrial sector* is categorised into nine groups based on NACE classifications: 1) 'industry' (including mining and quarrying (B); manufacturing (C); electricity, gas, steam and air conditioning supply (D); water supply, sewerage; waste management and remediation activities (E)), 2) 'construction' (F), 3) 'commerce and hospitality' (including wholesale and retail trade, repair of motor vehicles and motorcycles (G), accommodation and food service activities (I)), 4) 'transport' (H), 5) 'financial services' (including financial and insurance activities (K); and real estate activities (L)) 6) 'public administration' (including public administration and defence, compulsory social security (O)), 7) 'education' (P), 8) 'health' (including human health and social work activities (Q)) and 9) 'other services' (including information and communication (J); professional, scientific and technical activities (M); administrative and support service activities (N); arts, entertainment and recreation (R); other services activities (S); activities of households as employers (T) and activities of extraterritorial organisations and bodies (U)). It is a dummy variable with industry as the reference group. This re-classification is based on the NACE10 variable from the EWCS dataset. Agriculture, forestry and fishing (A) are not included in all the analysis as the nature of work is different from the employment relationship the indicators are based on. It is predicted that those in non-industry jobs, especially the service jobs, are more likely to be Outsiders.

Lastly, there are several factors that I consider in this chapter which are related to one's bargaining power and stability of the firm/workplace. *Union* is coded as 1 if they have workers' representation (e.g., trade union, works council or employee representation) and 0 if they do not. *Firm size* is based on the question "how many employees in total work in your business?" consisting of small firm (1-9), medium firm (10-249) and large firm (250 or more).

It is used as a dummy variable with the small firm as the reference group. Lastly, the decrease in workforce is defined as having had a decrease in the workforce within the last three years. Those who had either no change or increase are coded as 0, and those who had a decrease as 1. Based on the literature, it can be predicted that those without workers' representation, in small firms or who recently experienced decrease in workforce in the workplace are more likely to be Outsiders.

4. Results

1) Descriptive Analysis

Before conducting the main analysis, descriptive analysis is conducted to have an overview of the independent variables used in this chapter. Appendix 8.1 presents the distribution of individuals in the thirteen independent variables in each labour market segment and their cross tabulations. There are variations across labour market segments in terms of individual characteristics other than gender. Compared to the other segments, Typical Outsiders are more likely to be younger, not live with a partner, not have a child, in private sector, not have a union, work in smaller firms and have experienced decrease in workforce over the last three years. They are more likely to be in commerce and hospitality sector and other services sector. On the other hand, the Dead-end Insiders are more likely to have upper secondary education, not be a breadwinner and not have a union in their workplace. Somewhat similar patterns are found between the Typical Outsiders and the Dead-end Insiders in terms of not being a breadwinner, having generally/vocationally skilled occupations, and being in commerce and hospitality as well as other services sectors.

Compared to the Typical Outsiders, there are more parents and mid-aged workers among the Dead-end Insiders. Individuals who belong to Subjective Outsiders share many similarities with the Insiders, with the differences in education level (more low educated), occupation (more low skilled), and higher likelihood to be in industry and construction sector. Relatively, there are more workers who experienced recent decrease in workforce among the Subjective Outsiders. From this it can be inferred that the labour market Outsiders are a heterogeneous group not only in terms of their labour market characteristics (or precariousness) but also in terms of who are more likely to be in each segment. On the other hand, the similarity between the Subjective Outsiders and Insiders can be an indicator that the Subjective Outsiders are the labour market Insiders who feel insecure about their employment. This may provide some explanations as to the higher likelihood of men in the segment compared to men.

Appendix 8.2 presents the correlation matrix between the independent variables. It shows that while most of the variables are statistically correlated to one another, the strengths of the correlations are relatively weak (smaller than |0.7|). The only correlation coefficient bigger than |0.5| (other than between dummy variables) – thus showing a relatively stronger correlation – is between education level and the occupation categories. Namely, having a high-level education (tertiary or above) is correlated with having high skilled jobs (0.514). Since the focus of this chapter is on gender and the correlation between the two does not exceed 0.7, this is not considered to have a significant impact on the results.

2) Does gender matter?

In this section, binomial logistic regression analyses are conducted to examine to what extent gender matters in being an Outsider or being in each Outsider segment with reference to Insider, when controlling for the other individual-level characteristics. Table 12 presents the binomial logistic regression analyses results for one's likelihood of becoming an Outsider (including all three Outsider segments). Model 1.1 presents the result with only gender as an independent variable. It shows that women are roughly twice as likely than men to be an Outsider, and this tendency does not change even when the other variables are controlled for (Model 2.1). Although the odds are smaller in Model 2.1 compared to Model 1.1, the relationship between gender and Outsider-ness remains strong. What this shows is that even when we take the other factors into account, women are significantly more (and roughly twice as) likely than men to be Outsiders in Europe.

Table 12 Multilevel binomial logistic regression analysis results for all Outsiders

Outsiders	**Model 1.1** Gender	**Model 2.1** All
Gender (ref: male)		
Female	2.227*** (0.062)	1.895*** (0.067)
Age (ref: 16-25)		
26-35		0.537*** (0.033)
36-45		0.445*** (0.028)
46-55		0.479*** (0.030)
56-65		0.636*** (0.043)
Education (ref: low education)		
Medium education		0.553*** (0.025)
High education		0.328*** (0.018)
Partner		
Has partner		0.656*** (0.024)
Breadwinner		
Is a breadwinner		0.496*** (0.017)
Child(ren)		
Has at least a child under age 18		1.051 (0.043)
Has at least a child under age 5		1.129* (0.065)
Occupations (ref: low/unskilled)		
general/vocational		1.042 (0.054)
(associate) professional/managerial		0.431*** (0.026)
Public/private		
Public sector		0.813*** (0.039)
Industrial Sector (ref: industry)		
Construction		0.810** (0.060)
Commerce and hospitality		1.308*** (0.067)
Transport		0.868+ (0.064)
Financial services		0.767** (0.075)
Public administration		0.974 (0.085)
Education		2.052*** (0.157)
Health		1.637*** (0.110)
Other services		1.610*** (0.088)
Union		
Has workers' representation		0.696*** (0.026)
Firm size (ref: small 1-9)		
medium 10-249		0.726*** (0.029)
large 250+		0.642*** (0.031)
Recent decrease in workforce		
Yes		1.134*** (0.041)
Constant	0.327*** (0.013)	4.107*** (0.408)
Variance country level (level 2)	0.034*** (0.011)	0.070*** (0.020)
Loglikelihood	-15448.771	-13481.974
N level 1	24756	24756
N level 2	30	30

Note: variance at the individual level (level 1) is $\pi^2/3$ for all models. ***p<0.001, **p<0.01, *p<0.05, +p<0.1
The regression coefficients are in odds ratio and the standard errors are in parentheses.

3) Cross-segment variation:
Does gender equally matter for all Outsider segments?

Next, Table 13 presents the results conducted for each Outsider segment with Insider segment as the reference. This is to examine how the impact of gender in determining one's labour market position varies across different Outsider segments. First, to compare the impact of gender for each segment, women are roughly 1.6 times more likely than men to be a Typical Outsider, 3.4 times more likely to be Dead-end Insiders, while men are almost twice as likely to be the Subjective Outsiders compared to women. While the trends remain, the numbers changed when the other variables are controlled for. Women are roughly 1.3 times more likely to be Typical Outsiders and 2.7 times more likely to be Dead-end Insiders compared to men, while men are 1.4 times more likely to be Subjective Outsiders compared to women, when other individual- and company-level characteristics are accounted for. Thus, the impact of gender decreases slightly with different variables considered, yet it remains to be the most important predictor for the Dead-end Insiders. These findings show that while gender matters in determining one's Outsider position in the labour market, the impact varies depending on the Outsider segments. However, it needs to be noted that the Subjective Outsiders are much smaller in size compared to the other Outsider groups, which indicates that women are still overrepresented in the Outsider jobs despite men's higher likelihood of being Subjective Outsiders.

Table 13 Multilevel binomial logistic regression analysis results for each Outsider segment

Reference: Insiders	**Model 1.2**	**Model 2.2**	**Model 1.3**	**Model 2.3**	**Model 1.4**	**Model 2.4**
	Typical Outsiders		Dead-end Insiders		Subjective Outsiders	
Gender (ref: male)						
Female	1.620***	1.295***	3.428***	2.741***	0.556***	0.698***
	(0.071)	(0.071)	(0.129)	(0.123)	(0.031)	(0.045)
Age (ref: 16-25)						
26-35		0.392*** (0.029)		1.078 (0.081)		1.397** (0.174)
36-45		0.258*** (0.022)		1.102 (0.085)		1.206 (0.155)
46-55		0.226*** (0.019)		1.257** (0.094)		1.277+ (0.163)
56-65		0.319*** (0.029)		1.644*** (0.133)		1.118 (0.154)
Education (ref: lower education)						
Middle education		0.560*** (0.035)		0.731*** (0.038)		0.848* (0.071)
High education		0.385*** (0.031)		0.359*** (0.024)		1.028 (0.101)
Partner						
Has partner		0.614*** (0.034)		0.767*** (0.035)		0.858* (0.056)
Breadwinner						
Is a breadwinner		0.576*** (0.030)		0.500*** (0.021)		1.130+ (0.076)
Child(ren)						
Child under age 18		0.982 (0.068)		1.133* (0.056)		0.856* (0.065)
Child under age 5		0.939 (0.089)		1.201** (0.082)		1.145 (0.119)
general/vocational		0.941 (0.080)		1.031 (0.067)		0.888 (0.076)
professional/managerial		0.431*** (0.044)		0.401*** (0.031)		0.976 (0.096)
Public/private						
Public sector		1.096 (0.083)		0.797*** (0.046)		0.795* (0.073)
Industrial Sector (ref: Industry)						
Construction		1.194 (0.149)		0.580*** (0.063)		1.192+ (0.126)
Commerce and hospitality		1.680*** (0.146)		1.349*** (0.083)		0.769** (0.068)
Transport		1.167 (0.157)		0.899 (0.085)		0.793+ (0.096)
Financial services		0.663+ (0.146)		0.874 (0.106)		0.654** (0.103)
Public administration		1.763*** (0.257)		0.852 (0.097)		0.603** (0.093)
Education		3.273*** (0.409)		1.862*** (0.174)		0.665** (0.094)
Health		2.170*** (0.246)		1.752*** (0.139)		0.531*** (0.073)
Other services		2.376*** (0.216)		1.411*** (0.095)		0.698*** (0.067)
Union						
Has workers' representation		0.600*** (0.037)		0.778*** (0.035)		1.006 (0.068)

Firm size (ref: small)						
Medium		0.576*** (0.033)		0.937 (0.045)		1.194* (0.095)
large		0.498*** (0.037)		0.786*** (0.046)		1.263* (0.115)
Recent decrease in workforce						
Yes		0.787*** (0.048)		1.042 (0.046)		1.769*** (0.103)
Constant	0.074***	1.166	0.098***	0.331***	0.078***	0.068***
	(0.008)	(0.184)	(0.007)	(0.044)	(0.006)	(0.012)
Variance country level	0.342***	0.311***	0.111***	0.217***	0.120***	0.108**
(level 2)	(0.094)	(0.087)	(0.032)	(0.060)	(0.038)	(0.035)
Loglikelihood	-75784.191	-6602.220	-11007.187	-9943.681	-4382.885	-5365.933
Level 1 N				24756		
Level 2 N				30		

Note: variance at the individual level (level 1) is $\pi^2/3$ for all models. ***p<0.001, **p<0.01, *p<0.05, +p<0.1
The regression coefficients are in odds ratio and the standard errors are in parentheses.

4) Cross-national variation: does gender equally matter across countries?

Table 14 presents the results from the random slopes modelling with the impact of gender varying across countries, that is conducted to examine if gender matters equally across countries. The findings show that the country-level variance is significant for all models examined, while the cross-national variance for the impact of gender is only significant for the total Outsiders (Model 3.1) and Dead-end Insiders (Model 3.3). Similar can be found when we compare the loglikelihood of these models with that of models 2.1-2.4 (see Chapter 5 for why we do this). These findings show that the gender differences in the likelihood of being Outsiders as a whole and Dead-end Insiders vary significantly across countries. While the proportion of Typical Outsiders and Subjective Outsiders significantly vary across countries, the gender difference is not as significantly different. However, Figures 4-7 present the total impact of gender (i.e., main effect + country specific effect) for each country to illustrate the cross-national variations. They show that we still see some significant cross-national variations that need to be investigated. The figures are presented with log odds instead of odds ratio for the simplicity of the calculations.

Table 14 Women's relative likelihod of being Outsiders than men, using random slopes multilevel modelling

Reference: Insiders	**Model 3.1** Outsiders (all)	**Model 3.2** Typical Outsiders	**Model 3.3** Dead-end Insiders	**Model 3.4** Subjective Outsiders
Gender (ref: male)				
Female	1.886*** (0.107)	1.261** (0.090)	2.642*** (0.219)	0.683*** (0.054)
Constant	4.158*** (0.409)	1.193 (0.183)	0.338*** (0.043)	0.069*** (0.012)
Variance (gender)	0.056* (0.022)	0.046 (0.034)	0.140** (0.049)	0.048 (0.034)
Variance country level (level 2)	0.062** (0.020)	0.263** (0.081)	0.161** (0.049)	0.098** (0.034)
ICC	0.019	0.074	0.047	0.029
Loglikelihood	-13468.207	-6600.660	-9921.249	-5363.562
Level 1 N	24756			
Level 2 N	30			

Note: variance at the individual level (level 1) is π^2/3 for all models. ***p<0.001, **p<0.01, *p<0.05, +p<0.1
The regression coefficients are in log odds and the standard errors are in parentheses. Control variables have been included in the analyses but not presented in this table. The models include individual level control variables, including age, education level, whether or not they live with a partner, whether or not they are breadwinners, parental status, occupational skills, public/private firm, industrial sector, whether or not they have unions in workplace, firm size, recent decrease in workforce.

Figure 4 shows women's likelihood of being an Outsider (including in all three) as opposed to Insiders compared to men across the 30 European countries. In all countries, women are more likely to be Outsiders compared to men, but there are cross-national variations as to what extent. In other words, gender matters but to different extent across countries. Austria shows the highest likelihood with roughly 0.978 log odds, while Portugal shows the lowest figure of 0.219 log odds. This means that women are roughly 2.6 times more likely than men to be Outsiders in Austria and 1.2 times more in Portugal. The biggest numbers are found in what is known as the Conservative welfare regime (i.e., Austria, Luxembourg, Germany, Esping-Andersen 1990). This hints on the possibility of cross-regime variations which was suggested in the previous studies (Schwander and Häusermann 2013), that the conservative welfare regime tend to show more gendered labour market

compared to the other regimes. On the other hand, within-regime variations can also be found, especially when considering the Social democratic welfare regime and Liberal welfare regime. This leads to the question how/why do these differences occur, which is further explored in the next chapter.

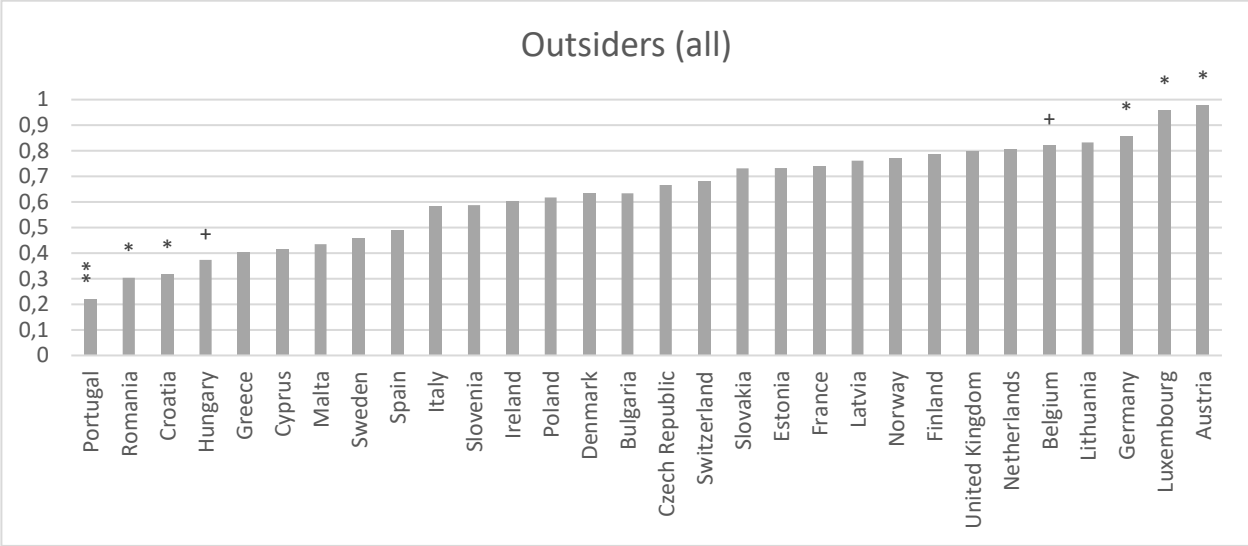

Figure 4 Women's likelihood of being an Outsider (all) across 30 European countries

Note: The number presented shows the total impact of gender for each country in becoming an Outsider (log odds coefficients for random effects (slope) + main effects). Number bigger than 0 represents higher likelihood of women to be Outsiders, whereas the number below 0 represents the opposite. Significance of the random slopes coefficient is presented as: ***p<0.001, **p<0.01, *p<0.05, +p<0.1

Figure 5 presents women's likelihood of being a Typical Outsider as opposed to the other segments compared to men across countries. Other than Romania, women are more likely to be Typical Outsiders in all countries, but again the extent varies across countries, although differently from what we found for the Outsiders as a whole. Compared to Figure 4, the numbers are smaller for the Typical Outsiders, which shows that the gender difference is not as big. The highest effect is found in Czech Republic with roughly 0.519 log odds, which means that women are roughly 1.7 more likely than men to be Typical Outsiders in

Czech Republic. Although in Romania, men are more likely to be Typical Outsiders compared to women, the effect is very small which is roughly -0.032 log odds (1.03 times). This can be said to have no significant gender differences. Another key difference from the general pattern found in Figure 4 is the order of countries in the figure. While the Netherlands remains in the relatively higher gender differences for both figures, some (e.g., Luxembourg, Lithuania) show much lower gender effect when it comes to Typical Outsiders.

Figure 6 presents women's likelihood of being Dead-end Insiders compared to men in the 30 countries examined. The countries that show the biggest gender differences are Austria, Germany, Luxembourg and the Netherlands (i.e., traditional family model countries from Korpi et al 2013), which are similar to the pattern found in Figure 4. However, the variations across countries are much bigger compared to the other segments, although women are more likely to be Dead-end Insiders in all countries. For instance, women are roughly 5.5 times (=1.700 log odds) more likely than men to be Dead-end Insiders in Austria and 4.3 times (=1.459 log odds) more likely in Germany, whereas women are 1.3 times (=0.272 log odds) and 1.5 times (=0.412 log odds) more likely in Malta and Hungary.

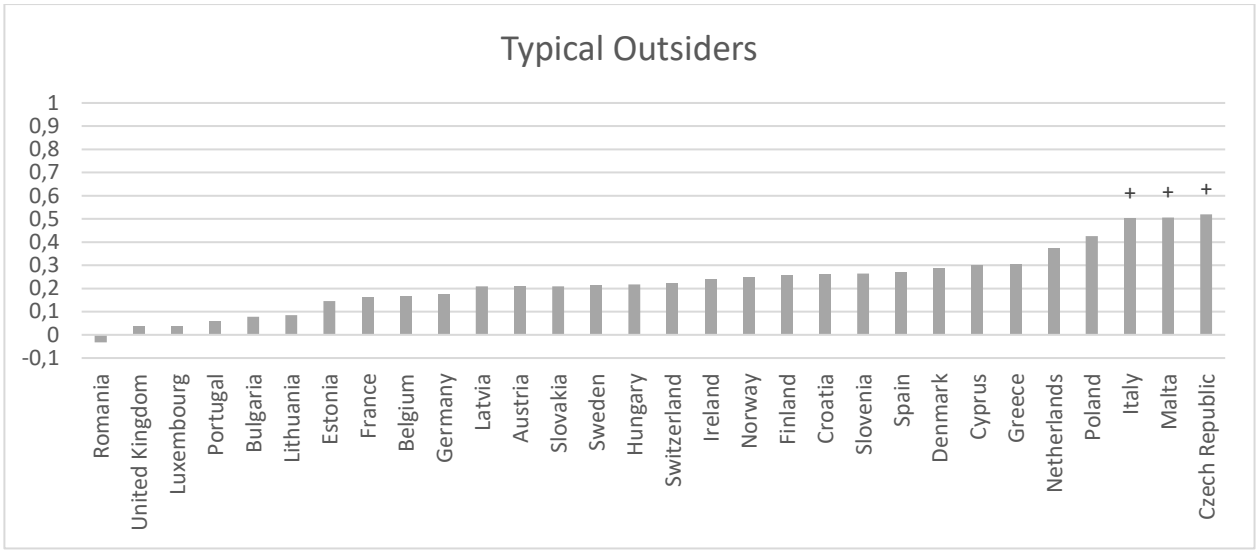

Figure 5 Women's likelihood of being a Typical Outsider across 30 European countries

Note: The number presented shows the total impact of gender for each country in becoming a Typical Outsider (log odds coefficients for random effects (slope) + main effects). Number bigger than 0 represents higher likelihood of women to be Typical Outsiders, whereas the number below 0 represents the opposite. Significance of the random slopes coefficient is presented as: ***p<0.001, **p<0.01, *p<0.05, +p<0.1

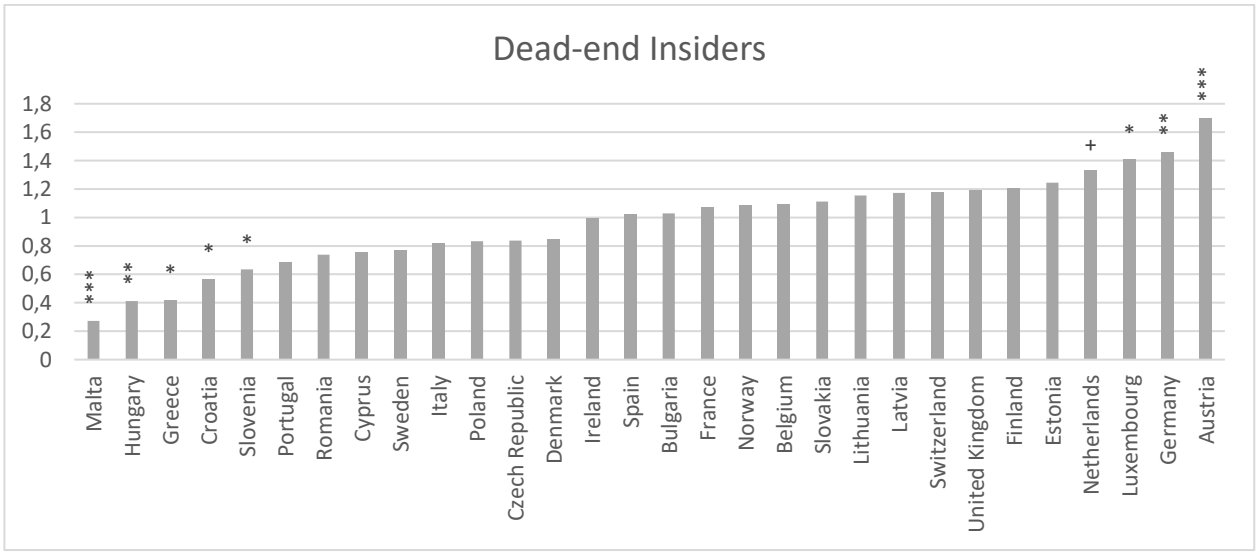

Figure 6 Women's likelihood of being a Dead-end Insider across 30 European countries

Note: The number presented shows the total impact of gender for each country in becoming a Dead-end Insider (log odds coefficients for random effects (slope) + main effects). Number bigger than 0 represents higher likelihood of women to be Dead-end Insiders, whereas the number below 0 represents the opposite. Significance of the random slopes coefficient is presented as: ***p<0.001, **p<0.01, *p<0.05, +p<0.1

On the contrary, men are more likely to be Subjective Outsiders in all countries (see Figure 7). The biggest gender difference (with men more likely to be Outsiders) is found in the Netherlands, followed by Malta, Germany and Austria. It is interesting because other than Malta, these countries showed biggest gender differences for the Dead-end Insider jobs. Some countries that showed lowest gender differences in Figure 6 are also show lowest differences in Figure 7 (e.g., Hungary and Greece). Thus, from this it can be inferred that the former countries may have a more prominent gendered patterns of dualization where men can be categorised as Outsiders largely due to their subjective perception around their employment, while women's Outsider-ness is largely due to the fact that they work in low-income dead-end jobs (which is likely to be part-time). However, this pattern is not as clear when we take into consideration some other cases, such as Finland that show larger gender differences for Dead-end Insiders but smaller differences for Subjective Outsiders.

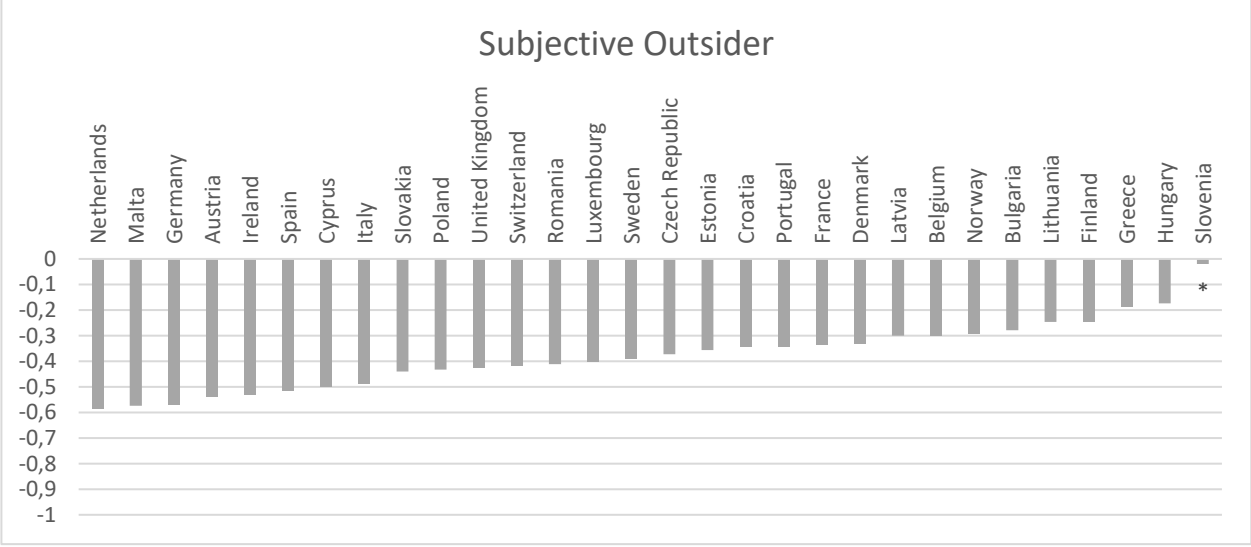

Figure 7 Women's likelihood of being a Subjective Outsider across 30 European countries

Note: The number presented shows the total impact of gender for each country in becoming a Subjective Outsider (log odds coefficients for random effects (slope) + main effects). Number bigger than 0 represents higher likelihood of women to be Subjective Outsiders, whereas the number below 0 represents the opposite. Significance of the random slopes coefficient is presented as: ***p<0.001, **p<0.01, *p<0.05, +p<0.1

To summarise, the findings here show that gender matters in determining one's Outsider-ness, but its impact varies across countries. The patterns also vary depending on the Outsider segments. The cross-national variation in the gender differences was especially prominent amongst the Dead-end Insiders. It is important to note that the cross-national variation for the Typical Outsiders and Subjective Outsiders according to the several indicators observed in Table 14 are not statistically significant. However, Figures 5 and 7 clearly show some significant variations across countries which require further investigations. Thus, all four models are analysed in this thesis, but with caution in the interpretation of the results. These cross-national variations are further explored in the next chapter as I examine the impact of family policy as an institutional context on women's relative likelihood of being Outsiders.

5) Robustness check

In this section, I check for the robustness of the results above through two different analyses. First, I use the multilevel multinomial logistic regression to check the robustness of the model 2 that examined the cross-segment variations. Second, I conduct the single level regression analysis focusing on the fixed effects of gender and its interaction with countries. This is to check the robustness of the results for cross-national variations (model 3).

Multilevel Multinomial Logistic Regression

Multilevel multinomial logistic regression analysis is conducted to examine relative risk of an individual to be in each Outsider segment with reference to being an Insider. As mentioned earlier in this chapter, this is used as a robustness check as it is common in the LCA literature to use multinomial logistic regression when there are more than 2 classes (Collins and Lanza 2010; e.g., Yoon 2015). The results are presented in Table 15 and the results are presented in the log of relative risk ratio (RRR). The risk of being in each Outsider segment for women is more pronounced for all groups compared to the odds in the binomial logistic regression analysis. The risk of being a Typical Outsider for women is roughly 1.7 times that for men relative to that of Insiders (log RRR = 0.544), while it is 2.9 times for being Dead-end Insiders (log RRR = 1.076). The risk of being a Subjective Outsider is lower for women, and it is 87% that of men relative to that of Insiders (log RRR = -0.138). The differences mean that when compared with Insiders, there is a greater likelihood of women to be in each Outsider jobs. This explains the less significant difference for the Subjective Outsiders, as men are more likely to be in both Insiders and Subjective Outsiders compared to women. Nevertheless, while the numbers are slightly different, the trend remains similar as the model 2, confirming the robustness of the results from the previous section.

Table 15 Multilevel Multinomial Logistic Regression Analysis results

Reference: Insiders	**Model 4**		
	Typical Outsiders	Dead-end Insiders	Subjective Outsiders
Gender (ref: male)			
Female	0.544*** (0.056)	1.076*** (0.046)	-0.138* (0.065)
Age (ref: 16-25)			
26-35	-1.079*** (0.080)	-0.380*** (0.080)	-0.029 (0.127)
36-45	-1.530*** (0.089)	-0.443*** (0.082)	-0.217+ (0.131)
46-55	-1.616*** (0.089)	-0.311*** (0.080)	-0.133 (0.129)
56-65	-1.157*** (0.097)	0.036 (0.086)	-0.170 (0.140)
Education (ref: low education)			
Middle education	-0.819*** (0.067)	-0.554*** (0.055)	-0.386*** (0.085)
High education	-1.387*** (0.085)	-1.335*** (0.069)	-0.338** (0.100)
Partner			
Has partner	-0.602*** (0.058)	-0.405*** (0.047)	-0.264*** (0.066)
Breadwinner			
Is a breadwinner	-0.806*** (0.054)	-0.857*** (0.044)	-0.114+ (0.067)
Child(ren)			
Child under age 18	0.017 (0.071)	0.130* (0.051)	-0.121 (0.077)
Child under age 5	0.014 (0.098)	0.196** (0.071)	0.162 (0.105)
Occupations (ref: low/unskilled)			
general/vocational	-0.034 (0.087)	0.038 (0.067)	-0.069 (0.087)
(associate) professional/managerial	-1.118*** (0.105)	-1.067*** (0.080)	-0.218* (0.100)
Public/private			
Public sector	-0.002 (0.079)	-0.250*** (0.060)	-0.270** (0.093)
Industrial Sector (ref: industry)			
Construction	0.074 (0.128)	-0.549*** (0.110)	0.087 (0.107)
Commerce and hospitality	0.616*** (0.089)	0.358*** (0.064)	-0.146 (0.090)
Transport	0.112 (0.137)	-0.117 (0.097)	-0.259* (0.122)
Financial services	-0.453* (0.223)	-0.173 (0.124)	-0.434** (0.158)
Public administration	0.584*** (0.149)	-0.094 (0.117)	-0.450** (0.156)
Education	1.439*** (0.129)	0.828*** (0.097)	-0.194 (0.144)
Health	0.968*** (0.117)	0.671*** (0.082)	-0.174** (0.140)
Other services	1.026*** (0.063)	0.511*** (0.070)	-0.174+ (0.097)
Union			
Has workers' representation	-0.619*** (0.063)	-0.359*** (0.047)	-0.101 (0.068)
Firm size (ref: small)			
Medium	-0.630*** (0.060)	-0.239*** (0.050)	0.030 (0.080)
Large	-0.821*** (0.076)	-0.431*** (0.060)	0.051 (0.093)
Recent decrease in workforce			
Yes	-0.183** (0.062)	0.052 (0.046)	0.556*** (0.059)
Constant	1.087*** (0.159)	0.167 (0.137)	-1.464*** (0.178)
Loglikelihood		-20454.697	
Variance	0.267*** (0.076)	0.191* (0.053)	0.107** (0.035)
N		24756	

Note: ***p<0.001, **p<0.01, *p<0.05, +p<0.1.

The regression coefficients are in log of the relative-risk ratio and the standard errors are in parentheses. It is calculated using 'mlogit' function of STATA.

Fixed effects model

The interaction effects of gender and country are examined using fixed-effects binomial regression model to test for the robustness of the random slopes model examined in the previous section. The significant differences are with reference to Belgium, which showed more or less medium level of gender gap compared to other countries in the Figures 5-7, and one of the highest in Figure 4. Thus, this section focuses on the relative likelihood of women being in each Outsider group (including all Outsider group) for each country compared to Belgium. Table 16 presents the results. Other independent variables used (e.g., age, education level, etc.) are omitted from the figure as that is not the focus of this section.

The key finding here is that there are significant cross-national variations. More specifically, all countries (e.g., Greece, Spain, Ireland, Cyprus, Hungary) show relatively less impact of gender compared to Belgium, except Austria, when it comes to all Outsiders. These patterns can be found from the Figure 4 above, as Belgium is one of the countries that show biggest gender gap. For the Typical Outsiders, Czech Republic, Italy and Malta show relatively greater gender effect than Belgium, while Romania shows the opposite. These patterns also confirm the results presented in Figure 5, as the three countries mentioned show the biggest gender gap while Romania showed the smallest (even negative). For the Dead-end Insiders, Germany and Austria show bigger gender gap than Belgium, whereas some countries (e.g., Greece, Hungary, Malta, Slovenia, Sweden, Croatia) show smaller gaps. These results confirm the results from Figure 6. Lastly, for Subjective Outsiders, Germany, Malta, the Netherlands and Austria showed significantly smaller gender gaps (which in this case would indicate men's higher likelihood of being in Outsider group) than Belgium, while Hungary show bigger gaps. This again confirms the results presented in Figure 7. As

mentioned in the above, it is still preferred to use multilevel random slopes modelling in this thesis as the individuals are nested at the country levels, which the fixed effect model does not take into account. This can potentially be the reason why we see different results for the impact of gender itself in the Table 16. However, the results found for the cross-national variations do confirm the results from the multilevel models, and thus the robustness of the results for cross-national variations.

Table 16 Cross-national variation in women's relative likelihood of being Outsiders: fixed effects

Reference: Insiders	**Model 5.1**	**Model 5.2**	**Model 5.3**	**Model 5.4**
Log odds	Outsiders (all)	Typical Outsiders	Dead-end Insiders	Subjective Outsiders
Gender (ref: male)				
Female	0.849*** (0.114)	0.117 (0.205)	1.075*** (0.131)	-0.186 (0.227)
Female x Country (ref: Female x Belgium)				
Bulgaria	-0.158 (0.220)	-0.329 (0.393)	-0.044 (0.267)	0.158 (0.412)
Czech Republic	-0.159 (0.213)	0.863* (0.355)	-0.255 (0.279)	-0.263 (0.379)
Denmark	-0.203 (0.219)	0.299 (0.386)	-0.313 (0.260)	0.103 (0.426)
Germany	0.136 (0.174)	0.018 (0.292)	0.546* (0.222)	-0.684+ (0.394)
Estonia	-0.018 (0.229)	0.033 (0.486)	0.253 (0.283)	-0.254 (0.379)
Greece	-0.596** (0.226)	0.223 (0.318)	-0.850* (0.328)	0.298 (0.382)
Spain	-0.389** (0.149)	0.149 (0.239)	0.020 (0.200)	-0.448 (0.278)
France	-0.108 (0.178)	-0.068 (0.294)	-0.011 (0.217)	-0.033 (0.355)
Ireland	-0.351+ (0.212)	0.020 (0.301)	-0.052 (0.287)	-0.772 (0.532)
Italy	-0.219 (0.2909)	0.681* (0.316)	-0.134 (0.300)	-0.592 (0.400)
Cyprus	-0.574** (0.205)	0.182 (0.286)	-0.296 (0.306)	-0.615 (0.419)
Latvia	-0.055 (0.231)	0.159 (0.439)	0.113 (0.282)	-0.152 (0.384)
Lithuania	0.072 (0.222)	-0.234 (0.499)	0.002 (0.247)	0.399 (0.438)
Luxembourg	0.362 (0.226)	-0.552 (0.435)	0.414 (0.255)	0.208 (0.558)
Hungary	-0.508* (0.236)	0.154 (0.406)	-0.906** (0.292)	0.761+ (0.453)
Malta	-0.494* (0.212)	0.691* (0.312)	-1.078*** (0.264)	-1.130+ (0.596)
Netherlands	0.033 (0.235)	0.428 (0.353)	0.518 (0.322)	-1.241* (0.543)
Austria	0.481* (0.223)	0.201 (0.402)	1.102*** (0.311)	-0.792+ (0.457)
Poland	-0.294 (0.205)	0.427 (0.297)	-0.210 (0.288)	-0.481 (0.371)
Portugal	-0.746** (0.238)	-0.370 (0.358)	-0.267 (0.354)	-0.075 (0.422)
Romania	-0.768*** (0.214)	-1.044+ (0.532)	-0.493* (0.242)	-0.346 (0.418)
Slovenia	-0.342+ (0.176)	0.191 (0.324)	-0.556** (0.208)	0.331 (0.294)
Slovakia	0.040 (0.231)	0.024 (0.363)	0.139 (0.292)	-0.104 (0.543)
Finland	-0.039 (0.217)	0.138 (0.383)	0.190 (0.278)	0.126 (0.372)
Sweden	-0.558** (0.204)	0.003 (0.349)	-0.440+ (0.250)	-0.222 (0.389)
United Kingdom	0.0004 (0.183)	-0.329 (0.334)	0.107 (0.208)	-0.265 (0.382)
Croatia	-0.750*** (0.211)	0.166 (0.348)	-0.673* (0.273)	-0.243 (0.356)
Norway	0.034 (0.220)	0.178 (0.367)	0.027 (0.269)	0.258 (0.427)
Switzerland	-0.041 (0.218)	0.256 (0.412)	0.207 (0.267)	-0.348 (0.424)
Constant	1.633*** (0.119)	0.098 (0.189)	-0.477** (0.142)	-2.912*** (0.214)
Pseudo R^2	0.160	0.200	0.164	0.053
Loglikelihood	-13384.056	-6523.146	-9826.7339	-5301.770
N		24756		

Note: ***p<0.001, **p<0.01, *p<0.05, +p<0.1.

6) Does gender matter due to motherhood penalty?

As discussed in Chapter 3 and briefly above, motherhood is one of the crucial factors that cause the gender differences in the labour market trajectories as well as outcomes (e.g., Budig and England 2001; Chou et al. 2017; Drobnič, Blossfeld and Rohwer 1999; Sigle-Rushton and Waldfogel 2007). For instance, due to the childcare responsibilities, women are more likely than men to leave the labour market, earn low income and/or enter into the temporary and/or part-time jobs. While this chapter has found that gender matters in determining one's labour market positions even when accounting for other factors (including childcare), this additional section briefly examines to what extent this gendered patterns have to do with childcare. In other words, I focus on the interaction between gender and childcare responsibilities.

The results are presented in Appendix 8.4. The findings show that the women's higher likelihood of being Outsiders compared to men are to some extent related to their motherhood, although such patterns are not found for Subjective Outsiders. When the interaction between gender and childcare is considered, having at least a child (<18) tends to decrease one's likelihood of being Outsiders in general as well as of being Typical Outsiders and Dead-end Insiders. However, women with at least a child (<18) are significantly more likely than others to belong to these groups. What it means is that having a child itself has a more detrimental impact on women's career than it is for men. As to having at least a child under the age of 5, it increases one's likelihood of being Dead-end Insiders in general, as the interaction effect is not found. It is important to note that inclusion of the interaction effect in the model has a great impact for the Dead-end Insiders compared to other Outsider segments. This can be found through the difference between the odds ratio in Table 12-13 with Appendix 8.3 for

gender, the impact of gender has decreased the most for the Dead-end Insiders, when accounting for the interaction effects. This clearly shows that the motherhood is an important factor in determining women's overrepresentation among the Dead-end Insiders, although it cannot be the sole factor[48]. Drawing from some findings here, we can infer that while women are more likely than men to be Typical Outsiders and Dead-end Insiders, it is the young labour market entrant women who are likely to become Typical Outsiders, whereas it is the mid-aged mothers who are likely to become Dead-end Insiders. Considering their motherhood status and age, it can also be inferred that the Dead-end Insiders are likely to be the mothers who return to the labour market after the career break due to childbirth/care.

5. Conclusion

This chapter examined that gender matters in determining the one's labour market position – especially in terms of becoming a labour market Outsider, but not equally across countries. This chapter builds on the previous chapter which examined the gendered patterns across segments using MLCA, examining the gender discrepancies more accurately by accounting for other relevant factors. The factors that were considered in the analyses included the personal characteristics (e.g., age, education level), family-related characteristics (e.g., childcare responsibilities, breadwinner, partner), job-related characteristics (e.g., occupational skills, industry, firm size, public/private sector, union, and recent changes in the workforce). Multilevel binomial logistic regression was conducted,

[48] The cross-segment variations are even more evident when we examine the models separately for women and men (namely, without gender or gender interaction variables), as the childcare is found to have a significant impact for women among Dead-end Insiders only (see Appendix 8.5-8.7).

using gender as the main independent variable and four dependent variables: Outsider (including all Outsider segments with reference to Insider) and three Outsider segments that are created as a dummy variable with reference to Insider segment.

As a result, this chapter found that gender matters in determining one's labour market position, yet to different extent depending on which Outsider segment and country we look at. While it is the young low educated service workers who are more likely to be the Typical Outsiders, women are still significantly more likely to be the Typical Outsiders compared to men. On the other hand, gender itself is the most important factor in becoming a Dead-end Insider, and they are more likely to be the older (46 and above) workers with children working in private and service sectors. From this it can be inferred they are the mothers who returned to the labour market after career interruptions due to childcare. Lastly, decrease in the workforce at the workplace is found to be the most important factor for one's subjective insecurity regardless of objective security (i.e., Subjective Outsiders), while men are significantly more likely to belong to this group compared to women. Although not discussed in the main text, the findings in Appendix 8.7 suggest that the characteristics of the workers who belong in this group may also vary by gender. For instance, it was only the case for women that the highly educated and low-skilled workers are more likely to be Subjective Outsiders, which was not the case for men. While this requires further analyses to fully interpret the results, it needs to be noted that the findings from MLCA in the previous chapter showed that Subjective Outsiders were not as evident amongst women as they were for men.

Women's higher likelihood of being Outsiders except for Subjective Outsiders was a common pattern found across Europe, but the extent to which women are more/less likely to be in each segment varied across countries. Clear pattern was found amongst the

Conservative welfare states (e.g., Germany, Austria, Luxembourg; or those with traditional family model), as they tend to show bigger gender gaps, with more women (relative to men) in Dead-end Insider jobs and more men (relative to women) in the Subjective Outsider jobs. However, while Belgium shows similar patterns as the other Conservative welfare states for (all) Outsiders, Dead-end Insiders and to some extent the Typical Outsiders, the gender gap among the Subjective Outsiders is much smaller. On the other hand, Portugal tends to show smaller gender gap. However, slightly different patterns were found for the other Mediterranean countries (e.g., Greece, Italy, Spain), as they show relatively higher likelihood of women among Typical Outsiders and men among Subjective Outsiders (except Greece). By examining the different types of Outsider jobs separately, this chapter was also able to identify the varieties in the gendered Outsider-ness across Europe. In other words, even in the countries with seemingly similar level of gender gap in the likelihood of being Outsiders, the types of jobs women are more likely to be in may vary. For instance, the United Kingdom and the Netherlands have a similar level of women's relative likelihood of being Outsiders as a whole, with both showing a relatively bigger gender gap. However, if we focus on each Outsider segment, the Netherlands tend to show a more pronounced gender gap in all groups, which is not the case for the United Kingdom. Thus, although some cross-regime variance can be found (Estévez-Abe 2006; 2009; Schwander and Häusermann 2013), the findings in this chapter show that the gendered patterns in the labour market require more nuanced explanations.

The findings in this chapter leads us to the next question this thesis aims to answer: how can we explain these cross-national variations in women's relative Outsider-ness? Do institutions matter? As discussed in Chapter 2, scholars have discussed how the labour and

welfare institutions have shaped the divided labour market between those in secure and insecure employment. Nevertheless, more needs to be known as to then why we see women's overrepresentation in the Outsider jobs and why the gender differences in Outsider-ness tend to vary across countries. Cross-national variations, especially for women's relative likelihood of being Dead-end Insiders, allow us to infer the possibilities of institutional contexts that shape different work patterns for women, especially mothers. Thus, in the next chapter, this thesis explores these questions by focusing on the work-family balance family policies, as the family policies not only target working parents (more so mothers), but also have both direct and indirect impact on women's employment patterns (see Chapter 4).

IX. How does family policy shape gendered labour market patterns across Europe?

1. Introduction

This chapter aims to examine the impact of family policy on the gendered labour market patterns in Europe – namely, women's overrepresentation in the Outsider jobs. In the previous chapters, we found that the European labour market is gendered, with women overrepresented in the Outsider jobs. However, these gendered patterns vary across Outsider jobs, which showed different Outsider risks for women and men. Women are more likely to be Typical Outsiders and (especially) Dead-end Insiders, while men are more likely to be Subjective Outsiders. What is more, these gendered patterns also varied across countries, with some countries (especially the continental European countries) showing higher likelihood of women being Outsiders compared to men. This indicates that the extent to which women are overrepresented in the Outsider jobs are feminised may depend on the institutional contexts of a country. Thus, this chapter examines the impact of national-level institutions on the labour market patterns.

When it comes to examining gender inequality in the labour market, the literature often focuses on the family policies related to work-family balance, which support workers to balance work and family (i.e., leave policies and childcare services, e.g., Misra, Budig and Boeckmann 2011; Korpi, Ferrarini and Englund 2013). This is because motherhood has been one of the major causes of career interruption (either due to non-employment or non-career-oriented employment) and income loss (Budig and England 2001). These policies also interact with gender norms in the society and these dynamics tend to hinder or support the

social changes around women's employment (Pfau-Effinger 2017). A good example of this is the paternity leave changing norms around fatherhood (e.g., Hobson 2011). It may also have an indirect impact on working women in general (namely, not just limited to mothers), especially considering statistical discrimination and their career choices, which then can shape the labour market patterns.

Thus, this chapter aims to answer the research question: *How does family policy impact women's overrepresentation in the Outsider jobs?* and examine to see if the family policies can explain the cross-national variations in the gendered patterns in the labour market. I specifically focus on the policies related to work-life balance, such as the leave policies and childcare services, as they have been found to have an important role in women's labour market participation (see review in Hegewisch and Gornick 2011; Van der Lippe and Van Dijk 2002). Multilevel random slopes modelling is conducted using European Working Conditions Survey 2015 data and the national-level data from Multilinks database, Eurostat and OECD family database (see Chapter 5 for more details). 'Gender' is limited to the binary definition of gender being women and men due to the limitation of the data.

Focusing on women's overrepresentation in the Outsider jobs, this chapter finds that leave policies and family policy expenditure can explain some cross-national variations in the gendered patterns in the labour market, but its impact varies across different Outsider groups. Firstly, higher family policy expenditure is associated with the higher likelihood of women among Dead-end Insiders, while it reduces their likelihood of being Typical Outsiders. It is also associated with the overall reduced likelihood of both women and men to be Subjective Outsiders. Secondly, longer paid leave for fathers tend to reduce women's relative likelihood of being in Typical Outsider jobs, while reducing men's relative likelihood

of being Subjective Outsiders – resulting in reduced the gender gaps. This may suggest decreased statistical discrimination for young labour market entrants (i.e., Typical Outsiders), yet the increased subjective insecurity among women (i.e., Subjective Outsiders). Lastly, the effective parental leave has curvilinear relationship with being Outsiders (including all three) and Dead-end Insiders, as the longer leave increases women's likelihood of being in this group until certain point but decreases as it gets longer. The countries with longer effective parental leave, however, tend to show less Typical Outsiders and reduce men's likelihood of being Subjective Outsiders. Supporting the welfare state paradox literature, the findings suggest that the generous family policy which increases women's labour market participation may have overlooked some other aspects of gender equality – namely, the quality of jobs. The increased participation is likely to have been associated with women being pushed into the lower-end jobs, which leads to the feministation of labour market Outsiders.

2. Family policy and the gendered labour market

As mentioned in Chapter 4, some scholars categorise work-family balance family policies into work-reducing and work-facilitating policies, based on different assumptions policies have regarding women's roles or work-family conflicts (Budig, Misra and Boeckmann 2016; Misra, Budig and Boeckmann 2011). The former is represented by the leave policies, which supports workers to reduce work to take care of family (especially children) while maintaining their job (and earnings in most cases). The latter is for the (public) childcare services that support workers to stay in work through the state taking the caring responsibility. Their findings show that having generous maternity leave reduces the

motherhood penalties in working hours and wage (Budig, Misra and Boeckmann 2016; Misra, Budig and Boeckmann 2011). However, the short and long parental leave (i.e., extended leave, often given to mothers after maternity leave) have less positive impact. It is because the short leave may facilitate women to return to the labour market sooner but may force them to find any jobs that can accommodate their childcare schedules, while the long leave may increase mothers' detachment from the labour market. Long leave for mothers may also maintain gender norms for women to stay out of the labour market to take care of family (e.g., Budig, Misra and Boeckmann 2016; Misra, Budig and Boeckmann 2011). Morosow (2019) also finds that the short leave increases women's likelihood of leaving the labour market entirely (i.e., become inactive) while the long leave increases their likelihood of being unemployed, even though they are in the labour market. Thus, previous studies show that the length of leave for mothers, especially the parental leave, is an important factor in determining women's (especially mothers') employment patterns, and the countries with the moderate length of leave is expected to have a more positive impact on their employment as well as reduce the motherhood penalty. Considering the higher likelihood of mothers in the Dead-end Insider jobs (based on their age and parental status), I expect that the length of maternity and parental leave to have a significant impact on the Dead-end Insiders.

On the other hand, father's involvement in childcare especially in early stage is another factor that can have a positive impact on women's continued employment after childbirth (e.g., Norman 2020). It shapes how fathers take up childcare duties in later stages of a child's life, which then can lead to equal share of childcare or housework, reducing the burden of 'second shift' on mothers (Hochschild and Machung 2012). The long paternity leave could also indirectly reduce statistical discrimination of the employers, as taking child-

related leave may be less associated with gender when fathers' involvement in childcare increases, and as a result lead to a less gendered labour market. Thus, I expect the length of paternity leave to be negatively associated with women's higher likelihood of being in Outsiders in general, and for both Typical Outsiders and Dead-end Insiders. Moreover, in countries with less gender division of labour, there may also be less gender gap among Subjective Outsiders.

Work-facilitating policies (i.e., full-time childcare coverage) are expected to have a positive impact on reducing women's likelihood of being Outsiders. Generous public childcare policy has been found to have a positive impact on mother's employment and earnings (e.g., Budig, Misra and Boeckmann 2016; Gornick 1999; Lefebvre and Merrigan 2008). It is because the public (or formal) childcare policy helps parents (especially mothers) with young children to return to work (Gornick 1999). Misra, Budig and Boeckmann (2011) find this to be especially true when it comes to the coverage of children under the age of 3 in childcare services. The lack of such services (especially public given affordability) could lead to parents (especially mothers) changing their jobs to accommodate their life with work, or even start their career with the jobs that are more likely to guarantee that work-family balance (see review in Hegewisch and Gornick 2011). This is often the case for mothers who move to part-time jobs after childbirth, which is a trend we see in the United Kingdom and the Conservative welfare states, such as Germany and the Netherlands (Plantenga 2002; Pfau-Effinger 2012). I emphasise the positive impact of full-time coverage as the part-time coverage may enhance women's likelihood of going into part-time work. Thus, considering the relatively higher likelihood of part-time working arrangements among Typical Outsiders

and Dead-end Insiders, the higher coverage of full-time childcare services may reduce women's likelihood of being in those jobs.

The childcare services can also be linked to creation of jobs, especially for women. This is because childcare sector tends to be female-dominated. However, the literature on welfare state paradox (e.g., Mandel and Semyonov 2006) shows that there may be some unintended negative outcomes to this. For instance, while some (Nordic European) countries were able to keep women employed by guaranteeing employment through the state, they did not succeed in changing gender norms as women continue to be hired in more 'female-typed' jobs. While these 'female-typed' jobs in these countries tend to be secure public jobs, they are limited in advancement and earnings compared to the jobs in private sector, which is sometimes referred to as a 'female ghetto'. However, it needs to be noted that although these jobs may be limited in reaching the 'top', these are relatively decent jobs and may not necessarily be associated with being the labour market Outsiders (see also Korpi, Ferrarini and Englund 2013).

3. Models

Two-level random slope multilevel logistic regression models are conducted for the analyses (see Hox 2002). This model allows us to examine whether gender gap in one's likelihood to be an Outsider varies across countries, and examine how the observed family policies can explain the cross-national variations of this gendered labour market patterns, namely women's overrepresentation in the Outsider jobs. I first examine the cross-national variations in gendered labour market patterns, then use the context variables to examine their

impact. Interaction between the context-level variable and gender is included in the model to examine the association between the gender gap and the context variables. There are three main models: 1) impact of family policy expenditure, 2) impact of leave policies and 3) impact of childcare policies. These are repeated for the four dependent variables. I first examine the family policy expenditure to examine the impact of general generosity of the policies, then examine specific impact of each policy. The models limit the number of context-level variables to maximum two using stepwise approach, as the it may lead to biased results, considering the complexity of the models and the limited number of countries observed (see Stegmueller 2013). I use the meqrlogit function of STATA 15.0 for all models.

4. Results

1) Explaining gendered labour market patterns with family policy expenditure

Table 17 presents somewhat paradoxical findings on how the family policy expenditure is associated with gendered labour market patterns across Europe. While women are more likely to be Outsiders in all countries, the countries with higher family policy expenditure per GDP tends to have higher likelihood of women in Outsider jobs, when its impact on men is minimal (Model 1.1; see also Figure 8A). What this shows is that the greater family policy expenditure has been associated with a larger gender gap in the type of employment, indicating a higher representation of women in the Outsider jobs. Although family policies may increase women's employment (see review in Hegewisch and Gornick 2011), the results question what type of jobs these women are able to obtain.

Table 17 Impact of family policy expenditure on women's relative likelihood of being Outsiders

LOG ODDS	Model 1.1 Outsiders	Model 1.2 Typical Outsiders	Model 1.3 Dead-end Insiders	Model 1.4 Subjective Outsiders
Gender (ref: male)				
Female	0.634*** (0.050)	0.233*** (0.065)	0.970*** (0.075)	-0.380*** (0.080)
National-level context				
National context	-0.047 (0.051)	-0.064 (0.102)	0.108 (0.076)	-0.175** (0.063)
National context*female	0.147** (0.046)	-0.098+ (0.059)	0.160* (0.076)	0.093 (0.074)
Constant	1.425*** (0.098)	0.171 (0.154)	-1.079*** (0.124)	-2.693*** (0.169)
Level 2 variation	0.062** (0.020)	0.268** (0.083)	0.141** (0.043)	0.074** (0.028)
Random slope	0.035* (0.017)	0.024 (0.031)	0.104** (0.040)	0.052 (0.035)
Loglikelihood	-13463.791	-6598.904	-9917.225	-5359.899
N level 1	24756	24756	24756	24756
N level 2	30	30	30	30

Note: variance at the individual-level (level 1) is $\pi^2/3$ for all models. ***p<0.001, **p<0.01, *p<0.05, +p<0.1
Similar results are found when controlled for female unemployment rate. The models include individual-level control variables, including age, education level, whether or not they live with a partner, whether or not they are breadwinners, parental status, occupational skills, public/private firm, industrial sector, whether or not they have unions in workplace, firm size, recent decrease in workforce.

The different results from Models 1.2-1.4 show that the association between one's likelihood of being Outsiders and family policy expenditure is closely related to the Dead-end Insider jobs and Subjective Outsiders. While gender remained a significant factor (with women's higher likelihood) for being Dead-end Insiders, countries with more expenditure on family/childcare has higher likelihood of women in the Dead-end Insiders compared to men (Model 1.3; see also Figure 8C). In contrast, while men are significantly more likely to be Subjective Outsiders, the countries with more family policy expenditure show smaller size of Subjective Outsiders (Model 1.4; see also Figure 8D). Although the difference is not significant at the p<0.05 level, increased family policy expenditure is also associated with a decrease in women's likelihood of being Typical Outsiders.

Thus, it can be predicted that women's overrepresentation in the Outsider jobs is driven by the increase in the low-income dead-end jobs, which is dominated by women, and the family policy expenditure has been associated with the increase of these dead-end jobs. Considering that the Dead-end Insiders are likely to be mothers in mid-age (as discussed in Chapter 8), it can be inferred that these dead-end jobs are the jobs mothers tend to take part it when they return to the labour market after the career break due to childbirth/care. What the findings in this section show is that family policy expenditure, which has supported mothers' labour market participation, may have been associated with mothers joining the low-income dead-end jobs rather than the Insider jobs. From these we can also infer that the higher expenditure on family policy itself does not mean that the country is more gender egalitarian. The countries with larger family policy expenditure may have less employment insecurity (both objective and subjective) and less gender gap in one's likelihood to be in insecure jobs, but greater gender segregation by income level and/or working hours (i.e., full/part-time). In the following sections, I further explore the impact of specific policies on women's relative likelihood of being Outsiders.

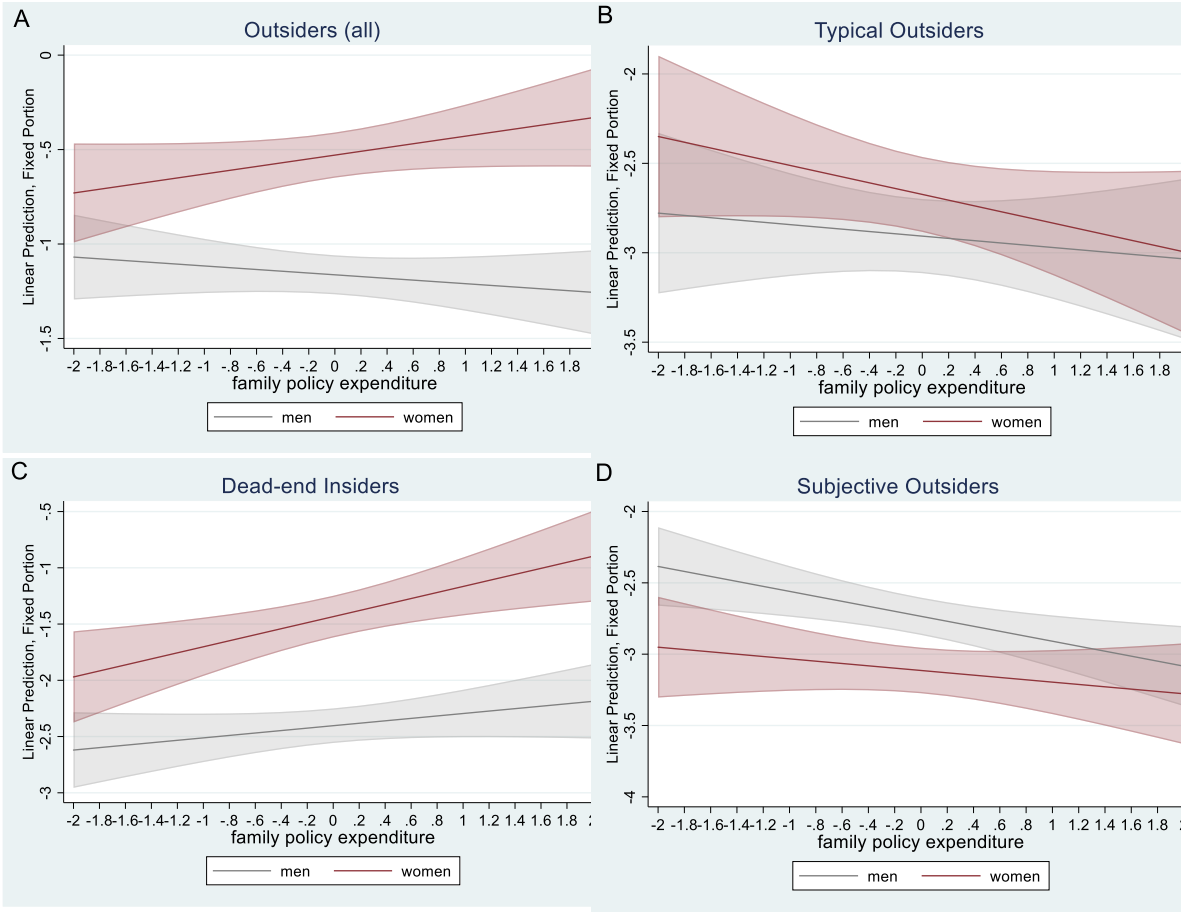

Figure 8 Impact of family policy expenditure on one's likelihood of being Outsiders by gender
Note: predicted margins with 95% confidence intervals

2) Explaining gendered labour market patterns with work-reducing policies

Can the work-reducing (i.e., leave) policies explain the cross-national variations in the gendered patterns across different labour market segments? As the family policy literature has shown the impact of the leave policies – especially concerning its length – on women's employment patterns (e.g., Misra, Budig and Boeckmann 2011; Morosow 2019), I here test the impact of these policies on women's relative likelihood of being Outsiders compared to men. The results in Table 18 show that the leave policies do not have a significant impact on one's likelihood of being an Outsider (which includes all three Outsider segments), although gender itself remains an important factor. However, there is a curvilinear relationship

between the effective parental leave and women's higher likelihood of being Outsiders (Model 2.1.7; see Figure 9 below). What this shows is that the gender gap (i.e., women's higher likelihood of being Outsiders compared to men) tends to be larger in the countries with moderate length effective parental leave, compared to the countries with shorter or longer leave. This somewhat deviates from Misra et al (2011) who found relatively lower motherhood penalty (in working hours and earnings) experienced by women in the countries with the moderate length parental leave. Together with the findings from Misra et al, we can infer that the motherhood penalty itself may be lower as mothers go back to the labour market, but the jobs they tend to have in these countries are likely to be the Outsiders jobs.

Table 18 Impact of leave policies on women's relative likelihood of being Outsiders

Outsiders LOG ODDS	Model 2.1.1 Effective maternity leave	Model 2.1.2 Effective parental leave	Model 2.1.3 Effective paternity leave	Model 2.1.4 Father's quota	Model 2.1.5 Mothers' paid leave	Model 2.1.6 Fathers' paid leave	Model 2.1.7 Effective Parental leave 2
Gender (ref: male)							
Female	0.641***	0.637***	0.646***	0.639***	0.673***	0.675***	0.743***
	(0.058)	(0.058)	(0.057)	(0.058)	(0.057)	(0.056)	(0.068)
National-level context							
National context	-0.051	-0.028	0.041	-0.057	-0.053	-0.024	-0.056
	(0.050)	(0.053)	(0.053)	(0.051)	(0.057)	(0.061)	(0.065)
National context*female	0.017	0.039	-0.066	-0.012	0.031	0.049	0.122*
	(0.051)	(0.053)	(0.052)	(0.054)	(0.052)	(0.052)	(0.059)
Effective Parental leave^2							0.039
							(0.046)
Effective Parental leave^2*female							-0.108*
							(0.043)
Constant	1.437***	1.436***	1.428***	1.439***	1.464***	1.458***	1.398***
	(0.101)	(0.101)	(0.104)	(0.101)	(0.110)	(0.110)	(0.112)
Level 2 variation	0.061**	0.063**	0.064**	0.060**	0.069**	0.072**	0.063**
	(0.020)	(0.021)	(0.022)	(0.020)	(0.024)	(0.025)	(0.021)
Random slope	0.053*	0.052*	0.048*	0.052*	0.040+	0.037+	0.039*
	(0.022)	(0.022)	(0.021)	(0.022)	(0.020)	(0.019)	(0.018)
Loglikelihood	-12694.651	-12694.844	-12270.425	-12694.452	-11546.867	-11546.914	-12691.885
N level 1	23399	23399	22697	23399	21354	21354	23399
N level 2	28	28	27	28	25	25	28

Note: variance at the individual-level (level 1) is $\pi^2/3$ for all models. ***p<0.001, **p<0.01, *p<0.05, +p<0.1
The models include individual-level control variables, including age, education level, whether or not they live with a partner, whether or not they are breadwinners, parental status, occupational skills, public/private firm, industrial sector, whether or not they have unions in workplace, firm size, recent decrease in workforce.

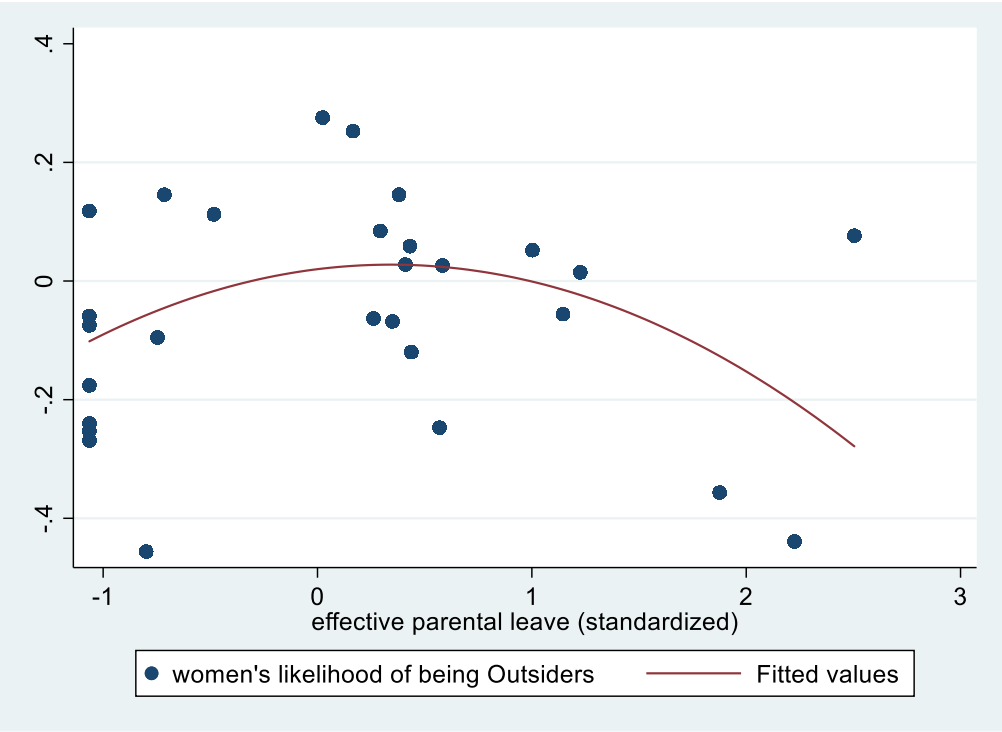

Figure 9 Impact of effective parental leave on women's relative likelihood of being Outsiders

However, these results also vary when examining the Outsider groups separately (see Tables 19-21). While gender remains a significant factor, countries with longer paid leave for fathers tend to reduce the likelihood of women being Typical Outsiders (both considering the effective leave and the total duration of available paid leave; Models 2.2.2 and 2.2.6; see also Figure 10A). This shows that the long paid paternity leave (or fathers' involvement in childcare) can reduce women's higher likelihood of being insecure low-income workers. Considering the higher likelihood of young labour market entrants to be Typical Outsiders (who are less likely to be parents), the impact of leaves on the Typical Outsiders can be explained through statistical discrimination. By increasing fathers' role in childcare, paternity leave can change norms around fatherhood (e.g., Hobson 2011), and may decrease the statistical discrimination among young workers, lowering women's higher likelihood of being Typical Outsiders. On the contrary, we can infer the opposite to hold for the long

parental leave (often used by mothers), that it may enhance the gender norms and enhance statistical discrimination. However, no association was found for the interaction between gender and parental leave (Model 2.2.3; Figure 10B). Instead, the countries with longer effective parental leave tend to have less insecure low-income workers in general compared to the other countries.

Table 19 Impact of leave policies on women's relative likelihood of being Typical Outsiders

Typical Outsiders LOG ODDS	Model 2.2.1 Effective maternity leave	Model 2.2.2 Effective parental leave	Model 2.2.3 Effective paternity leave	Model 2.2.4 Father's quota	Model 2.2.5 Mothers' paid leave	Model 2.2.6 Fathers' paid leave	Model 2.2.7 Effective Parental leave 2
Gender (ref: male)							
Female	0.222**	0.222**	0.218**	0.224**	0.241**	0.237***	0.259**
	(0.075)	(0.075)	(0.074)	(0.076)	(0.071)	(0.060)	(0.099)
National-level context							
National context	-0.131	-0.325***	-0.092	0.076	-0.146	0.001	-0.321**
	(0.093)	(0.080)	(0.097)	(0.100)	(0.104)	(0.115)	(0.093)
National context*female	-0.067	-0.087	-0.138*	0.001	0.038	-0.149**	-0.068
	(0.067)	(0.073)	(0.066)	(0.067)	(0.066)	(0.052)	(0.080)
Effective Parental leave^2							0.003
							(0.072)
Effective Parental leave^2*female							-0.038
							(0.067)
Constant	0.178	0.205	0.119	0.168	0.196	0.178	0.203
	(0.154)	(0.141)	(0.158)	(0.156)	(0.166)	(0.170)	(0.158)
Level 2 variation	0.229**	0.127**	0.225**	0.250**	0.241**	0.278**	0.127**
	(0.074)	(0.045)	(0.074)	(0.080)	(0.081)	(0.086)	(0.045)
Random slope	0.053	0.056	0.039	0.057	0.024	4.51e-9	0.056
	(0.037)	(0.036)	(0.034)	(0.039)	(0.029)	(0.00002)	(0.036)
Loglikelihood	-6282.138	-6274.883	-5937.570	-6283.798	-5579.886	-5576.920	-6274.708
N level 1	23399	23399	22697	23399	21354	21354	23399
N level 2	28	28	27	28	25	25	28

Note: variance at the individual-level (level 1) is $\pi^2/3$ for all models. ***p<0.001, **p<0.01, *p<0.05, +p<0.1
The models include individual-level control variables, including age, education level, whether or not they live with a partner, whether or not they are breadwinners, parental status, occupational skills, public/private firm, industrial sector, whether or not they have unions in workplace, firm size, recent decrease in workforce.

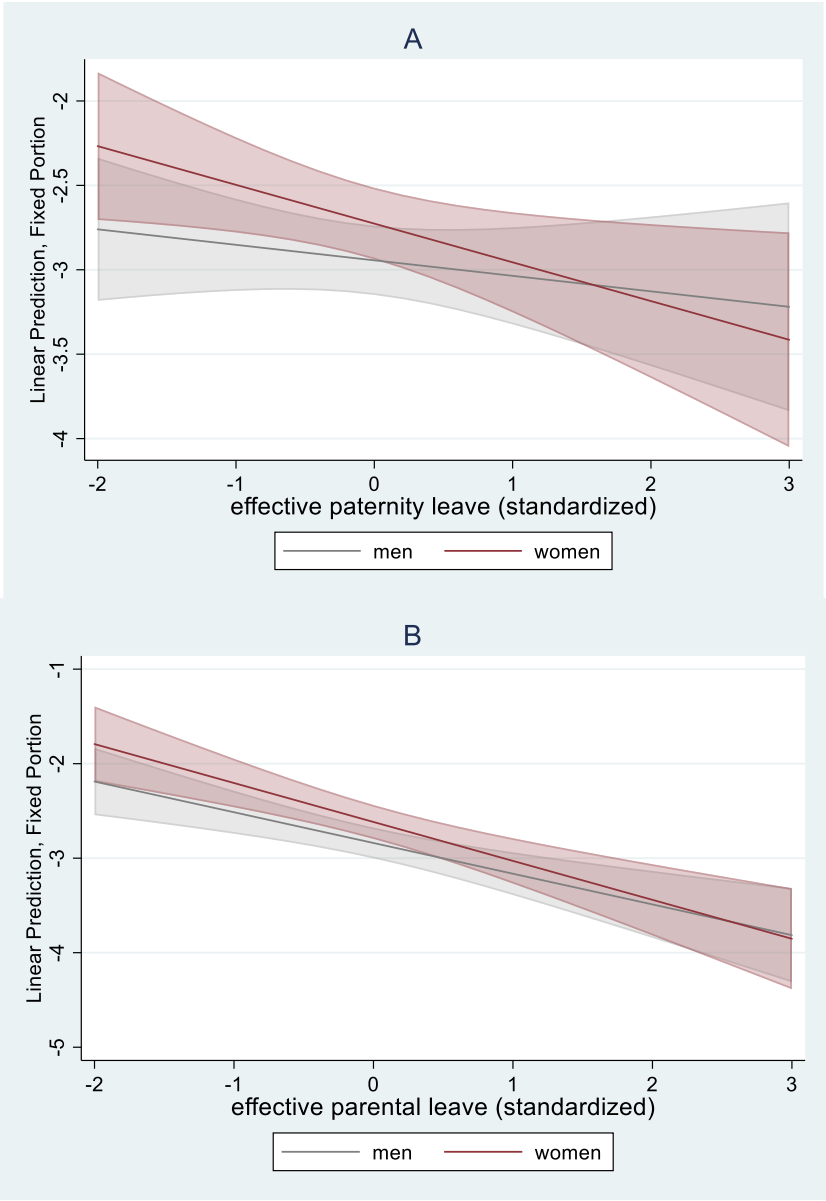

Figure 10 Impact of fathers' leave on one's likelihood of being Typical Outsiders by gender

The Dead-end Insiders show similar results from all Outsider group, and the duration of effective parental leave has a curvilinear relationship with the Dead-end Insiders, presented in Figure 11 (Model 2.3.7). This shows that the Outsider jobs women are likely to enter in countries with moderate length of effective parental leave are the non-temporary (part-time) low-income dead-end jobs.

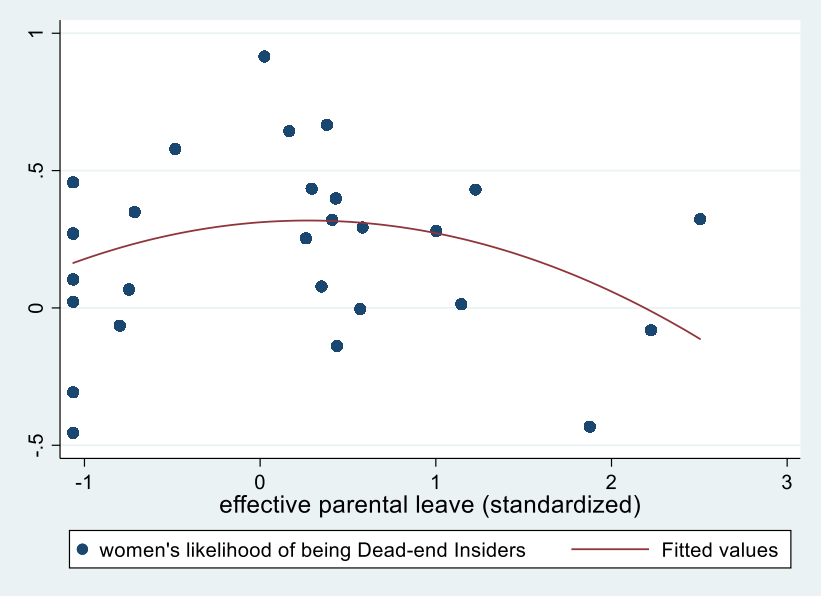

Figure 11 Impact of parental leave on women's relative likelihood of being Dead-end Insiders

Table 20 Impact of leave policies on women's relative likelihood of being Dead-end Insiders

Dead-end Insiders LOG ODDS	Model 2.3.1 Effective maternity leave	Model 2.3.2 Effective parental leave	Model 2.3.3 Effective paternity leave	Model 2.3.4 Father's quota	Model 2.3.5 Mothers' paid leave	Model 2.3.6 Fathers' paid leave	Model 2.3.7 Effective Parental leave 2
Gender (ref: male)							
Female	0.979***	0.973***	0.978***	0.978***	1.032***	1.033***	1.106***
	(0.085)	(0.086)	(0.088)	(0.085)	(0.085)	(0.083)	(0.102)
National-level context							
National context	-0.034	0.218**	0.123	-0.075	0.055	0.081	0.206*
	(0.081)	(0.075)	(0.081)	(0.085)	(0.087)	(0.091)	(0.093)
National context*female	0.055	0.004	-0.068	-0.058	-0.027	0.072	0.119
	(0.076)	(0.080)	(0.081)	(0.081)	(0.078)	(0.079)	(0.093)
Effective Parental leave^2							0.013
							(0.065)
Effective Parental leave^2*female							-0.137*
							(0.065)
Constant	-1.091***	-1.108***	-1.107***	-1.089***	-1.212***	-1.201***	-1.120***
	(0.133)	(0.127)	(0.133)	(0.132)	(0.141)	(0.140)	(0.142)
Level 2 variation	0.177**	0.131**	0.157**	0.171**	0.172**	0.165**	0.131**
	(0.056)	(0.042)	(0.051)	(0.053)	(0.057)	(0.056)	(0.042)
Random slope	0.137*	0.137*	0.142*	0.135*	0.112*	0.105*	0.115*
	(0.050)	(0.050)	(0.053)	(0.049)	(0.047)	(0.045)	(0.043)
Loglikelihood	-9360.122	-9356.559	-9137.087	-9359.635	-8587.592	-8586.834	-9354.411
N level 1	23399	23399	22697	23399	21354	21354	23399
N level 2	28	28	27	28	25	25	28

Note: variance at the individual-level (level 1) is $\pi^2/3$ for all models. ***p<0.001, **p<0.01, *p<0.05, +p<0.1
The models include individual-level control variables, including age, education level, whether or not they live with a partner, whether or not they are breadwinners, parental status, occupational skills, public/private firm, industrial sector, whether or not they have unions in workplace, firm size, recent decrease in workforce.

For Subjective Outsiders (see Table 21), while men are more likely to belong to this group, the gender gaps are not as large in the countries with generous (i.e., long) parental and paternity leaves (Models 2.4.2, 2.4.3; see also Figure 12A and 12B). The duration of paid leave available for mothers (including both the maternity and parental leave) also tends to be associated with reducing the gender gap (Model 2.4.5; see also Figure 12C). However, the figures show that the likelihood of women being Subjective Outsiders increases as (mothers') parental leaves get longer, while it decreases for men. This means that in countries with longer parental leave and paternity leave, women tend to experience higher sense of insecurity about their job. As with the parental leave, it may be the longer career break from the longer leave increasing women's subjective insecurity in maintaining their jobs due to skills depreciation. Gender norms assumed in long parental leaves may also enhance the statistical discrimination against women throughout their career and increase their sense of insecurity. Under such context, they may be more likely to feel insecure about their job when their workplaces go through redundancies.

On the other hand, the countries with longer paid leave for fathers tend to show less Subjective Outsiders (Model 2.4.6; see also Figure 12D). Although this needs further investigation, this could be because the countries with longer paternity leave (without considering the amount of benefit) tend to be the corporatist countries with strong protection for the Insiders, which may reduce the subjective insecurity amongst the Insiders. Another possible explanation is that the changes in gender norms through increased paternity leave (e.g., Hobson 2011) may also relieve fathers of the breadwinning responsibilities and potentially influence their subjective insecurities. While this can explain the slightly steeper line for men in Figure 12D (but no statistically significant difference for women), it is yet

another hypothesis that needs be explored in the future studies. What can be noted is the different result for the effective paternity leave and the fathers' paid leave (Models 2.4.2 and 2.4.6). The length of the paid leave for fathers itself is associated with reducing the size of the Subjective Outsiders, while the length of effective paternity leave is associated with increased women's likelihood of being Subjective Outsiders. It requires further investigation to understand why we see such differences.

Table 21 Impact of leave policies on women's relative likelihood of being Subjective Outsiders

Subjective Outsiders LOG ODDS	**Model 2.4.1 Effective maternity leave**	**Model 2.4.2 Effective parental leave**	**Model 2.4.3 Effective paternity leave**	**Model 2.4.4 Father's quota**	**Model 2.4.5 Mothers' paid leave**	**Model 2.4.6 Fathers' paid leave**	**Model 2.4.7 Effective Parental leave 2**
Gender (ref: male)							
Female	-0.401***	-0.398***	-0.405***	-0.397***	-0.373***	-0.364***	-0.372***
	(0.083)	(0.080)	(0.078)	(0.084)	(0.084)	(0.086)	(0.100)
National-level context							
National context	0.072	-0.071	0.016	-0.110	-0.042	-0.176*	-0.084
	(0.066)	(0.071)	(0.072)	(0.067)	(0.075)	(0.073)	(0.086)
National context*female	0.069	0.180*	0.187**	0.006	0.129+	0.073	0.198*
	(0.072)	(0.070)	(0.069)	(0.077)	(0.073)	(0.081)	(0.082)
Effective Parental leave^2							0.020
							(0.063)
Effective Parental leave^2*female							-0.026
							(0.061)
Constant	-2.721***	-2.733***	-2.620***	-2.713***	-2.539***	-2.546***	-2.753***
	(0.177)	(0.178)	(0.181)	(0.177)	(0.186)	(0.183)	(0.190)
Level 2 variation	0.090*	0.100**	0.102*	0.086*	0.105*	0.080*	0.100**
	(0.033)	(0.036)	(0.037)	(0.032)	(0.039)	(0.033)	(0.036)
Random slope	0.052	0.035	0.028	0.057	0.039	0.051	0.033
	(0.036)	(0.032)	(0.027)	(0.038)	(0.032)	(0.036)	(0.032)
Loglikelihood	-5019.656	-5018.022	-4869.515	-5019.825	-4619.742	-4618.556	-5017.915
N level 1	23399	23399	22697	23399	21354	21354	23399
N level 2	28	28	27	28	25	25	28

Note: variance at the individual-level (level 1) is $\pi^2/3$ for all models. ***p<0.001, **p<0.01, *p<0.05, +p<0.1
The models include individual-level control variables, including age, education level, whether or not they live with a partner, whether or not they are breadwinners, parental status, occupational skills, public/private firm, industrial sector, whether or not they have unions in workplace, firm size, recent decrease in workforce.

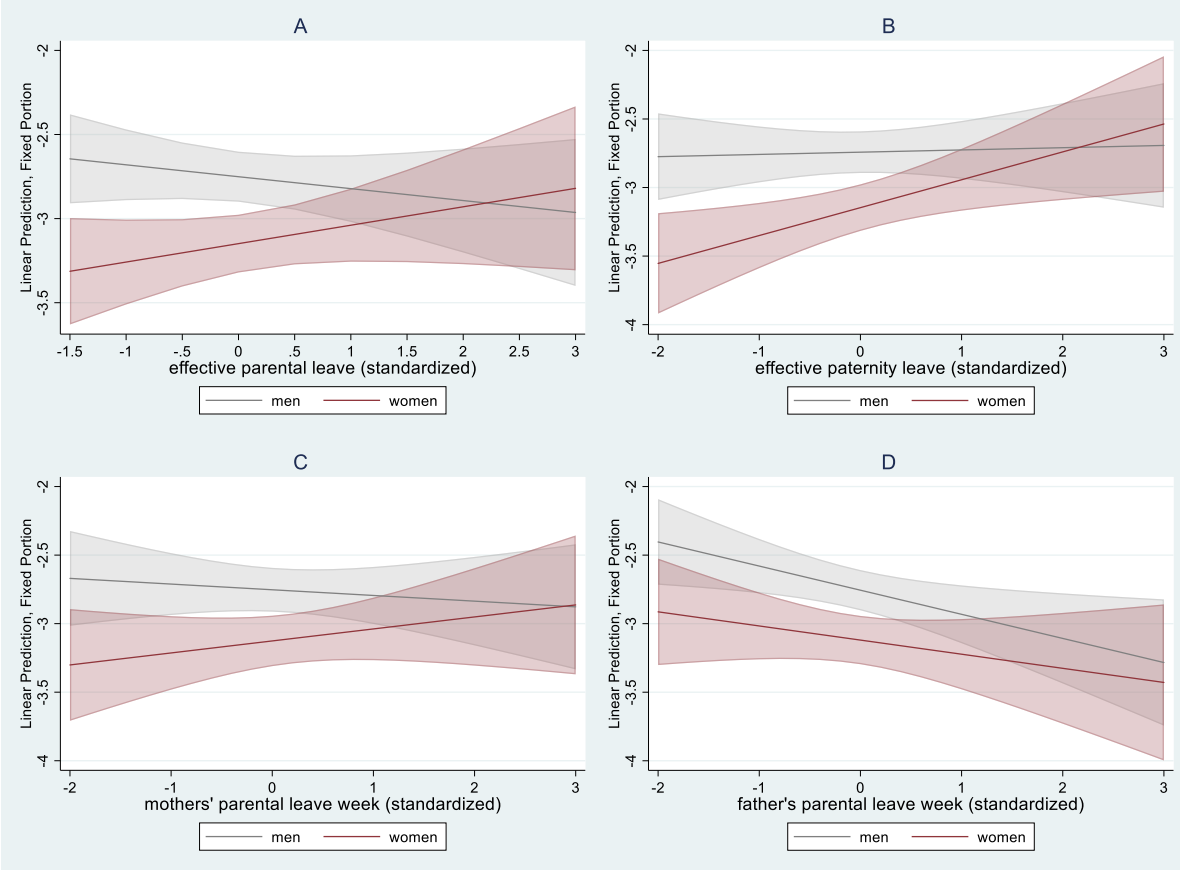

Figure 12 Impact of effetive parental leave, effetive paternity leave and duration of mothers' and fathers' paid leave on one's likelihood of being Subjective Outsiders by gender

3) Explaining gendered labour market patterns with work-facilitating policies

As discussed in the theory section, Misra, Budig and Boeckmann (2011) find that the childcare service coverage of children under the age of 3 (i.e., work-facilitating policies) is highly associated with the reduced motherhood penalty for both employment and earnings (see also Keck and Saraceno 2013). Can the work-facilitating policies explain the cross-national variations in the gendered labour market patterns? The results from the Table 22 show that the coverage of full-time childcare services does not have a significant impact on women's relative likelihood of being Outsiders. From this we can infer that while the having childcare services support mothers to go back to the labour market and maintain their

employment, they do not influence what type of jobs they obtain. However, as discussed in the theoretical background section, I argue this may be different if we examine the coverage of part-time services, as they may increase women's higher likelihood of part-time jobs[49]. On the other hand, when examining the impact of childcare services use with a more recent data (from OECD family database 2015 – see Chapter 5 for how and why I do this), the countries with higher childcare service coverage in general tend to have less Subjective Outsiders (see Appendix 9.2). It requires further investigation to understand whether this is due to the higher employment protection (thus, reduced subjective insecurity) or less workers in industry (since the Subjective Outsiders are more likely to be in industry sector; see Chapter 8).

Table 22 Impact of (full-time) childcare services on women's relative likelihood of being Outsiders

	Model 3.1.1	**Model 3.1.2**	**Model 3.2.1**	**Model 3.2.2**	**Model 3.3.1**	**Model 3.3.2**	**Model 3.4.1**	**Model 3.4.2**
	All	**Full-time**	**All**	**Full-time**	**All**	**Full-time**	**All**	**Full-time**
LOG ODDS	**Outsiders**		**Typical Outsiders**		**Dead-end Insiders**		**Subjective Outsiders**	
Gender (ref: male)								
Female	0.637***	0.635***	0.217**	0.216**	0.981***	0.978***	-0.404***	-0.405***
	(0.059)	(0.059)	(0.078)	(0.078)	(0.089)	(0.088)	(0.086)	(0.083)
National-level context								
National context	0.078	0.042	0.110	0.042	0.077	0.057	-0.030	-0.009
	(0.050)	(0.051)	(0.100)	(0.100)	(0.082)	(0.082)	(0.068)	(0.068)
National context *female	-0.006	-0.049	-0.046	-0.031	0.030	-0.052	0.004	0.106
	(0.053)	(0.052)	(0.068)	(0.069)	(0.079)	(0.078)	(0.075)	(0.071)
Constant	1.415***	1.410***	0.167	0.160	1.108***	-1.114***	-2.709***	-2.704***
	(0.102)	(0.103)	(0.161)	(0.161)	(0.136)	(0.136)	(0.180)	(0.180)
Level 2 variation	0.059**	0.065**	0.261**	0.267**	0.176**	0.181**	0.097*	0.099*
	(0.020)	(0.022)	(0.086)	(0.087)	(0.056)	(0.058)	(0.036)	(0.036)
Random slope	0.055*	0.053*	0.056	0.058	0.144*	0.143*	0.061	0.049
	(0.023)	(0.022)	(0.041)	(0.041)	(0.053)	(0.053)	(0.041)	(0.037)
Loglikelihood	-12322.475	-12323.026	-6101.677	-6102.213	-9069.107	-9069.288	-4888.983	-4887.973
N level 1	22612	22612	22612	22612	22612	22612	22612	22612
N level 2	27	27	27	27	27	27	27	27

Note: variance at the individual-level (level 1) is $\pi^2/3$ for all models. ***p<0.001, **p<0.01, *p<0.05, +p<0.1
Childcare service use of children under 3 (all) for more recent data has been tested, and showed similar results, except for the Subjective Outsiders. The findings show that the countries greater coverage tend to show less Subjective Outsiders. The models include individual-level control variables, including age, education level, whether or not they live with a partner, whether or not they are breadwinners, parental status, occupational skills, public/private firm, industrial sector, whether or not they have unions in workplace, firm size, recent decrease in workforce.

[49] It has not been tested due to the lack of available data.

5. Other national-level variables

As mentioned in Chapter 5, some other national-level variables are also examined as part of these analyses. More specifically, there are several variables that are used as control variables in the above models to examine whether the above findings still hold even when accounting for the other relevant national-level factors. The variables include women's employment rate, women's unemployment rate, unemployment rate, gender employment gap, mothers' employment rate, gender norm, childcare cost, union density and collective bargaining coverage. When controlling for these variables separately, there is no significant difference from the findings above (see Appendix 9.2-9.5).

In addition, Appendix 9.6 presents the multilevel results when using each of these variables as sole national-level variables. Higher mothers' employment rate is associated with greater size of Dead-end Insiders, and higher women's overall employment rate is associated with the greater gender gap amongst the Dead-end Insiders and Outsiders as a whole. Thus, it can be inferred that the increase in women's (especially mothers') labour market participation over the decades have contributed to the increase in Dead-end Insider. Similar patterns were found for the unemployment rates, as the higher unemployment rates (for both all workers and women) are associated with smaller Dead-end Insiders and bigger Typical Outsiders and Subjective Outsiders. On the other hand, higher childcare cost is associated with women's higher likelihood of being Outsiders compared to men. Gender norm is found to have somewhat puzzling relationship with one's Outsider-ness, as the countries with higher proportion of respondents with stronger association with existing gender roles tend to show less Outsiders and Dead-end Insiders. This is heavily driven by the question on men's lack of competence in undertaking responsibilities at home, and requires

further investigation. Union density and the collective bargaining coverage, that have had important role in dualization process itself, are found to have no significant relationship with the four-segment labour market or its gendered patterns. However, higher union density is still somewhat significantly associated with ($p<0.1$) smaller Subjective Outsiders.

6. Discussion and Conclusion

Labour markets are divided into Insiders and Outsiders (e.g., Emmenegger et al. 2012a; Palier and Thelen 2010), and women are overrepresented in the Outsider jobs (Schwander and Häusermann 2013). In the previous chapters, we have observed how women's relative likelihood of being Outsiders varies across different Outsider jobs (i.e., gendered patterns) and how these gendered patterns vary across countries. To explain these cross-national variations, I used three dimensions of family policy to examine their impact on women's relatively likelihood of being Outsiders compared to men, using multilevel modelling.

There are several important findings in this study. Firstly, higher family policy expenditure is associated with the higher likelihood of women being Dead-end Insiders. This shows that the increase in women's labour market participation is likely to have been associated with pushing women into the Outsider jobs, leading to the feminisation of labour market Outsiders. This supports the literature on welfare state paradox (e.g., Mandel and Semyonov 2006) arguing that the generous family policy that increased women's labour market participation may not necessarily promote gender equality in the other aspects of the labour market. More specifically, I examined how specific work-life balance policies that

make up this expenditure are associated with women's higher likelihood of being Outsiders. Effective parental leave was found to have a curvilinear relationship with women's higher likelihood of being Outsiders (including all three) and Dead-end Insiders, which means that women's relative likelihood of being Dead-end Insiders compared to men is the highest in countries with moderate length of effective parental leave. The curvilinear relationship with parental leave was also found in the family policy literature (e.g., Budig, Misra and Boeckmann 2016; Misra, Budig and Boeckmann 2011), which showed that the moderate length of parental leave (which they call extended maternity leave) tend to be associated with lower motherhood penalty in working hours and earnings. Based on the findings from this study, we can infer that the reduced penalty may not necessarily be due to women going into Insider jobs, but rather being pushed into the seemingly secure jobs that are in reality dead-end and low-income (i.e., Dead-end Insiders). Lastly, longer paid leave for fathers tend to be associated with reduced gender gaps the labour market, especially in relation to women's likelihood of being a Typical Outsider or Subjective Outsider. This adds to the previous studies on the positive impact of paternity leave in women's earnings (or reduced motherhood penalty), which is expected to reduce gender gap in general (e.g., Andersen 2018; Budig, Misra and Boeckmann 2016). However, the findings in this chapter suggest that while longer paternity leave reduces women's likelihood of being in low-quality jobs with insecure employment relationships (i.e., Typical Outsiders), it does not have a significant impact on women's higher likelihood of being in 'secure' low-quality jobs (i.e., Dead-end Insiders). It is important to note that the paternity leave is significantly shorter than maternity leave in general, which requires caution in the interpretations.

This study contributes to both the dualization and family policy literature through providing a new theoretical framework that combine them. Dualization literature provides important insights as to how the labour and welfare institutions have shaped the dualized labour market structures over the last few decades in post-industrialised Europe. Nevertheless, one of the major changes in the post-industrialised labour market during that same period has been the increase in women's labour market participation. Previous studies on women's overrepresentation in the Outsider jobs (e.g., Schwander and Häusermann 2013) showed the possibility of the gendered dualization process, where the flexibilisation has been driven by women's inclusion into the low-quality jobs. The cross-national variations in women's higher likelihood of being Outsiders suggest the possibility of institutional contexts shaping the gendered labour market patterns. This thesis adds to this literature by incorporating another set of institutions to understand the gendered labour market patterns – namely, institutions regulating family, based on the importance of family in determining different labour market trajectories for women and men. Family policy was specifically examined as an institutional context in this thesis, as it often reflects, if not strengthens, the cultural norms around gender and family, especially on the role of mothers (Misra, Budig and Boeckmann 2011; Pfau-Effinger and Smidt 2011). The findings in this chapter show the potential for the family institutions in explaining the gendered dualization process and its cross-national variations.

On the other hand, this chapter also contributes to the literature on family policy, especially the debates around the welfare state paradox (e.g., Mandel and Semyonov 2006). Firstly, this chapter adds to the literature by showing that the increase in employment rate (thus greater gender equality) may have been the result of pushing women into the low-income dead-end jobs. While further investigation is needed, this provides implications for

family policy that it needs to be designed to promote women's inclusion into 'good' jobs rather than any jobs. Secondly, while the literature often focuses on the impact of family policy on mothers, this chapter expands the literature by examining its impact on the general labour market, including the non-mothers. This can be justified as the family policy interacts with gender norms in the society and such dynamics tend to hinder or support the social changes around women's employment (Pfau-Effinger 2017). Lastly, while the welfare state paradox focuses on the unintended negative impact generous family policy has on women reaching the top (e.g., Mandel and Semyonov 2006), this chapter adds to the literature by examining the unintended outcome that keep women in the bottom.

Finally, the findings in this chapter are not to say that the family policy is the cause of feminisation of Outsiders. Rather, these show that the current design of family policy that has its emphasis on women's labour market inclusion may have overlooked the fact that being employed does not mean one has an Insider job. Thus, we need a more emphasis on the quality of jobs to have a more equal labour market regardless of one's gender.

X. Conclusion

Despite the increase in women's labour market participation over the past decades, it is questionable whether or not the labour market is becoming more equal. Post-industrialisation has been marked by increased female labour market participation, but also by being a gendered labour market (Esping-Andersen 1999; Schwander and Häusermann 2013). Women continue to be underrepresented in the higher end of the labour market, while being overrepresented in the lower end, and are often low-paid and precarious (Estévez-Abe 2006; Standing 2011). In a labour market where certain workers are protected over others, Insiders as opposed to Outsiders (e.g., Emmenegger et al. 2012a; Lindbeck and Snower 1986; Rueda 2005), women are often overrepresented in Outsider jobs (Schwander and Häusermann 2013). However, more needs to be known as to what extent women are more likely than men to be the Outsiders, and whether or not the risks vary by gender depending on which aspect of the Outsider-ness we focus on (e.g., employment contract, income, etc.). Moreover, while the gendered structure is found in all labour markets (even the ones that are considered to be more gender egalitarian; i.e., Nordic countries), there are variations in the extent to which the labour market is gendered (e.g., Estévez-Abe 2006; Schwander and Häusermann 2013). In other words, in some countries, depending on their institutional contexts, women's 'over'-representation may not be as pronounced compared to others. Thus, a question remains as to how the gendered labour market patterns vary by countries and how institutions contribute in shaping such patterns.

Drawing from these, the aim of this thesis was to examine how the dualized labour market is gendered and how the family policy as institutional context shapes such gendered

patterns across Europe. Family policy is chosen as they not only reflect but also influence the gender norms in the society, especially regarding women's employment (Misra, Budig and Boeckmann 2011; Pfau-Effinger and Smidt 2011). As a result, this thesis found that women are not only overrepresented in the Outsider jobs, but more specifically among the low-income dead-end jobs (i.e., Dead-end Insiders). Mothers take up large proportion of the Outsiders, mostly concentrated among the Dead-end Insiders, while young female workers are more likely to be in typically Outsider jobs (with combined insecurities in terms of employment, income and future prospects). Therefore, while motherhood has significant impact on women's overrepresentation in the Outsider jobs, this thesis found that gender itself matters, and women as a whole are more likely to be Outsiders compared to men. This shows that what we refer to as the 'gendered labour market' is more nuanced than women overrepresented in the unemployed or non-standard jobs. This indicates a need for an analytical framework that goes beyond the binary definition of Insider-Outsider (namely, standard vs non-standard) to fully capture the complexity of the labour market. This has an especially important implication for examining the gender differences in the labour market, as the existing assumptions primarily based on the male-dominated sectors may falsely universalise men's experiences (Orloff 2009).

The welfare state is not neutral in the stratified structure of the society, as it can reduce or reinforce the social divisions (e.g., Esping-Andersen 1990), not only across classes but also across genders (Daly 2000; Mandel and Shalev 2009b; Orloff 1993; Sainsbury 1994). With the aim to explain the labour market inequalities of post-industrialised societies, Dualization thesis shed light on the role of welfare and labour institutions in dividing the labour market into the protected core (i.e., Insiders) and the flexibilised periphery (i.e.,

Outsiders) (e.g., Emmenegger et al. 2012a; Palier and Thelen 2010). This thesis adds to this literature by focusing on the role of welfare state in further dividing this labour market by gender, leading to women's overrepresentation in the Outsider jobs. This thesis finds that while generous family policy helps mothers to remain in the labour market (see review in Hegewisch and Gornick 2011), they are limited to the Dead-end Insider jobs – namely, the low-income jobs without prospects for advancement. This resonates with the welfare state paradox or family policy trade-off literature that the policies that enhances gender equality on one hand may work as a barrier in other aspects of gender equality (e.g., Budig, Misra and Boeckmann 2016; Mandel and Semyonov 2006; Morosow 2019; Pettit and Hook 2009; Plantenga 2002). On the other hand, fathers' leave is associated with decreased gender gap among young Outsiders, suggesting the changes in gender norms reducing the statistical discriminations against women. These are yet another evidence showing that the policies that do not disrupt the gender norms may end up further enhancing them, contributing to the persistent gender inequality in the labour market. Contributions this thesis has on policies are discussed more in detail in the later section on policy recommendations.

As a conclusion, this chapter first presents the summary of the main findings in the thesis, which covers the Chapters 6-9 (i.e., the analytical chapters). Next, I discuss the limitations of the thesis along with some directions for future studies. Lastly, I discuss the contribution of the thesis and present its implications for the dualization literature and policy recommendations.

1. Summary of findings

How is the labour market divided in Europe?

Using the five indicators of labour market Outsider-ness (i.e., part-time work, insecure employment contract, low-income, subjective insecurity, and lack of prospects for advancement), Chapter 6 (namely, the first analytical chapter) found that the European labour market is divided largely into two segments – Insiders and Outsiders, but with three different types of Outsider segments: Typical Outsiders, Dead-end Insiders and Subjective Outsiders. This adds to the literature by capturing the complexity of the labour market that the type of employment contract alone cannot capture, especially in terms of the varieties in Outsider-ness, which mirrors the findings of other empirically driven studies (e.g., Lukac, Doerflinger and Pulignano 2019; Yoon and Chung 2016). Income and subjective insecurity were also found to be significantly dividing the labour market, not necessarily coinciding with employment contracts. Identification of the Dead-end Insiders and Subjective Outsiders, therefore, provides us with an insight that we need further investigation on the seemingly secure workers whose actual insecurity may not be captured through the objective measures such as the standard employment relationship and income level.

How is the European labour market gendered?
Differing Outsider risks between women and men

In Chapter 7, I used Multi-group LCA to examine the gendered patterns in the labour market – which is investigated in three aspects derived from the literature discussed in Chapter 3: 1) women's overrepresentation in the Outsider jobs, 2) different Outsider risks

between women and men, and 3) different labour market segmentation among women. They were tested by examining the proportion of each gender in each labour market segment found from Chapter 6, and then examining the labour market division separately for women and men. The former enables us to provide empirical evidence for the extent to which women are overrepresented in the Outsider jobs (based on the findings of Schwander and Häusermann 2013). The latter contributes to knowledge by testing the assumption that women and men have same labour market segmentation structure, building on the previous studies that examined different labour market segmentation patterns for women from that of men (e.g., Ghilarducci and Lee 2005; Meyer and Mukerjee 2007). The latter stage is especially important, as the labour market studies have been heavily centred around the cases of male-dominated sectors and therefore the existing assumptions may falsely universalise the male experiences.

As a result, although some variations were found, this thesis concluded that the greater structure of labour market segmentation to be equivalent across genders, which enables us to directly compare the two groups within the four-segment framework derived from LCA. Women are indeed overrepresented in the Outsider jobs, specifically among the Dead-end Insiders, who are distinguished for their low income and lack of prospect despite their secure employment. This type of Outsider jobs resembles the type of jobs women tend to have upon returning to the labour market after career breaks due to childbirth/care. While these jobs tend to be part-time jobs, not all part-time jobs belong to this group. Typical Outsider jobs, in which women are more likely to be compared to men, also include relatively large share of part-time jobs that often coincide with insecurity in employment contracts (e.g., temporary or fixed term jobs) and low-income. Thus, the four-segment model developed and

used in this thesis can also identify the varieties in the part-time work, adding to the previous studies that discussed the varieties of part-time work (e.g., Nicolaisen, Kvali and Jensen 2019; Rueda 2005; Warren and Lyonette 2018; Yoon and Chung 2016). Women are overrepresented in the part-time jobs, and this enables us to identify the different precariousness they experience depending on which jobs they have. This is discussed further in the Contribution to knowledge section in this chapter.

While women are more likely to be at risk of being Outsiders compared to men, it is not to say that men do not have any risks. Rather, they have different Outsider risks compared to women. More men than women feel insecure about their positions despite having objective security in terms of their employment and income, whereas Outsider women are characterised by more objective insecurities, such as low income and part-time work. In other words, for women, it is their 'actual' labour market status and low income that make them more likely to be at risk, whilst for men the risk is generally lower or subjective. However, it needs to be noted that men's likelihood of being an Outsider was similar across different segments, which means that they are not necessarily more likely to be Subjective Outsiders itself. Rather, they are more likely than women to be Subjective Outsiders, while women are much more likely to be Dead-end Insiders or Typical Outsiders compared to Subjective Outsiders. Considering the precision of subjective job insecurity on predicting one's future unemployment (Green et al. 2001), the findings show that while men do have better positions in the labour market, some of them do experience the potential risk of becoming unemployed. The relative higher proportion of blue-collar workers in industry among the Subjective Outsiders (that was discovered in Chapter 8) allows us to infer that this may be driven by the weakening of the Insider position of the workers in such jobs (Palier and Thelen 2010). On

the other hand, women are much more likely to be in inherently Outsider jobs, which entail non-standard employment and/or low-income.

Does gender matter? And does it matter equally everywhere?

With the results from Chapter 7, one question we can ask is *if it is gender that matters,* and whether or not it matters *equally across countries*. In other words, do workers become (dis)advantaged based on their genders, or is it based on other factors that coincided with it? In order to answer these questions, in Chapter 8, I conducted regression analysis between gender and one's Outsider-ness (whether one is in an Outsider group or not), accounting for other relevant factors (i.e., control). The factors that were considered in the analyses included age, education level, skill level of the job, industry, marital (or partner) status, parental status, whether or not one works in a company with unions (or equivalent), whether or not the company is big or went through decrease in workforce, etc. These were based on the previous studies that examined different individual or job level factors that may lead to one's Outsider-ness. For instance, young people are more likely to be Outsiders, and so are the lower educated people, lower skilled people, and those with little or no bargaining power. However, I hypothesised that gender would remain a significant factor based on different theories that women and men experience labour market differently, throughout their career, but especially as they enter parenthood. The findings in Chapter 8 supported this hypothesis that gender matters in determining one's labour market position, but differently across different Outsider segments, confirming the results from Chapter 7. Gender is especially an important factor for becoming Dead-end Insiders, for which it was the most significant factor among all factors considered. Childcare responsibility was a significant factor for women's higher likelihood

of being Outsiders in general but more specifically for being Typical Outsiders and Dead-end Insiders. However, further analysis has shown that it is the relatively older workers (46 and above) who are more likely to be in this group, while it was young, low educated workers who are more likely to be the Typical Outsiders. Thus, it can be inferred that it is the mothers who returned to the labour market after career interruptions (most likely due to childcare) who are the Dead-end Insiders, and the Typical Outsiders are the young labour market entrants who enter into the Outsider jobs, although mothers are still more likely than non-mothers to enter these jobs. However, due to the limitation of the cross-sectional data, we cannot be entirely sure whether the former had been Insiders or Outsiders before the career interruption. In any case, they take up large portion of female workforce in Europe. Gender also mattered for Subjective Outsiders, but it was men who are more likely to be in this group compared to women, as was found in Chapter 7.

Then, does gender matter equally across countries? I hypothesised that there would be cross-national variations, based on the previous studies that show that women's higher likelihood of being Outsiders (often defined as unemployed or atypical workers) and gender segregation patterns as a result varies across regimes (Schwander and Häusermann 2013), political economy (Estévez-Abe 2006) and/or cultural contexts (Pfau-Effinger 2012). I used multilevel modelling to test if these cross-national variations apply to the four-segment labour market and its gendered patterns. As a result, I found that while women's higher likelihood of being Outsiders holds true for all countries concerned, the extent to which gender matter significantly varied across countries, which was especially the case for the Dead-end Insiders. Considering that this group is largely composed of the mid-aged mothers,

we can infer that it may be caused by mothers' employment patterns varying across countries. This then calls for institutional explanations, which is discussed in the next chapter.

Can family policies explain cross-national variations in gendered labour market patterns?

In Chapter 8, I found that there are cross-national variations in women's higher likelihood of being Outsiders compared to men. The puzzle we are then left with is *why?* As a first step to explore this, this thesis examined the impact family policies have on women's relative likelihood of being Outsiders compared to men (Chapter 9). I conducted multilevel analysis with random slopes by gender to examine whether or not family policy contexts can explain why we find a variation across countries in the relative positions of women in regards to labour market divisions. I use random slopes as it allows us to examine the variations in women's *relative* likelihood of being Outsiders compared to men. I focus on three dimensions of family policy: general generosity based on the expenditure per GDP, and using existing distinctions of family policies (Misra, Budig and Boeckmann 2011). I examined the association of work-reducing policies (i.e., leave policies) and work-facilitating policies (i.e., public childcare services). As a result, some associations were found for family policy expenditure and work-reducing policies.

Higher family policy expenditure is found to be associated with the bigger Dead-end Insiders (which is female-dominated) and smaller Subjective Outsiders (which is male dominated). In other words, the countries with more generous family expenditure tend to have more women in the Outsider jobs compared to men, heavily driven by the increase of low-income dead-end jobs. Considering the positive impact family policy had on women's

labour market participation (see review in Hegewisch and Gornick 2011), the findings in this thesis suggest that this increased participation may have been the result of women going into Outsider jobs – more specifically the Dead-end Insider jobs. Thus, the generous family policy is associated with shifting the gender inequality rather than equalising it. This supports the literature on welfare state paradox (Mandel and Semyonov 2006) that the generous family policy which has contributed in increasing women's labour market participation may not necessarily promote gender equality in the labour market. Dead-end Insiders are mostly composed of mid-aged mothers who are likely to return to the labour market after a few years of childcare. Given the complex combinations of policies, it is difficult to say which policies lead to this result based on family policy expenditure, but one thing this finding shows is that the policies have not been successful in guaranteeing women to stay in Insider jobs. Instead, for those who wish to continue working, they enter the secondary labour market that does not require high skills accumulation nor guarantee job ladders (for advancement) (Doeringer and Piore 1971). It is not the lack of policies but the more generous policies that are associated with such employment patterns. It is outside the scope of this thesis to understand how or why this occurs, but there seems to be a paradoxical mechanism that the more 'generous' family policies enhance or conform to the gender norms and hinder women from building their career. As to the general decrease in Subjective Outsiders, it may be that the countries with more generous family policy expenditure may have stronger Insider protection or reduce the burden of men to be the male-breadwinners leading to less subjective insecurity. Both of these explanations are hypotheses that need to be explored further in future research.

To further explore this, I examined the specific family policies to see if it has to do with specific policy designs. The impact of leave policies had somewhat mixed results depending on its target population (whether it be for mothers or fathers) and the length of

effective leave. Effective parental leave (which is mostly taken up by mothers) has curvilinear relationship with being Outsiders (including all three) and Dead-end Insiders, which means that the women's likelihood of being Dead-end Insiders compared to men is the highest in countries with moderate length of effective parental leave. The literature has shown that the short leave leads to mothers' inactivity and long leave to their unemployment, whereas in countries with moderate length of leave mothers are more likely to be employed/stay in employment (Morosow 2019). What this thesis shows in relation to this is that the jobs that mothers (re)enter may be more likely to be low-income dead-end jobs. The curvilinear relationship with parental leave was also found in some other studies (e.g., Budig, Misra and Boeckmann 2016; Misra, Budig and Boeckmann 2011), which showed that the moderate length of parental leave (which they call extended maternity leave) tend to be associated with lower motherhood penalty in working hours and earnings. Based on the findings from this study, we can infer that the reduced penalty may not necessarily be due to women in Insider jobs, but rather in avoiding Typical Outsider jobs (i.e., insecure employment with low income and lack of prospects), as women are more likely to be working in Dead-end Insider jobs in these countries. However, further investigation is required to confirm this hypothesis.

Longer paid leave for fathers, on the other hand, tend to be associated with reduced gender gaps in the labour market, especially for Typical Outsider jobs and Subjective Outsiders. This adds to the previous studies on the positive impact of paternity leave in women's earnings (or reduced motherhood penalty), which is expected to reduce gender gap in general (e.g., Andersen 2018; Budig, Misra and Boeckmann 2016). Fathers being more involved in childcare enables mothers to participate in the labour market, not only because fathers take on larger role (freeing women from taking up substantial jobs at home) but also

because it may change the social perception on the who the primary caretaker is (potentially reducing the statistical discrimination against women). What is more, the countries with longer paid leave for fathers may also reduce fathers' burden as male-breadwinners and therefore relieve them of certain level of pressure attached to subjective insecurities. However, it is important to note that while the paternity leave may have contributed in reducing women's likelihood of being in temporary low-quality jobs, it does not have a significant impact on women's higher likelihood of being in *permanent* low-quality jobs.

These findings resonate with the welfare state paradox or family policy trade-off literature that the policies that enhances gender equality on one hand may work as a barrier in other aspects of gender equality (e.g., Budig, Misra and Boeckmann 2016; Mandel and Semyonov 2006; Morosow 2019; Pettit and Hook 2009; Plantenga 2002). This is not to say that the family policy is the cause of feminisation of Outsiders. Rather, it indicates that the policies that do not disrupt the gender norms may further enhance them, contributing to the persistent gender inequality in the labour market. Thus, the policies need more emphasis on disrupting gender norms as well as the quality of jobs, instead of focusing solely on women's inclusion into the labour market. This is discussed further in the later section on policy implications.

2. Limitations and directions for future studies

There are several limitations in this thesis that can be improved in the future studies. I discuss the methodological and theoretical limitations in this thesis and how they do not harm the analyses and the results of this thesis. Methodologically, I focus on the construction

of the dependent variables (discussed in Chapter 6) and the time lag between the individual-level and national-level data (see Chapter 5). Theoretically, I discuss how this thesis is limited in examining the mobility amongst the labour market segments and the role of different institutions (and the relationship amongst them). For each point, I add how the future research can address these limitations.

Methodological limitations

The construction of the dependent variables based on most-likely method may entail some errors, as some individuals may be categorised into the segments that may not precisely represent them (see Chapter 6 for more details). Even if an individual's probability of being in a group may be small (e.g., 0.4 chance), they may still be assigned to that group if it is the biggest number, even if the probabilities for being in other groups are only slightly smaller. Due to this, there may be some measurement errors (i.e., differences between the LCA results and the variable being used). However, when we compare the results from MLCA (in Chapter 7) with the gender proportions in Chapter 8, the differences are minimal and the general patterns remain, which confirms the validity of the variable in representing the data. This is especially important as the main focus of this thesis is in examining women's relative likelihood of being Outsiders compared to men. Measurement errors can be minimised by conducting a model that can simultaneously conduct the LCA and multilevel analysis (i.e., one-step analysis) (Clark and Muthén 2009). This method was selected not only due to the complexity of each individual analysis, but also because the studies show the accuracy of this method in analsying the large data (see Chapter 6 for details).

Another methodology limitation has to do with the observed years of the data. The Multilinks dataset published in 2011 includes the data from 2009, which is 6 years earlier than the individual-level data (2015). Considering the lags in the policy outcomes, this difference could be a good indicator of the actual impact the policies had on the labour market structure. However, countries such as Germany and the UK have experienced some dramatic changes since the early 2010s, and the national-level data used in this thesis may not sufficiently cover them. Nevertheless, I have used the data from 2015 (or the closest year depending on the data availability) for some of the variables (e.g., family policy expenditure, length of leave, childcare coverage) to address this limitation and complement the findings with the Multilinks data. I still used Multilinks data as the main data except for the family policy expenditure due to its wide range of available data and the reliability of the comparative variables. As a result, there was no significant differences between the results between the two time points, which adds the confidence in the results using the Multilinks data. Future research can test for these results using data with less gaps in the observation years. In addition, it is also necessary for future research to create a more recent comparable data for the national-level family policies that can replace the Multilinks dataset as the other available sources are not tailored for precise comparisons.

Theoretical limitations

While this thesis aimed to capture the labour market structure/patterns, it does not capture mobility between the segments. The mobility between the segments, especially from Outsiders to Insiders, could show whether the precariousness one experiences are temporary

or not. While future prospects variable (in latent class analysis) identifies the advancement within the current job, it is limited in examining the advancement into a different job. This is usually the case of the students who take part-time temporary jobs before finding full-time jobs that add to their career. This is likely to vary across countries depending on the institutional settings (see Biegert 2014). As to the Dead-end Insiders, what can happen is that the mothers may temporarily take the part-time measures to accommodate childcare responsibilities but find an Insider job in the future. However, considering the Human Capital theory of skills deprivation and the scarring effect of the part-time work (Fouarge and Muffels 2009), this is less likely to be true. This still requires further investigation, as there may be some cross-national variations depending on the institutional contexts. Moreover, the sheer number of mothers in this group in a given time also allows us to infer that it is unlikely to be a temporary phase mothers tend to be in. Although it was not examined due to the scope of this thesis, future research can be conducted to examine the changes in the labour market positions using longitudinal (panel) data. Moreover, by examining the changes over time, we may also be able to find the causal relationship between the policy design and the gendered labour market patterns.

This thesis does not analyse the impact of other labour market institutions and socio-economic factors on women's overrepresentation in the Outsider jobs. Thus, while the findings in this thesis show us how the family policies are associated with the gendered labour market, they are not sufficient to argue the casual relationship between the them. As has been mentioned, the primary aim of this thesis was to examine how the dualized labour market is gendered. As a first step to examine why we see women's overrepresentation in the Outsider jobs (more specifically among the Typical Outsiders and Dead-end Insiders) and men's

higher likelihood of being Subjective Outsiders, family policy has been chosen in this thesis to explore the impact of institutions. However, this is only a first step in a larger project that can be undertaken to explore the impact of various institutions and factors, including the welfare and labour institutions that have been discussed in the dualization literature. Then, the relationship between these institutions – namely, how they complement each other – can be explored. In other words, there may be some institutional complementarities among different institutions *including* family institutions that may shape different gendered patterns in the labour market. On the other hand, there are other aspects of institutions regulating family that can be examined in the future research. Future research can also examine the impact of other family policies, such as the flexible working measures and social care, as well as the more private or informal care. Lastly, more can be examined in terms of the politics behind the policies that may have led to the gendered patterns in the labour market. For instance, we can examine the actors involved in the policy making process (e.g., Häusermann 2018), and the discourse or rationales behind it (e.g., Jenson 2015; Lombardo and Meier 2008) to examine the more nuanced influence of institutions on the gendered labour market patterns. The role of family institutions is suggested as the recommendation for the future dualization research in the later section.

3. Contribution to knowledge

Nevertheless, this thesis has significant contributions to knowledge. It identified women's relative position in the labour market, in what aspect women are disadvantaged in the labour market, and how they may be bound to be labour market Outsiders. It also showed

the role family policies have in potentially functioning as part of the structural mechanism that maintain the social norms around gender roles. The findings in this thesis provide important evidence and insights to question the direction of the current family policy (but more so gender equality policy) in the European societies. This section discusses the contributions more in detail based on the findings from the analytical chapters.

Understanding labour market Outsiders

This thesis contributes to understanding the different types of Outsiders that can be observed when we empirically explore how labour markets are divided, moving beyond the binary definition of Outsider vs Insider. Labour market functions in diverse mechanisms and cannot be solely understood through employment relationship, despite its growing importance over the last few decades. To simply put, although having a precarious employment contract (such as fixed term) may suffice to be categorised as an Outsider, a worker on a standard employment contract cannot be automatically considered to be an Insider. What is more, there are different types of Outsiders. The four-segment labour market derived from LCA in this thesis provided empirical evidence of this complexity. Firstly, objectively secure employment relationship (open-ended or permanent contracts) does not necessarily guarantee workers' actual security in the labour market. They may have low-income jobs without prospects for advancement (i.e., Dead-end Insiders), or feel insecure due to the factors that cannot be captured through the objective measures (i.e., Subjective Outsiders). Thus, it is important to consider different aspects of labour market precariousness in order to capture the complexity of the contemporary labour market.

Secondly, there are varieties of part-time work. As discussed above, higher likelihood of part-time work among the Typical Outsiders and Dead-end Insiders compared to the other two segments depict well the varieties of part-time work. Previous studies have discussed the varieties of part-time based on the jobs' skill level (Warren and Lyonette 2018), voluntariness (Rueda 2005; Yoon and Chung 2016) and/or precariousness (Nicolaisen, Kvali and Jensen 2019). Although it was not the focus of this thesis to identify this, the clustering of different labour market characteristics has found two types of jobs that part-time workers tend to mainly belong to in Europe. On one hand, a group of part-time workers can be attached to other insecurities in the labour market, such as the insecure employment, subjective insecurity, low-income and lack of job prospects (i.e., Typical Outsiders). On the other hand, they have secure employment relationship but have low-income and lack of prospects for advancement (i.e., Dead-end Insiders). This adds to the literature on part-time work that despite the increase in part-time work and its normalisation that makes it seem less precarious, they are still Outsider jobs (or marginalised, Yerkes and Visser 2006). Some may seem more secure than others, considering the Dead-end Insiders, but they are in reality limited to low-income dead-end jobs. However, by distinguishing these two segments, we are able to understand the different precariousness part-time workers experience and identify their different policy needs[50].

Lastly, even among the seemingly Insider jobs, some are more Insider than others. This is somewhat similar to the first point, but even if one has standard employment relationship and decent income, some of them feel insecure about their jobs (i.e., Subjective

[50] However, it is important to note that while more part-time workers are found amongst these two segments than others, some full-time workers who share other labour market characteristics also belong to these segments.

Outsiders). Previous studies have shown that the deregulation or flexibilisation measures over the last few decades not only impacted the Outsiders but also the Insiders (Jaehrling 2017; Weisstanner 2020). Even if they are still protected, the changes in the workforce (e.g., dismissals) decreases one's sense of security, as they may be the next to go. Although Subjective Outsiders are not a huge number of workers, they still have an important implication for changes in the labour market. Increasing precarious workers indicate that the precariousness is no longer an issue of certain Outsiders but rather all workers. This makes us question if the Insiders and Outsiders still have conflicting interests (see Lindbeck and Snower 1986).

Gendering the dualization

This thesis directly addresses the existing criticism of the labour market division literature as being gender biased (as discussed in Emmenegger 2010; Häusermann and Schwander 2009) by bringing gender to the core of the debate – namely, gendering the dualization. I 'gender' the dualization in four ways.

Firstly, I question the assumption of Insider-Outsider divide based on the standard non-standard employment. It is based on the existing criticism as discussed above that the Insider-Outsider theory was built based on the cases of male manufacturing workers, who were more likely to be working full-time with permanent contract in the formal sector, included into the internal labour market and thus be unionised than women (Emmenegger 2010). Some studies addressed this through examining the differences between women and men in terms of their risk of being Outsiders and its impact on political behaviours (e.g.,

Emmenegger 2010; Schwander and Häusermann 2013), using the existing definition of Insiders/Outsiders. However, the labour market patterns and analytical framework (of Insiders vs Outsiders) derived primarily from male workers may "falsely universalis[e] implicitly masculinist" (Orloff 2009) labour market structure and lead to biased understandings. Thus, this thesis took the dualization debate further by questioning the existing definition, and coming up with a new analytical framework of labour market division, which is derived from the data including both women and men. This new framework, as a result, was found to be more useful in understanding the different Outsider risks for women and men, which is discussed more later in this section.

Secondly, I put gender as a main variable and examine whether or not gender actually matters. Gender has been widely used as a variable in labour market studies, and found to have a significant role in determining one's labour market position (e.g., Biegert 2014; Schwander and Häusermann 2013; Yoon and Chung 2016). What distinguishes this thesis from the previous studies is that I specifically focus on gender and examine its impact rather than including it as one of the many variables. The benefit of this is that we can identify to what extent gender actually matters, without assuming that it does and taking women's disadvantage as given. Through this we can understand how women are disadvantaged in the labour market compared to men, if they are, which would open up the possibility to understand why and find solutions. This thesis provided the empirical evidence that women are indeed significantly more likely than men to be Outsiders in Europe, as was suggested by the previous studies (e.g., Schwander and Häusermann 2013), despite women's increased labour market participation and education level.

Thirdly, this thesis examines the different labour market division for women and men. As discussed in Chapter 3, earlier segmentation theorists that addressed gender issues often started from the assumption that the labour market structure for women and men would vary (e.g., Ghilarducci and Lee 2005; Meyer and Mukerjee 2007). This was true to some extent, as the jobs available for women tended to not necessarily fit into the binary understanding of the labour market found amongst men. With the increase in women's labour market participation and most welfare states adopting legal measures against explicit discrimination against women, this assumption started to be considered less in the labour market analysis. However, with the gender segregation found even in the countries that are considered to be most gender egalitarian (Estévez-Abe 2006), this assumption requires testing. It is because if the labour market structure is significantly different for women and men, direct comparison of the two may not provide us with an accurate understanding of the labour market. As discussed in the previous section, I tested this by analysing the labour market segmentation separately for women and men, and found that there is no significant difference between the two. However, this needs to be interpreted with caution as Subjective Outsiders was not as clearly found when only examining women. Women are more disadvantaged in the objectively securities – namely, employment contract, income – and it was less likely for women to have seemingly secure jobs but feel insecure. This could be due to the higher likelihood of Subjective Outsiders to be in private and/or industry sectors, which are male-dominated (see Chapter 8) or due to gender norms which still leaves much of the breadwinning responsibility in heterosexual relationship to men.

Nevertheless, this thesis was able to identify the different Outsider risks for women and men, suggesting certain structural mechanism that creates the labour market inequality.

Women are overrepresented in the Outsider jobs, which is driven by their higher likelihood to be Dead-end Insiders and Typical Outsiders. Deregulation and the rise of non-standard employment coincided with the rise of service economy and women's labour market participation, which led to women's overrepresentation in the Outsider jobs. The empirical finding on women's higher likelihood to be in Typical Outsiders and Dead-end Insiders is the evidence of how these have led to the feminisation of Outsider-ness. On the other hand, men are more likely to be Subjective Outsiders compared to women. Thus, while men are more likely to be in a more secure position in the labour market, they do experience insecurities which differ by nature from the objective insecurities women experience.

On the other hand, this thesis was also able to identify the different Outsider risks among women. There are two Outsider jobs that women are more likely to be in: Typical Outsiders and Dead-end Insiders. The findings in Chapter 7 show that the Typical Outsiders are more likely to be the young labour market entrants, while the Dead-end Insiders are more likely to be mothers in their middle age. What we can infer from these findings is that women experience Outsider risks throughout their career, but the risk varies depending on their life course stage. This adds to the literature on motherhood penalty (e.g., Budig and England 2001) as well as the statistical discriminations (e.g., Acker 1990; Anker 1997; Reskin 1993), providing evidences for different aspects of gender segregation in the labour market. During the early stage of their career, they are at higher risk of working temporarily, and the mothers who return to work after childcare are likely to work in low-income dead-end jobs. From the previous studies we know that the employment insecurity at the early stage of career may have a scarring effect on the later stages of one's career (e.g., Hvinden et al. 2019), and women are more likely than men to experience a prolonged state of temporary jobs (Biegert

2014). From this we can infer that the higher likelihood of women in Typical Outsider jobs show the disadvantages women have in the labour market compared to men, which is likely to persist throughout their career.

Fourthly, I include family and family policy as part of the dualization debate. Family is an important institution that can determine one's labour market patterns or behaviours. It has been especially important for women as in most societies women are considered to be the primary caretaker of the family, which has led them to change their employment according to the family demands, whether it be leaving the labour market or finding a flexible job. Incorporating family was a crucial part of bringing gender into the welfare state debate, as the literature was often built around the role of the state and market, not family (see Lewis 1992; Orloff 1993; Sainsbury 1994). Similarly, dualization literature has focused on the relationship between the welfare and labour policies on the dualized labour market structure, without considering the impact family has on workers. Family was used as the researchers explain women's Outsider-ness (e.g., Eichhorst and Marx 2012), but was often not included in the main theoretical model.

Welfare state paradox

This thesis contributes to knowledge in the impact of family policy on women's employment patterns. Family policy has developed over the last few decades, helping women to either stay in or go back to the labour market. This has led to increased women's labour market participation across countries, which is why family policy is often associated with being a gender equality policy. However, scholars like Mandel and Semyonov have initiated

the debate that the family policy may not necessarily guarantee gender equality. They found that the countries with generous family policies and hire women through the state care programme have increased women's employment rate, but in the jobs that are limited in reaching the top (i.e., welfare state paradox) (Mandel and Semyonov 2006). Thus, the policies that seem to promote gender equality on one hand may paradoxically work as a barrier to gender equality on the other hand. Similar issues have been raised about part-time work, while increased part-time work (especially in the Netherlands) has helped women stay in the labour market, enabling them to balance between work and family demands, it did not change the gender norm that it is women's role to care for children and as a result create a male breadwinner female part-time worker model (Plantenga 2002).

The findings from this thesis further builds this debate by showing that the generous family policy (in terms of its expenditure) is associated with the higher likelihood of women in the Outsider jobs and the increase in the Dead-end Insider jobs. Looking closer into individual policies, the countries with the moderate length of parental leave was found to have more women in the Dead-end Insider jobs. A recent study on the impact of family policy on mother's employment patterns found that the short leave is likely to lead to mothers' inactivity and long leave to their unemployment (Morosow 2019). Linking this to the findings in this thesis, we can infer that the high level of mothers' employment in the countries with moderate length of leave are the result of them in the low-income dead-end jobs. Thus, this thesis contributes our knowledge on different impact of family policy on gender equality and simultaneously provides us with an insight for the future policy directions that we need more considerations for what type of jobs women have instead of merely focusing on including them into the labour market.

One aspect that this thesis distinguishes from the majority of the family policy studies is its focus on the general labour market instead of solely focusing on mothers (if not fathers). The focus on mothers or motherhood penalty in examining the impact of family policy is reasonable as the policies directly address these populations, and their labour market participations are most affected by childcare. However, what requires more attention is the indirect impact of the policy and the institutional context that reflects the cultural context of a society. For instance, there is a statistical discrimination against women in general based on the statistically driven assumption that women are more likely to leave the labour market due to childbirth or childcare (Acker 1990). This may cause a negative outcome for employment (hiring process) and/or promotion. This affects not just mothers but the general female workers as a whole, and the changes in the perception of women's labour market patterns can thus affect all working women.

4. Implications for dualization research

There are several implications for the future dualization research that we can gather from the findings in this thesis. Firstly, this thesis provides evidences for the Dualization theory that while the post-industrialised labour markets largely show dualized patterns of those in and out of the secure labour market, the patterns vary across countries in terms of *who* are out. It can be inferred from the previous studies that these patterns could have been shaped through the varying processes of deregulation across countries (e.g., Eichhorst and Marx 2012; Prosser 2016). Although this was not included as part of the thesis, this becomes evident when we examine the cross-national variations of the proportion of workers in each

labour market segment. Depending on the institutional contexts, we may have more Outsiders that are young temporary workers, women working in low-income dead-end jobs, or the workers with standard employment who fear losing their jobs. Thus, this thesis provides further empirical evidence to the dualization thesis around how institutions shape the labour market dualization patterns in terms of not only how it is divided but also for whom it is divided. For instance, in countries such as Greece and Spain, where the austerity-driven deregulation and flexibilisation affected the overall labour market including the Insiders, precariousness may not be limited to objective Outsiders (see also Prosser 2016). This could potentially demonstrate the different precarisation process across different countries.

Secondly, this thesis shows the importance of including institutions regulating family (especially the family policy) in the labour market analysis, especially when it comes to the gendered labour market patterns. As discussed above, studies on the institutions shaping the labour market structure have often been limited to the labour and welfare institutions (e.g., Emmenegger et al. 2012a; Palier and Thelen 2010). Thus, the recent literature focused on the impact of retrenchment, deregulation and liberalisation on the labour market inequalities. While this literature shed light on understanding the dualized labour market structures especially across the corporatist countries, the literature is limited in incorporating the 1) different labour market experience of women and men and the 2) increase in family policy in the last decades. By bringing the family policy into the labour market dualization thesis, this thesis was able to discuss the gendered patterns in the labour market as well as add a new dimension of institutions that closely interacts with the labour market.

The diagram below shows a simple idea of conceptual framework that has been developed based on the existing conceptual framework of Dualization Theory in

Emmenegger et al. (2012b). Like the labour and welfare institutions, it could be the institutions related to gender (or family) that affects the gendered patterns in the dualization process (hand in hand with the other institutions). They can create or enlarge or shrink the division among genders, strengthen or weaken the effect of gender inequality in the society, and also enlarge or shrink the Outsider jobs as a whole. This diagram also depicts the dualization as a circular process, where the divides in the society works as a structural division which leads to conflicting politics and institutions. The next step to take in future research would be to test the dualism of the family policy[51] which may function to create different dualization process in the labour market.

Lastly, when considering the family institutions as part of the dualization process, more research is required to understand the relationship between family institutions and other institutions. As mentioned, I have examined the impact of family policy (more specifically, the work-family balance policies) on women's higher likelihood of being Outsiders as a starting point of exploring why we see overrepresentation of women in the Outsider jobs. Future research can examine the impact other institutions have on the different Outsider risks for women and men, as well as how the institutions complement one another to create such labour market patterns.

[51] Family policy can be dualized by insiders and outsiders in two ways. First, it can be dualized in terms of accessibility, as it is only provided to the people within certain labour market conditions, who are more likely to be labour market insiders. For instance, although there is a state policy to guarantee a maternity leave, it is not accessible to people in certain jobs with low job or income security. Secondly, it can be dualized by having different designs for insiders and outsiders, such as the benefits given based on means test. Based on this idea, this study hypothesises that the dualized family policy may enhance the overrepresentation of women in the outsider labour market and reinforce the division between insider women and outsider women; and that the less dualized the institution, the less overrepresentation of women in outsider jobs and the less gap between insiders and outsiders among women.

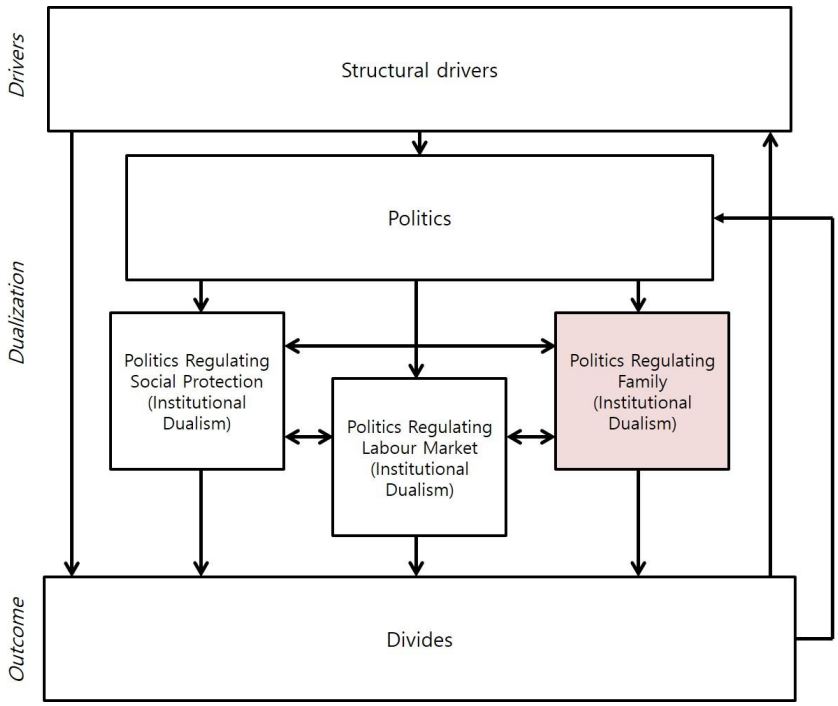

Diagram 6 Theoretical framework of dualization incorporating family institutions

5. Policy Implications and Recommendations

As briefly discussed above, this thesis has implications for the policy directions across Europe and within EU in terms of gender equality measures. Over the decades since the 1990s, policy directives that target gender equality at the EU level have been limited to its emphasis on the inclusion of paid labour by women and the work-family balance of the mothers (Jenson 2015; Lombardo and Meier 2008). Under the social investment driven objectives, supply-focused policies are often aimed at supporting women to stay in the labour market while having children (work-family reconciliation policies), who are well-educated (early education and care policies) (Saraceno 2015). After the economic crisis, EU directive

on gender equality started to be under the employment goals rather than gender equality itself (Fagan and Rubery 2018).

On the other hand, there has been a growing emphasis on motherhood (Jenson 2015). Work-life/family balance policies often target mothers, who are socially expected to balance work and family. Paid maternity leave is provided in all 30 European countries that this thesis focuses on. Under the EU Maternity Leave Directive (92/85/EEC), at least 14 weeks of maternity leave is guaranteed in all EU member states. These leave policies, although it can be shared between parents, is mostly taken by mothers. Although in most countries public childcare services have become available, roughly 47.1% of children (age < 3) are under the care of their parents in EU (EUROSTAT 2021c). Roughly 35.3% are in formal childcare for at least one hour per week, among which the 21.5% refer to those receive care more than 30 hours per week. Considering the average full-time work being 36.2 hours per week in EU in 2019 (EUROSTAT 2021b), those who are able to use full-time childcare services (that can allow for full-time work of parents) is expected to be lower. The high employment rate of mothers and its correlation with the increase in the Dead-end Insider jobs that was found in this thesis depict well the limitation of these supply-focused, motherhood-focused policies.

To promote the gender equality in the labour market, in terms of both the quantity and quality of jobs, we need policies that can contest and disrupt the existing gender norms. Gender norms are closely linked with the family policy and the assumptions behind the policy directives (Pfau-Effinger and Smidt 2011). For instance, while having a long leave for mothers sound generous, it may be a reflection of the norm/assumption that mothers are primary caretakers (Misra, Budig and Boeckmann 2011). Thus, the first step we can take to change the gender norms is to change that assumption by putting more emphasis on fathers'

involvement in childcare. This may change our existing norms on the male-earner-female-carer model and promote a more equal division of household labour between couples. This can be sought through expanding the paternity leave or shared parental leave, which can change norms around fatherhood (e.g., Hobson 2011) and as a result decrease the statistical discrimination against women. The findings in this thesis have also shown that the countries with longer (effective) paternity leave tend to show relatively less gender gap in the likelihood of being Typical Outsiders. Nevertheless, one big limitation of the existing policies in most countries is that the available length of leave for fathers is often very limited and not compulsory. It is even dependent on the mothers' use of leave in some countries, such as the UK, which again stems from the idea that women are the primary caretakers. To change the gender norms through such policies, it is important to 1) guarantee equal length of leave available for both mothers and fathers, which could signal that it is both parents' role to take childcare responsibilities to both the workers themselves and the employers, and 2) earmark the compulsory period of leave that must be taken by fathers (and cannot be used by mothers), which can incentivise the fathers to take the leave.

As part of changing the norm, we need to rethink what it means to work and care. Labour market and welfare policies have increasingly emphasised inclusion into the labour market, generalising the experience of male workers to all workers (Lewis 2002). The family policy then came in as a crucial policy to support mothers as the motherhood touched upon two issues of post-industrialised societies that the scholars have discussed: 1) low fertility rate 2) skilled workers leaving the labour market. From this perspective, family policy or gender equality policies have been geared towards including women (more specifically mothers) into the labour market. (For instance, leave policies guarantee the job protection

while being away from work for childbirth and initial period of childcare, and the childcare services remove the potential barriers for workers to take part in the labour market.) These policies have enabled women to stay in the labour market even after childbirth, and lessened their childcare responsibilities to some extent. However, as can be inferred from the findings in this thesis, they were not able to change the fundamental issues that continue to disadvantage women in the labour market. Firstly, as discussed above, the policies have not been able to contest the gender norm that it is women's role to care. Secondly, by putting emphasis on paid work as opposed to care (promoting the so-called adult worker model), care is considered to be of less value than other labour. This can have negative impact on both the workers in paid care sector and the workers who choose to take care responsibilities.

The emphasis of current policies on the paid job may undermine the value of care or the work that is or used to be done unpaid (Saraceno 2015). The fact that care work is predominantly composed of women partially explains not only women's higher likelihood of being Outsiders, but also the continued devaluation of care work. It is because the female-dominated jobs or the jobs that are considered 'feminine' tend to be devalued and low-paid (Levanon, England and Allison 2009). On the other hand, workers who choose to take care responsibilities outside of work tend to be stigmatised (Chung 2020; Williams, J. C., Blair-Loy and Berdahl 2013). It is often because 'choosing to care' deviates from the image of an ideal worker, who puts work first and thus willing to work long hours (Anker 1997). The long working hours culture, and women's lack of capacity to take part in it due to the care responsibilities, has been one of the major causes of the gender pay gap and women's limited opportunities for advancement (Goldin 2014; Weeden, Cha and Bucca 2016).

Thus, more emphasis on care is needed in family policy, promoting an adult carer model where it is the norm for all workers (not only mothers) to balance work and family/life and take on care responsibilities. A way to do this would be to contest the idea worker culture and reduce working hours for all. Care is not only about money, but also time (Lewis 2002). Under shorter working hours, individuals will be able to spend more time with their family, without being stigmatised or disadvantaged in career progression. More importantly, by reducing the working hours for *all*, it can change the culture where one of the parents (most likely women) has to give up on their career to meet the family demands. Unlike the wide belief that women are more likely to take part-time jobs voluntarily based on the flexibility such jobs offer, studies show that the 'choice' is in reality constrained (e.g., McRae 2003), and women have been pushed to take on such jobs. We may see women's overrepresentation in the Dead-end Insider jobs because the Insider jobs do not accommodate with the family responsibilities that women are more likely than men to be asked to take. Thus, through short working hours, Insider jobs can be changed, allowing the workers to balance between work and family without having to sacrifice their career nor family. This as a result may change the gender norms and reduce women's relatively higher likelihood of being Outsiders compared to men. COVID-19 has shown us the importance of care in our societies, and how we are interdependent on each other. Care is a headstone that maintains everyone to live, work and run the economy. It is important that the policies move towards valuing care and promoting all carer model, which then can revalue women's work, change norms around gender roles and eventually change the structure where women become overrepresented in the Outsider jobs.

6. Concluding thoughts

In most European societies, women appear to have equal status as men, as they seem to receive the same education and compete in the same market. However, this thesis shows that this 'equality' is in reality a myth. Even though women's labour market participation rate has increased and their employment security is more guaranteed than in the past, without the economic autonomy and career, they are not truly 'equal'. It needs to be noted that 'having choices' may be an illusion, under the context where there are no better options to choose from. As this thesis finds, mothers may not have other options but to choose Dead-end Insider jobs. It is outside the scope of this thesis to identify the causes or the mechanisms behind the somewhat pessimistic results found in this thesis. It may be due to the gender norms in the society (Pfau-Effinger 2012), the norms internalised and couples doing gender (Correll 2001; West and Zimmerman 1987), devaluation of women's work (Levanon, England and Allison 2009), discriminations on the basis of gender (Acker 1990; Fernandez-Mateo and King 2011), or everything together. However, one thing that can be certain from this thesis is that the current direction of some family policies is not supporting women to have Insider jobs or equal status in the labour market as men, but rather conforms to the existing norms and function as part of the cog that maintains the norms.

Welfare state paradox theory (Mandel and Semyonov 2006) refers to their paradoxical findings as the 'unintended consequences' of the family policies, as they deviate from the greater objectives of family policies, one of which are to promote equal opportunities for women and men in the labour market. However, the findings in this thesis makes us wonder if these paradoxical findings are actually 'unintended'. It is certainly not the objective/intention of the policy to push women into the Outsider job, but it is

questionable whether the underlying assumption behind the actual policy designs had in mind the gender egalitarian society or women as second earners. Thus, in order to create a more gender egalitarian society, we need to examine the underlying assumptions behind the policies. Taking this further, we need to give attention to the structural paradoxes to investigate why women continue to be in a disadvantaged position in the labour market compared to men, instead of putting the blames on individuals whose best choices could have been constrained to the Outsider jobs from the beginning. Same can apply to the other disadvantaged groups in our societies, such as the unemployed, the disabled, migrants, etc. Instead of merely including them into the labour market, we need to consider what types of jobs are available for them, and analyse how certain structural contexts may 'unintentionally' function to maintain the existing inequalities in the labour market, and society as a whole.

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Appendix

[Appendix 5.1] Summary of national-level variables

	Effective maternity leave (weeks) (2009)	Effective Parental Leave (weeks) (2009)	Effective Paternity Leave (days) (2009)	Fathers' quota (month) (2009)	Paid leave for mothers (weeks) (2015)	Paid leave for fathers (weeks) (2015)	Childcare use under 3 (%) (2009)	Childcare use under 3 (%) (2015)	Full-time childcare use under 3 (%) (2009)	Family policy expenditure (% GDP) (2015)
Belgium	12	2	12	3	32.3	19.3	33	54.4	16	2.09
Bulgaria	41	8	14	0			8	9	7	1.88
Czech Republic	25	13	0	0	110	0	3	4.9	0	1.59
Denmark	16	8	21	0	50	2	73	55.4	63	3.41
Germany	14	8	0	2	58	8.7	19	26.8	12	3.12
Estonia	20	13	14	0	166	2	25	22.8	21	1.97
Greece	18	0	5	7	43	0.4	11	14.1	7	1.04
Spain	16	0	14	0	16	2.1	36	26.3	18	1.27
France	16	9	14	0	42	28	41	52.3	25	2.43
Ireland	12	0	0	3	26	0	20	35.5	5	1.4
Italy	16	2	0	6	47.7	0.2	25	29.5	16	1.08
Cyprus	14	0		0			22	25.8	14	1.35
Latvia	16	8	8	0	94	1.4	15	20.9	13	1.58
Lithuania	18	20	30	0	62	4	10	15.6	9	1
Luxembourg	16	7	2	6	42	26.4	34	56	12	3.3
Hungary	17	17	7	0	160	1	7	9.6	5	2.16
Malta	3	0	2	3			8	54.8	4	1.06
Netherlands	16	3	2	0	16	0.4	49	59.3	6	1.08
Austria	16	6	0	0	60	8.7	9	12.5	2	2.79
Poland	18	0	0	0	52	2	2	3.8	2	1.43
Portugal	17	2	28	4	30.1	21.3	36	27.1	34	1.16
Romania	21	19	7	0			5	11	1	1.26
Slovenia	15	9	15	0	52.1	2.1	31	34	27	1.71
Slovakia	15	8	0	0	164	0	3	2.9	2	1.6
Finland	14	8	16	1	161	9	27	26.6	21	3.00
Sweden	7	9	8	2	60	10	63	46.5	37	2.79
United Kingdom	16	0	3	3	39	2	35	34.4	4	2.71
Croatia								13.3		1.85
Norway	9	12	0	3	91	10		52.6		3.12
Switzerland					14	0		38		1.30

Note: Effective maternity leave, effective parental leave, effective paternity leave, fathers' quota, childcare use under 3 (2009), full-time childcare use under 3 are from Multilinks database. Paid leave for mothers and paid leave for fathers are from the OECD database. For family policy expenditure, the Netherlands data is from 2011 and Poland from 2014 as they were the most recent data available before 2015. Childcare use under 3 (2015) is from OECD family database, and the data is from 2015 or the closest year for the countries that do not have available data for 2015. (Denmark 2017, Germany 2010, Estonia 2010, Spain 2010, Lithuania 2010, Hungary 2010, Malta 2014, Netherlands 2017, Austria 2010, Poland 2010, Portugal 2010, Slovenia 2010, Finland 2010, Sweden 2010, Norway 2010, Switzerland 2014). For Denmark and the Netherlands, the only available data was from 2017. Family policy expenditure is a net expenditure on family/childcare policies per GDP in 2015, from EUROSTAT.

[Appendix 5.2] Correlation between the context-level variables

	1	2	3	4	5	6	7	8	9	10
1. effective maternity leave	1									
2. effective parental leave	0.246***	1								
3. effective paternity leave	0.172***	0.182***	1							
4. fathers' quota	-0.276***	-0.387***	-0.272***	1						
5. paid leave for mothers	0.213***	0.640***	-0.104***	-0.291***	1					
6. paid leave for fathers	-0.300***	0.033***	0.236***	0.250***	-0.181***	1				
7. childcare use (2009)	-0.318***	-0.225***	0.368***	0.065***	-0.438***	0..285***	1			
8. childcare use (2015)	-0.557***	-0.234***	0.079***	0.315***	-0.453***	0.541***	0.741***	1		
9. full-time childcare use	-0.191***	0.006	0.602***	-0.045***	-0.144***	0.246***	0.798***	0.468***	1	
10. family policy expenditure	-0.149***	0.232***	-0.149***	0.043***	0.231***	0.414***	0.350***	0.319***	0.317***	1

[Appendix 5.3] Summary of other national-level variables

	Gender norm (%) (2014)	Unemployment rate (%) (2015)	Female unemployment rate (%) (2015)	Female employment rate (%) (2015)	Union Density (%) (2015)	Adjusted Collective bargaining Coverage rate (%) (2015)	Gender gap in employment rate*** (%p) (2015)	Mothers' employment rate**** (%) (2015)	Childcare cost (%) (2015)
Belgium	46.65	8.5	7.8	48.02	52.3	96	7.5	71.5	13
Bulgaria	70.5	9.2	8.4	48.63	16.2	29.7	6.1	64.6	12
Czech Republic	55.25	5.1	6.1	51.42	11.9	34.2	15.5	61.7	24
Denmark	27.05	6.3	6.5	57.71	68.2	83.1	6.2	80.8	11
Germany	56.15	4.6	4.2	54.61	17.6	56.8	8	70.4	5
Estonia	48.85	6.2	6.1	55.99	4.5	14.1	7	68.9	5
Greece	64.85	24.9	28.9	45.47	23.1	21.3	16.8	54	6
Spain	65.05	22.1	23.6	52.32	14.4	79.6	10.5	61.8	6
France	41.2	10.4	9.9	50.73	11	98	6.4	70.4	13
Ireland	54.15	10.0	8.9	52.63	25.4	40.5	11.2	62.5	31
Italy	71.35	11.9	12.7	39.00	34.2	100	18.3	55.6	7
Cyprus	61.1	15	14.8	57.89	43.6	43.6	7.3	68.4	-
Latvia	67.05	9.9	8.6	54.26	12.7	32.4	3.5	73.3	16
Lithuania	61.2	9.1	8.2	54.55	7.9	8.5	1.6	77.7	16
Luxembourg	51.65	6.7	7.4	53.56	33.3	56.8	10.5	73	22
Hungary	73.8	6.8	7.0	47.25	-	28.3	12.5	59.2	7
Malta	65.65	5.4	5.4	41.61	48.4	52.4	25.3	58.1	0
Netherlands	32.9	6.9	7.3	58.20	17.7	79.4	9.8	76.3	26
Austria	65.85	5.7	5.3	54.54	27.4	98	8.1	75	3
Poland	62.35	7.5	7.7	49.00	16.5	17.3	12.6	69.1	21
Portugal	68.35	12.6	12.8	53.78	16.1	73.7	5.8	78.6	7
Romania	63.55	6.8	5.8	45.19	-	22.6	16.3	65.2	0
Slovenia	53.7	9.0	10.1	52.03	23.8	67.5	8.2	80.6	12
Slovakia	36.75	11.5	12.9	52.00	-	24.4	13.5	56.6	27
Finland	31.75	9.4	8.8	55.52	67.5	91.9	2.0	71.7	24
Sweden	31	7.4	7.3	60.62	67.0	88.7	3.0	84.0	5
United Kingdom	-	5.3	5.1	56.55	24.7	27.9	10.0	68.9	44
Croatia	55.7	16.2	16.9	46.99	24.0	52.7	8.7	69.7	4.00
Norway	-	4.3	4.0	61.33	49.8	72	3.6	-	7.00
Switzerland	-	4.8	4.9	62.40	15.7	44.6	8.9	73.2	31.00

Note: for unemployment rate (age 15-74; Eurostat 2015), Luxembourg is an estimated number due to break in time series. Female employment rate is from ILOSTAT data 2015. For Union density and Adjusted collective bargaining coverage rate, some countries did not have data from 2015, so I used the most recent data before 2015 (Union density: Poland 2014, Greece 2013, France 2013, Bulgaria 2012) (Adjusted collective bargaining coverage rate: Switzerland 2014, Norway 2014, Malta 2008, Luxembourg 2014, Latvia 2014, Ireland 2009, Finland 2014, Estonia 2014, Croatia 2014, Bulgaria 2014) (OECD/AIAS ICTWSS database). Childcare cost is the net childcare cost of couples earning average wage (proportion of average wage) in 2015 from OECD family database.

* national average of those who answered 'tend to agree' and 'totally agree' for the question: "all in all family life suffers when the mother has a full-time job" (Eurobarometer 2014)

** national average of those who answered 'tend to agree' and 'totally agree' for the question: "overall men are less competent than women to perform household tasks" (Eurobarometer 2014)

*** gender gap in employment-to-population rate (percentage points) (2015) (OECD Family database)

**** employment rate (%) for all mothers (15-64) with at least one child under 15 (2015) (OECD family database)

[Appendix 6.1] LCA results of latent class profiles for 5 classes model

		Class 1	***Class 2***	***Class 3***	***Class 4***	***Class 5***
Latent Class Prevalence		11.962%	13.471%	12.704%	18.257%	43.606%
Part-time Work	Full-time	**0.891**	0.535	0.150	**0.895**	**0.961**
	Part-time	0.109	0.465	**0.850**	0.105	0.039
Precarious Employment	Permanent	0.504	**1.000**	0.268	0.500	**0.973**
	Precarious	0.496	0.000	**0.732**	0.500	0.027
Subjective Job Insecurity	Subjectively secure	**0.732**	**1.000**	0.634	0.627	**0.931**
	Subjectively insecure	0.268	0.000	*0.366*	*0.373*	0.069
Income Insecurity	Higher Income	**0.715**	0.298	0.102	*0.605*	**0.994**
	Low Income	0.285	**0.702**	**0.898**	0.395	0.006
Lack of Job Prospect	Have Prospect	**1.000**	0.239	0.264	0.000	0.442
	No Prospect	0.000	**0.761**	**0.736**	**1.000**	0.558

Note: Latent class prevalence: likelihood of one's being in each segment
The numbers ranging from 0 to 1 are the item probabilities – likelihood of the individuals in the given segment to respond to each item. The numbers higher than 0.7 are highlighted with bold and considered for determining the characteristics of each segment (Collins and Lanza 2010), and those with relatively higher likelihood are italicised.

[Appendix 6.2] LCA results of latent class profiles for 3 classes model

		Class 1	*Class 2*	*Class 3*
Latent Class Prevalence		69.202%	4.984%	25.814%
Part-time Work	Full-time	**0.928**	0.645	0.415
	Part-time	0.072	0.355	0.585
Precarious Employment	Permanent	**0.869**	0.000	0.555
	Precarious	0.131	**1.000**	0.445
Subjective Job Insecurity	Subjectively secure	**0.888**	0.000	**0.811**
	Subjectively insecure	0.112	**1.000**	0.189
Income Insecurity	Higher Income	**0.913**	0.483	0.103
	Low Income	0.087	0.517	**0.897**
Lack of Job Prospect	Have Prospect	0.432	0.289	0.249
	No Prospect	0.568	**0.711**	**0.751**

Note: Latent class prevalence: likelihood of one's being in each segment
The numbers ranging from 0 to 1 are the item probabilities – likelihood of the individuals in the given segment to respond to each item. The numbers higher than 0.7 are highlighted with bold and considered for determining the characteristics of each segment (Collins and Lanza 2010), and those with relatively higher likelihood are italicised.

[Appendix 6.3] latent class analysis results for the 3-class models with different combination of 4 indicators

Without Part-time Work		***Class 1***	***Class 2***	***Class 3***
Latent Class Prevalence		39.491%	30.216%	30.293%
Precarious Employment	Permanent	**1.000**	**0.908**	0.249
	Precarious	0.000	0.092	**0.751**
Subjective Job Insecurity	Subjectively secure	**0.901**	**0.907**	0.640
	Subjectively insecure	0.099	0.093	*0.360*
Income Insecurity	Higher Income	**0.746**	**0.861**	0.417
	Low Income	0.254	0.139	*0.583*
Lack of Job Prospect	Have Prospect	0.000	**0.979**	0.273
	No Prospect	**1.000**	0.021	**0.727**
Without Subjective Job Insecurity		***Class 1***	***Class 2***	***Class 3***
Latent Class Prevalence		5.138%	27.773%	67.089%
Part-time Work	Full-time	**0.718**	0.409	**0.939**
	Part-time	0.282	0.591	0.061
Precarious Employment	Permanent	**1.000**	0.458	**0.844**
	Precarious	0.000	0.542	0.156
Income Insecurity	Higher Income	0.397	0.143	**0.927**
	Low Income	0.603	**0.857**	0.073
Lack of Job Prospect	Have Prospect	0.000	0.279	0.448
	No Prospect	**1.000**	**0.721**	0.552
With 3-level Income Insecurity		***Class 1***	***Class 2***	***Class 3***
Latent Class Prevalence		5.408%	65.060%	29.531%
Part-time Work	Full-time	0.616	**0.942**	0.458
	Part-time	0.384	0.058	0.542
Precarious Employment	Permanent	0.027	**0.874**	0.591
	Precarious	**0.973**	0.126	0.409
Subjective Job Insecurity	Subjectively secure	0.000	**0.890**	**0.830**
	Subjectively insecure	**1.000**	0.110	0.170
Income Insecurity	High Income	*0.097*	0.404	*0.013*
	Medium Income	0.345	0.530	0.159
	Low Income	0.558	*0.066*	**0.828**
Lack of Job Prospect	Have Prospect	0.282	0.441	0.255
	No Prospect	**0.718**	0.559	**0.745**
Without Lack of Job Prospect		***Class 1***	***Class 2***	***Class 3***
Latent Class Prevalence		7.892%	19.371%	72.737%
Part-time Work	Full-time	0.674	0.313	**0.917**
	Part-time	0.326	0.687	0.083
Precarious Employment	Permanent	0.028	0.534	**0.879**
	Precarious	**0.972**	0.466	0.121
Subjective Job Insecurity	Subjectively secure	0.307	**0.795**	**0.888**
	Subjectively insecure	0.693	0.205	0.112
Income Insecurity	Higher Income	0.508	0.024	**0.876**
	Low Income	0.492	**0.976**	0.124

Note: Latent class prevalence: likelihood of one's being in each segment
The numbers ranging from 0 to 1 are the item probabilities – likelihood of the individuals in the given segment to respond to each item. The numbers higher than 0.7 are highlighted with bold and considered for determining the characteristics of each segment (Collins and Lanza 2010), and those with relatively higher likelihood are italicised.

[Appendix 6.4] Bivariate Residuals for 3 class models

3 class model without part-time work (0.582)					
	Indicators	**1**	**2**	**3**	**4**
1	Part-time Work				
2	Precarious Employment				
3	Subjective Insecurity		0.022		
4	Income Insecurity		0.000	0.002	
5	Lack of job prospect		0.015	0.228	0.316
3 class model without subjective insecurity (0.103)					
	Indicators	**1**	**2**	**3**	**4**
1	Part-time Work				
2	Precarious Employment	0.005			
3	Subjective Insecurity				
4	Income Insecurity	0.000	0.000		
5	Lack of job prospect	0.014	0.023		0.060
3 class model with 3-level income (532.464)					
	Indicators	**1**	**2**	**3**	**4**
1	Part-time Work				
2	Precarious Employment	**19.605**			
3	Subjective Insecurity	1.696	**5.778**		
4	Income Insecurity	**23.123**	2.726	**11.011**	
5	Lack of job prospect	0.625	**43.324**	**9.443**	**415.131**
3 class model without lack of job prospect (18.861)					
	Indicators	**1**	**2**	**3**	**4**
1	Part-time Work				
2	Precarious Employment	0.947			
3	Subjective Insecurity	0.451	**8.772**		
4	Income Insecurity	**5.112**	0.027	3.552	
5	Lack of job prospect				

Note: Pearson Chi-square test using z-score. Ones larger than 3.84 are highlighted with bold.

[Appendix 6.5] Covariance between indicator variables for 4 classes model

	Part-time Work	***Precarious Employment***	***Subjective insecurity***	***Income insecurity***	***No job prospect***
Part-time Work	0.944				
Precarious Employment	0.942	0.998			
Subjective insecurity	0.857	0.899	0.900		
Income insecurity	0.814	0.857	0.783	0.858	
No job prospect	0.898	0.940	0.867	0.814	0.942

[Appendix 7.1] model fit selection criteria for the division of labour market, conducted separately for men and women

Women	***Number of classes***				
	1	***2***	***3***	***4***	***5***
Pearson χ2	2578.928***	667.551***	**157.195*** **	**22.670** **	5.607
LR χ2	nv	nv	**66.46*** **	**15.934***	nv
χ2 df	26	20	14	8	2
Loglikelihood	-48100.833	-46045.337	-45778.805	-45715.605	-45706.090
# of free parameters	5	11	17	23	29
AIC	96211.666	92112.674	91591.610	91477.209	**91470.181**
BIC	96250.536	92198.189	91723.769	**91656.013**	91695.628
entropy		0.566	0.732	**0.784**	0.657
Men	***Number of classes***				
	1	***2***	***3***	***4***	***5***
Pearson χ2	2198.134***	296.453***	**65.865*** **	0.381	4.777
LR χ2	nv	39.9**	**101.614*** **	26.094*	6.561*
χ2 df	26	20	14	8	2
Loglikelihood	-38267.6	-36363.3	-36252.7	-36224.9	-36215.3
# of free parameters	5	11	17	23	29
AIC	76545.17	72748.58	72539.48	72495.78	**72488.51**
BIC	76583.52	72832.97	**72669.9**	72672.23	72710.99
entropy		0.663	0.744	0.708	**0.762**

*** p-value<0.001, **p-value<0.01, * p-value<0.05
nv= negative value

[Appendix 7.2] MLCA model with only restricting class 4

Male		***Class 1*** *Insiders*	***Class 2*** *Dead-end Outsiders*	***Class 3*** *Typical Outsiders*	***Class 4*** *Subjective Outsiders*
Latent Class Prevalence		32.57% (68.66%)	4.56% (9.62%)	7.42% (15.64%)	2.89% (6.08%)
Part-time Work	Full-time	**0.976**	*0.694*	0.473	**0.953**
	Part-time	0.024	0.306	*0.527*	0.047
Precarious Employment	Permanent	**0.867**	**1.000**	0.114	0.501
	Precarious	0.133	0.000	**0.886**	0.499
Subjective Job Insecurity	Subjectively secure	**0.924**	**0.839**	*0.674*	0.000
	Subjectively insecure	0.076	0.161	0.326	**1.000**
Income Insecurity	Higher Income	**0.968**	0.348	0.226	**0.909**
	Low Income	0.032	*0.652*	**0.774**	0.091
No Job Prospect	Have Prospect	*0.452*	0.241	0.307	0.347
	No Prospect	0.548	**0.759**	*0.693*	*0.653*
Female		***Class 1*** *Insiders*	***Class 2*** *Dead-end Outsiders*	***Class 3*** *Typical Outsiders*	***Class 4*** *Subjective Outsiders*
Latent Class Prevalence		25.54% (48.59%)	15.86% (30.18%)	9.10% (17.32%)	2.05% (3.91%)
Part-time Work	Full-time	**0.914**	0.505	0.386	**0.953**
	Part-time	0.086	0.495	*0.614*	0.047
Precarious Employment	Permanent	**0.881**	**1.000**	0.000	0.501
	Precarious	0.119	0.000	**1.000**	0.499
Subjective Job Insecurity	Subjectively secure	**0.947**	**0.852**	*0.630*	0.000
	Subjectively insecure	0.053	0.148	0.370	**1.000**
Income Insecurity	Higher Income	**0.962**	0.213	0.113	**0.909**
	Low Income	0.038	**0.787**	**0.887**	0.091
No Job Prospect	Have Prospect	*0.451*	0.248	*0.276*	0.347
	No Prospect	0.549	**0.752**	**0.724**	*0.653*

Note: Latent class prevalence: likelihood of one's being in each segment

The numbers ranging from 0 to 1 are the item probabilities – likelihood of the individuals in the given segment to respond to each item. The numbers higher than 0.7 are highlighted with bold and considered for determining the characteristics of each segment (Collins and Lanza 2010), and those with relatively higher likelihood are italicised.

[Appendix 8.1] descriptive statistics of each variable used

Variables		codes	%	N
Female	fem	0=male	49.10	36642
		1=female	50.90	
Age (dummy)	age	16-25 (Reference)	8.19	36259
		26-35 (age2)	21.28	
		36-45 (age3)	26.56	
		46-55 (age4)	27.51	
		56-65 (age5)	16.45	
Have partner	partner	0=no partner/spouse	35.62	37651
		1=has partner/spouse	64.38	
Breadwinner	bwin	0=not earning the most of household income	36.60	37355
		1=earning the most of household income	63.40	
Child under 18	chd18	0=no child under 18	66.64	37799
		1=has child under 18	33.36	
Child under 5	chd5	0=no child under 5	89.39	37651
		1=has child under 5	10.61	
Public sector	public	0=private sector	54.50	37651
		1=public sector	45.50	
Have Employee Representative (e.g., Union)	tu	0=no	50.79	30300
		1=yes	49.21	
Firm size (dummy)	bsize	1-9 (Reference)	34.09	35802
		10-249 (bsize2)	36.74	
		250+ (bsize3)	29.17	
Decrease in Workforce (last three years)	dworker	0=number of workers did not change or increased	77.71	35543
		1=number of workers decreased	22.29	
Education (dummy)	edu	Low education (Reference)	13.43	36944
		Middle education (edu2)	48.50	
		High education (edu3)	38.08	
Occupational skills (dummy)	ocpp3	low/unskilled (Reference)	12.16	37331
		generally/vocationally skilled (ocpp32)	50.57	
		(associate) professional/managerial (ocpp33)	37.27	
Industrial sector (dummy)	ind	Industry (reference)	15.97	35984
		Construction	7.00	
		Commerce and hospitality	20.94	
		Transport	5.92	
		Financial services	3.68	
		Public administration	5.75	
		Education	9.07	
		Health	11.14	
		Other services	20.53	

[Appendix 8.2] Descriptive statistics of each variable for each labour market segment

	Typical Outsiders	Subjective Outsiders	Insiders	Dead-end Insiders	Total
	15.27%	5.80%	61.11%	17.82%	N=33442
Gender					(N=36642)
Male	40.8%	60.9%	54.2%	25.6%	49.10%
Female	59.2%	39.1%	45.8%	74.4%	50.90%
Age					(N=36259)
16-25	22.0%	6.7%	5.3%	10.6%	8.19%
26-35	21.8%	25.5%	22.2%	20.5%	21.28%
36-45	18.7%	26.1%	28.7%	24.3%	26.56%
46-55	19.7%	27.9%	28.8%	27.4%	27.51%
56-65	17.8%	13.8%	15.0%	17.2%	16.45%
Education					(N=36944)
Low education	30.5%	16.7%	11.3%	22.9%	13.43%
Middle education	49.3%	48.2%	48.0%	58.5%	48.50%
High education	20.2%	35.1%	40.7%	18.6%	38.08%
Has partner					(N=37651)
No	49.0%	37.2%	32.4%	37.8%	35.62%
Yes	51.0%	62.8%	67.6%	62.2%	64.38%
Is a breadwinner					(N=37355)
No	49.9%	29.5%	30.6%	53.5%	36.60%
Yes	50.1%	70.5%	69.4%	46.5%	63.40%
Has child(ren) age under 5					(N=37651)
No	92.5%	88.1%	88.5%	89.0%	89.39%
Yes	7.5%	11.9%	11.5%	11.0%	10.61%
Has child(ren) age under 18					(N=33442)
No	77.4%	68.1%	63.8%	65.3%	66.4%
Yes	22.6%	31.9%	36.2%	34.7%	33.6%
Occupations					(N=33191)
low/unskilled	9.9%	16.9%	12.6%	11.6%	12.3%
general/vocational	71.9%	47.8%	42.7%	68.6%	52.0%
(associate) professional/managerial	18.2%	35.3%	44.7%	19.8%	35.7%
Public sector					(N=37651)
No	82.2%	77.2%	67.6%	74.9%	54.50
Yes	17.8%	22.8%	32.4%	25.1%	45.50
Industrial Sector					(N=32206)
Industry	9.54%	24.18%	18.05%	14.11%	16.50%
Construction	5.56%	10.96%	7.24%	2.83%	6.44%
Commerce and hospitality	26.29%	17.81%	16.51%	27.78%	20.01%
Transport	3.38%	7.48%	7.24%	4.35%	6.19%
Financial services	1.39%	3.48%	4.78%	2.24%	3.77%
Public administration	3.80%	5.32%	7.90%	3.46%	6.37%
Education	8.52%	7.27%	10.62%	9.20%	9.87%
Health	9.65%	6.59%	11.62%	15.19%	11.69%
Other services	31.79%	16.91%	16.04%	20.84%	19.18%
Has union					(N=30300)
No	72.5%	49.2%	43.5%	59.3%	50.79%
Yes	27.5%	50.8%	56.5%	40.7%	49.21%
Firm size					(N=35802)
small 1-9	56.0%	21.9%	20.1%	28.4%	34.09%
medium 10-249	28.1%	42.4%	42.3%	43.5%	36.74%
large 250+	15.9%	35.7%	37.6%	28.1%	29.17%
Recent decrease in workforce					(N=35543)
No	85.1%	64.1%	75.4%	78.3%	77.71%
Yes	14.9%	35.9%	24.6%	21.7%	22.29%

[Appendix 8.3] Correlation matrix of independent variables

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
1	female	1																									
2	Age 26-35	-***	1																								
3	Age 36-45	+***	-***	1																							
4	Age 46-55	+*	-***	-***	1																						
5	Age 56-65	-†	-***	-***	-***	1																					
6	middle education	-***	-***	+***	+**	-***	1																				
7	high education	+***	+***	+***	-***	-***	-***	1																			
8	Partner	-***	-***	+***	+***	+***	-*	+***	1																		
9	breadwinner	-***	-***	+***	+***	+***	-	-**	-***	1																	
10	Child under 18	+***	+***	+***	-***	-***	-***	+***	+***	-***	1																
11	Child under 5	-†	+***	+***	-***	-***	-***	+***	+***	-***	+***	1															
12	general/vocational skill	+***	-	-***	-†	-	+***	-***	-***	-***	-***	-***	1														
13	professional/ managerial skill	+***	+†	+***	+	+	-***	+***	+***	+	+***	+***	-***	1													
14	public	+***	-***	-	+***	+***	-***	+***	+***	-***	+**	-*	-***	+***	1												
15	construction	-***	0	+	+	-	+***	-***	+***	+***	-	+	+***	-***	-***	1											
16	commerce and hospitality	+***	+***	-	-***	-***	+***	-***	-***	-***	-*	-	+***	-***	-***	-***	1										
17	transport	-***	-†	+	+***	+	+***	-***	+**	+***	-*	-	-***	-***	-***	-***	-***	1									
18	financial services	+	-	+***	-	-	-***	+***	+	+**	+*	+	-***	+***	-***	-***	-***	-***	1								
19	public administration	-***	-***	-	+***	+**	-***	+***	+***	+***	+*	+	-***	+***	+***	-***	-***	-***	-***	1							
20	education	+***	-*	-	+*	+***	-***	+***	+†	-***	+**	-	-***	+***	+***	-***	-***	-***	-***	-***	1						
21	health	+***	-***	-**	+***	+***	-***	+***	-	-***	+**	-	-***	+***	+***	-***	-***	-***	-***	-***	-***	1					
22	other services	+***	+†	+	-***	+†	-***	+***	-***	-***	-*	0	+***	+***	-***	-***	-***	-***	-***	-***	-***	-***	1				
23	union	-***	-***	+***	+***	+***	-***	+***	+***	+***	+***	+***	-***	+***	+***	-***	-***	+***	+***	+***	+***	+***	-***	1			
24	Firm size: medium	+*	+	+**	-	-*	+	+**	+	-	+	-	-***	+	+***	+***	-***	-	-***	+	+***	+	-***	-***	1		
25	Firm size: large	-*	-	-	+***	-	-***	+***	+***	+***	+***	+***	-***	+***	+***	-***	-***	+***	+***	+***	-***	+***	-***	+***	-***	1	
26	Decrease in workforce	-**	-***	+	+***	+***	-***	+***	+***	+***	-	-	-***	+†	+***	+	-***	+***	+***	+***	-***	+**	-***	+***	-	+***	1

Note: the ones highlighted in blue can be neglected as they are correlations found between the dummy variables of a variable. ***p<0.001, **p<0.01, *p<0.05, †<0.1

The correlation coefficients that are bigger than |±0.3| are highlighted in grey, and the darker grey refers to the figures bigger than |±0.5|.

+ indicators to a positive correlation between the variables, and – negative. The estimates can be provided upon request

[Appendix 8.4] interaction effect between gender and childcare

Odds ratio	Model 1 Outsiders (all)	Model 2 Typical Outsider	Model 3 Dead-end Insider	Model 4 Subjective Outsider
Gender (ref: male)				
Female	1.688*** (0.068)	1.201** (0.073)	2.349*** (0.120)	0.692*** (0.051)
Age (ref: 16-25)				
26-35	0.530*** (0.032)	0.387*** (0.029)	1.052 (0.079)	1.397** (0.174)
36-45	0.442*** (0.028)	0.256*** (0.022)	1.088 (0.084)	1.210 (0.156)
46-55	0.483*** (0.030)	0.227*** (0.019)	1.262** (0.094)	1.278+ (0.163)
56-65	0.635*** (0.043)	0.319*** (0.029)	1.638*** (0.132)	1.118 (0.154)
Education (ref: low education)				
Medium education	0.555*** (0.025)	0.561*** (0.035)	0.734*** (0.038)	0.848* (0.071)
High education	0.328*** (0.018)	0.387*** (0.031)	0.359*** (0.024)	1.027 (0.101)
Partner				
Has partner	0.675*** (0.025)	0.629*** (0.035)	0.796*** (0.036)	0.859* (0.057)
Breadwinner				
Is a breadwinner	0.511*** (0.018)	0.588*** (0.031)	0.518*** (0.022)	1.135+ (0.077)
Child(ren)				
Have at least a child under 18	0.816** (0.054)	0.760* (0.094)	0.731** (0.070)	0.872 (0.085)
Has at least a child under age 5	1.174+ (0.107)	1.010 (0.175)	1.370* (0.183)	1.058 (0.141)
Female x child under 18	1.476*** (0.115)	1.423* (0.198)	1.783*** (0.188)	0.957 (0.133)
Female x child under 5	0.983 (0.112)	0.930 (0.188)	0.878 (0.133)	1.215 (0.242)
Occupations (ref: low/unskilled)				
general/vocational	1.041 (0.054)	0.937 (0.079)	1.032 (0.067)	0.888 (0.076)
(associate) professional/managerial	0.432*** (0.026)	0.430*** (0.044)	0.402*** (0.031)	0.977 (0.097)
Public/private				
Public sector	0.812*** (0.039)	1.093 (0.083)	0.797*** (0.046)	0.796* (0.073)
Industrial Sector (ref: industry)				
Construction	0.812** (0.060)	1.204 (0.151)	0.581*** (0.063)	1.191+ (0.126)
Commerce and hospitality	1.310*** (0.067)	1.683*** (0.146)	1.351*** (0.084)	0.769** (0.068)
Transport	0.866+ (0.064)	1.169 (0.157)	0.896 (0.085)	0.792+ (0.096)
Financial services	0.761** (0.074)	0.661+ (0.145)	0.865 (0.105)	0.653** (0.103)
Public administration	0.975 (0.085)	1.766*** (0.257)	0.853 (0.097)	0.603** (0.093)
Education	2.047*** (0.156)	3.262*** (0.407)	1.854*** (0.173)	0.666** (0.094)
Health	1.636*** (0.109)	2.167*** (0.245)	1.749*** (0.138)	0.532*** (0.073)
Other services	1.610*** (0.088)	2.376*** (0.216)	1.410*** (0.095)	0.699*** (0.067)
Union				
Has workers' representation	0.695*** (0.026)	0.600*** (0.037)	0.776*** (0.035)	1.005 (0.068)
Firm size (ref: small 1-9)				
medium 10-249	0.727*** (0.029)	0.576*** (0.033)	0.940 (0.045)	1.195* (0.095)
large 250+	0.644*** (0.031)	0.500*** (0.037)	0.789*** (0.046)	1.254* (0.115)
Recent decrease in workforce				
Yes	1.135*** (0.041)	0.787*** (0.047)	1.044 (0.046)	1.768*** (0.103)
Constant	4.243*** (0.423)	1.196 (0.189)	0.354*** (0.047)	0.068*** (0.012)
Level 2 variation	0.071*** (0.021)	0.312*** (0.087)	0.218*** (0.060)	0.108*** (0.035)
Loglikelihood	-13465.353	-6598.079	-9924.884	-5365.434
N level 1		24756		
N level 2		30		

***p<0.001, **p<0.01, *p<0.05, †<0.1

[Appendix 8.5] descriptive statistics of each variable for each segment by gender

	Typical Outsiders		Subjective Outsiders		Insiders		Dead-end Insiders	
Gender	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**
N	3022	2082	759	1181	9358	11072	4433	1526
Age								
16-25	19.0%	26.5%	5.7%	7.3%	5.1%	5.6%	8.5%	16.9%
26-35	21.5%	22.4%	26.8%	24.6%	21.7%	22.7%	20.2%	21.4%
36-45	19.9%	16.8%	25.5%	26.5%	29.6%	27.8%	25.7%	20.2%
46-55	21.6%	16.8%	29.0%	27.2%	29.1%	28.5%	28.9%	22.9%
56-65	18.0%	17.5%	13.0%	14.4%	14.5%	15.4%	16.7%	18.6%
Education								
Low education	28.4%	33.7%	12.0%	19.8%	7.9%	14.1%	21.8%	26.2%
Middle education	50.2%	47.9%	39.7%	53.7%	42.7%	52.5%	59.1%	56.7%
High education	21.4%	18.4%	48.3%	26.6%	49.4%	33.4%	19.1%	17.2%
Has partner								
No	45.6%	54.0%	39.1%	35.9%	35.9%	29.4%	35.3%	45.0%
Yes	54.4%	46.0%	60.9%	64.1%	64.1%	70.6%	64.7%	55.0%
Is a breadwinner								
No	57.9%	38.2%	47.0%	18.3%	47.8%	15.9%	61.0%	31.6%
Yes	42.1%	61.8%	53.0%	81.7%	52.2%	84.1%	39.0%	68.4%
Has child(ren) age under 18								
No	72.17%	85.06%	64.69%	70.28%	63.36%	64.25%	60.97%	77.92%
Yes	27.83%	14.94%	35.31%	29.72%	36.64%	35.75%	39.03%	22.08%
Has child(ren) age under 5								
No	91.3%	94.3%	87.5%	88.6%	89.8%	87.3%	88.3%	91.1%
Yes	8.7%	5.7%	12.5%	11.4%	10.2%	12.7%	11.7%	8.9%
Has child(ren)								
No	60.1%	77.3%	53.1%	60.0%	49.2%	53.7%	47.2%	70.2%
Yes	39.9%	22.7%	46.9%	40.0%	50.8%	46.3%	52.8%	29.8%
Occupations								
low/unskilled	5.20%	16.67%	7.84%	22.69%	4.47%	19.48%	6.73%	25.92%
general/vocational	76.15%	65.69%	45.28%	49.49%	41.90%	43.32%	72.10%	58.31%
(associate) professional/managerial	18.65%	17.64%	46.88%	27.82%	53.63%	37.20%	21.17%	15.77%
Public sector								
No	80.4%	84.8%	66.5%	83.8%	58.3%	75.4%	72.9%	80.8%
Yes	19.6%	15.2%	33.5%	16.2%	41.7%	24.6%	27.1%	19.2%
Industrial Sector								
Industry	7.47%	12.77%	16.53%	29.18%	11.21%	23.90%	11.86%	20.85%
Construction	0.98%	12.94%	0.67%	17.68%	1.60%	12.08%	1.03%	8.20%
Commerce and hospitality	27.23%	24.81%	22.01%	15.07%	17.78%	15.42%	28.63%	25.22%
Transport	1.52%	6.21%	4.00%	9.76%	3.15%	10.74%	2.58%	9.64%
Financial services	1.27%	1.58%	4.67%	2.70%	5.40%	4.26%	2.35%	1.91%

Public administration	3.12%	4.86%	6.93%	4.27%	7.48%	8.26%	3.32%	3.90%
Education	10.00%	6.21%	11.33%	4.62%	16.11%	5.90%	10.56%	5.13%
Health	13.38%	3.84%	13.73%	1.92%	20.39%	4.10%	18.33%	5.81%
Other services	35.03%	26.78%	20.13%	14.80%	16.88%	15.34%	21.34%	19.34%
Has union								
No	73.7%	70.6%	47.9%	50.1%	42.1%	44.6%	58.2%	62.8%
Yes	26.3%	29.4%	52.1%	49.9%	57.9%	55.4%	41.8%	37.2%
Firm size								
Small	56.6%	55.0%	21.6%	22.0%	20.1%	20.1%	28.7%	27.5%
Medium	26.9%	30.0%	42.1%	42.6%	43.1%	41.5%	42.8%	45.5%
Large	16.5%	15.0%	36.3%	35.4%	36.8%	38.4%	28.5%	27.0%
Recent decrease in workforce								
No	84.9%	85.4%	62.6%	65.0%	75.7%	75.1%	78.6%	77.6%
Yes	15.1%	14.6%	37.4%	35.0%	24.3%	24.9%	21.4%	22.4%

[Appendix 8.6] Binomial Logistic Regression Analysis of Outsiders between women and men (all Outsiders)

	Outsiders	
	Model 5 Women	**Model 6** Men
Age (ref: 16-25)		
26-35	0.558*** (0.049)	0.482*** (0.041)
36-45	0.447*** (0.040)	0.414*** (0.038)
46-55	0.521*** (0.045)	0.411*** (0.038)
56-65	0.669*** (0.063)	0.567*** (0.056)
Education (ref: low education)		
Middle education	0.526*** (0.035)	0.564*** (0.036)
High education	0.258*** (0.019)	0.470*** (0.039)
Partner		
Has partner	0.737*** (0.039)	0.616*** (0.035)
Breadwinner		
Is a breadwinner	0.528*** (0.026)	0.533*** (0.030)
Child(ren)		
Has at least a child under age 18	1.211*** (0.064)	0.847* (0.060)
Has at least a child under age 5	1.169* (0.088)	1.163 (0.108)
Occupations (ref: low/unskilled)		
general/vocational	0.941 (0.091)	1.008 (0.065)
(associate) professional/managerial	0.369*** (0.038)	0.466*** (0.039)
Public/private		
Public sector	0.826** (0.051)	0.801** (0.063)
Industrial Sector (ref: industry)		
Construction	0.722+ (0.131)	0.915 (0.077)
Commerce and hospitality	1.305*** (0.100)	1.260** (0.092)
Transport	0.886 (0.116)	0.894 (0.083)
Financial services	0.647** (0.082)	0.923 (0.146)
Public administration	0.973 (0.119)	0.943 (0.123)
Education	1.877*** (0.189)	2.693*** (0.354)
Health	1.537*** (0.137)	1.889*** (0.260)
Other services	1.496*** (0.121)	1.648*** (0.131)
Union		
Has workers' representation	0.691*** (0.035)	0.723*** (0.041)
Firm size (ref: small)		
Medium	0.686*** (0.037)	0.770*** (0.048)
Large	0.623*** (0.040)	0.633*** (0.047)
Recent decrease in workforce		
Yes	1.099* (0.053)	1.194** (0.064)
Constant	8.607*** (1.276)	3.980*** (0.498)
Level 2 variation	0.114*** (0.034)	0.061** (0.020)
Loglikelihood	-7542.867	-5841.410
N level 1	13015	11741
N level 2	30	30

Note: ***p<0.001, **p<0.01, *p<0.05, +p<0.1

[Appendix 8.7] Binomial Logistic Regression Analysis for each Outsiders: comparing between women and men

Reference: Insiders	**Model 7**	**Model 8**	**Model 9**	**Model 10**	**Model 11**	**Model 12**
	Typical Outsiders		Dead-end Insiders		Subjective Outsiders	
	Women	Men	Women	Men	Women	Men
Age (ref: 16-25)						
26-35	0.387*** (0.040)	0.380*** (0.042)	1.207+ (0.116)	0.798+ (0.095)	1.405 (0.291)	1.424* (0.224)
36-45	0.248*** (0.028)	0.265*** (0.035)	1.255* (0.122)	0.777+ (0.100)	1.080 (0.231)	1.343+ (0.219)
46-55	0.230*** (0.024)	0.210*** (0.029)	1.507*** (0.140)	0.846 (0.108)	1.234 (0.256)	1.351+ (0.221)
56-65	0.293*** (0.035)	0.362*** (0.052)	1.842*** (0.186)	1.293+ (0.173)	1.132 (0.254)	1.167 (0.207)
Education (ref: low education)						
Middle education	0.610*** (0.050)	0.496*** (0.048)	0.745*** (0.048)	0.685*** (0.060)	0.938 (0.142)	0.850 (0.085)
High education	0.368*** (0.039)	0.452*** (0.058)	0.317*** (0.025)	0.503*** (0.060)	1.447* (0.240)	0.832 (0.105)
Partner						
Has partner	0.772** (0.058)	0.535*** (0.050)	0.855** (0.050)	0.714*** (0.058)	0.872 (0.094)	0.873 (0.077)
Breadwinner						
Is a breadwinner	0.766*** (0.054)	0.454*** (0.038)	0.526*** (0.029)	0.611*** (0.048)	1.175 (0.120)	1.048 (0.101)
Child(ren)						
Has at least a child under age 18	1.044 (0.086)	0.859 (0.117)	1.269*** (0.073)	0.823+ (0.087)	0.856 (0.101)	0.870 (0.090)
Has at least a child under age 5	0.942 (0.108)	1.021 (0.181)	1.220* (0.100)	1.327* (0.183)	1.210 (0.196)	1.083 (0.147)
Occupations (ref: low/unskilled)						
general/vocational	0.800 (0.120)	1.000 (0.106)	1.054 (0.108)	0.978 (0.088)	0.659* (0.123)	0.982 (0.096)
(associate) professional/managerial	0.373*** (0.062)	0.419*** (0.061)	0.416*** (0.047)	0.351*** (0.044)	0.897 (0.178)	0.894 (0.108)
Public/private						
Public sector	1.166 (0.111)	0.978 (0.128)	0.761*** (0.052)	0.863 (0.096)	0.876 (0.122)	0.709** (0.090)
Industrial Sector (ref: industry)						
Construction	1.241 (0.372)	1.280+ (0.188)	0.811 (0.164)	0.587*** (0.080)	0.326* (0.171)	1.189 (0.135)
Commerce and hospitality	1.577*** (0.207)	1.704*** (0.210)	1.202* (0.099)	1.505*** (0.153)	0.930 (0.142)	0.708** (0.081)
Transport	1.155 (0.269)	1.242 (0.211)	0.840 (0.123)	0.992 (0.132)	1.087 (0.270)	0.727* (0.102)
Financial services	0.492* (0.145)	0.959 (0.324)	0.725* (0.104)	1.127 (0.276)	0.670+ (0.161)	0.684+ (0.148)
Public administration	1.550* (0.328)	2.163*** (0.458)	0.770+ (0.111)	0.926 (0.185)	0.794 (0.189)	0.491** (0.107)
Education	2.822*** (0.470)	4.851*** (1.043)	1.607*** (0.181)	2.688*** (0.520)	0.498** (0.106)	1.035 (0.209)
Health	1.885*** (0.286)	3.156*** (0.704)	1.483*** (0.143)	2.635*** (0.476)	0.536** (0.103)	0.481** (0.133)
Other services	2.147*** (0.289)	2.591*** (0.346)	1.187+ (0.105)	1.867*** (0.209)	0.738+ (0.121)	0.747* (0.091)
Union						
Has workers' representation	0.539*** (0.043)	0.702*** (0.067)	0.878* (0.049)	0.637*** (0.053)	0.943 (0.103)	1.016 (0.088)
Firm size (ref: small)						
Medium	0.536*** (0.040)	0.602*** (0.056)	0.951 (0.055)	0.873 (0.075)	1.252+ (0.159)	1.148 (0.117)
Large	0.521*** (0.049)	0.429*** (0.052)	0.830** (0.058)	0.640*** (0.069)	1.241 (0.179)	1.262+ (0.151)
Recent decrease in workforce						
Yes	0.816** (0.064)	0.768** (0.074)	1.005 (0.054)	1.122 (0.088)	2.041*** (0.187)	1.608*** (0.123)
Constant	1.451+ (0.312)	1.417+ (0.259)	0.729+ (0.123)	0.454*** (0.079)	0.041*** (0.012)	0.075*** (0.015)
Level 2 variation	0.419*** (0.121)	0.177** (0.060)	0.283*** (0.079)	0.197*** (0.061)	0.145** (0.056)	0.093** (0.037)
Loglikelihood	-3956.925	-2622.261	-6537.508	-3318.479	-2270.874	-3065.894
N level 1	13015	11741	13015	11741	13015	11741
N level 2	30	30	30	30	30	30

Note: ***p<0.001, **p<0.05, *p<0.01, +p<0.1

[Appendix 9.1] Impact of childcare use (< 3) (2015) variables in explaining gendered labour market patterns

LOG ODDS	Model 3.1.3 Outsiders	Model 3.2.3 Typical Outsiders	Model 3.3.3 Dead-end Insiders	Model 3.4.3 Subjective Outsiders
Gender (ref: male)				
Female	0.638*** (0.055)	0.233** (0.071)	0.975*** (0.083)	-0.391*** (0.079)
National-level context				
National context	0.046 (0.049)	0.076 (0.098)	0.122 (0.075)	-0.140* (0.063)
National context *female	0.057 (0.051)	-0.003 (0.063)	0.027 (0.077)	-0.190 (0.073)
Constant	1.428*** (0.098)	0.181 (0.153)	-1.080*** (0.125)	-2.683*** (0.170)
Level 2 variation	0.059 (0.019)	0.258 (0.079)	0.143 (0.045)	0.077 (0.028)
Random slope	0.051 (0.021)	0.046 (0.034)	0.137 (0.048)	0.048 (0.033)
Loglikelihood	-13466.869	-6600.352	-9919.770	-5360.837
N level 1	24756	24756	24756	24756
N level 2	30	30	30	30

Note: variance at the individual-level (level 1) is $\pi^2/3$ for all models. ***p<0.001, **p<0.01, *p<0.05, +p<0.1

Childcare service use of children under 3 (all) for more recent data has been tested, and showed similar results, except for the Subjective Outsiders. The findings show that the countries greater coverage tend to show less Subjective Outsiders. The models include individual-level control variables, including age, education level, whether or not they live with a partner, whether or not they are breadwinners, parental status, occupational skills, public/private firm, industrial sector, whether or not they have unions in workplace, firm size, recent decrease in workforce.

[Appendix 9.2] Impact of national-level variables in explaining gendered labour market patterns with controls (all Outsiders)

	Women's employment rate	Women's unemployment rate	Gender gap in employment	Mother's employment rate	Gender norm	Childcare cost	Union density	Collective bargaining coverage
Family policy expenditure	-0.065	-0.038	-0.087	-0.082	-0.152**	-0.045	-0.065	-0.053
*female	0.147**	0.147**	0.148**	0.148**	0.153**	0.142**	0.142**	0.147**
Control	0.041	0.025	-0.082+	0.091+	-0.177***	0.072	0.053	0.018
Leave policies								
Effective maternity leave	-0.043	-0.052	-0.057	-0.049	-0.028	-0.056	-0.063	-0.054
*female	0.017	0.017	0.017	0.026	0.027	0.012	0.038	0.017
Control	0.056	0.018	-0.064	0.074	-0.116*	0.106*	0.016	-0.008
Effective parental leave	-0.037	-0.028	-0.050	-0.045	-0.038	0.004	-0.010	-0.026
*female	0.039	0.039	0.039	0.034	0.046	0.025	0.136*	0.039
Control	0.067	0.004	-0.071	0.088+	-0.125**	0.104+	0.042	0.007
Effective paternity leave	0.031	0.041	0.002	-0.010	0.028	0.060	0.032	0.040
*female	-0.066	-0.066	-0.066	-0.061	-0.054	-0.067	-0.066	-0.065
Control	0.059	0.001	-0.067	0.093	-0.123*	0.110*	0.036	0.009
Fathers' quota	-0.043	-0.065	-0.041	-0.038	-0.037	-0.054	-0.089+	-0.060
*female	-0.012	-0.012	-0.012	-0.016	-0.023	-0.020	-0.031	-0.012
Control	0.048	0.035	-0.046	0.069	-0.114*	0.101*	0.056	0.020
Paid leave for mothers	-0.052	-0.052	-0.059	-0.035	-0.090+	-0.047	0.001	-0.052
*female	0.031	0.031	0.032	0.029	0.040	0.031	0.069	0.031
Control	0.023	0.005	-0.087	0.061	-0.135**	0.076	0.046	0.001
Paid leave for fathers	-0.025	-0.023	-0.057	-0.052	-0.057	-0.008	-0.054	-0.038
*female	0.049	0.049	0.049	0.046	0.057	0.049	0.045	0.049
control	0.025	0.011	-0.100	0.080	-0.134*	0.081	0.054	0.027
Childcare services								
Childcare use (2009)	0.059	0.079	0.061	0.047	0.001	0.074	0.057	0.113+
*female	-0.006	-0.006	-0.006	-0.006	-0.010	-0.008	-0.035	-0.006
Control	0.042	0.012	-0.040	0.052	-0.123+	0.098+	0.023	-0.058
Childcare use (2015)	0.043	0.058	0.039	0.034	0.012	0.042	0.010	0.064
*female	0.057	0.057	0.057	0.050	0.045	0.054	0.042	0.057
Control	0.009	0.055	-0.052	0.053	-0.110*	0.060	0.037	-0.033
Full-time childcare use	0.018	0.042	0.012	-0.011	-0.021	0.067	0.010	0.045
*female	-0.049	-0.049	-0.049	-0.049	-0.043	-0.050	-0.076	-0.049
control	0.073	0.008	-0.065	0.094	-0.138*	0.117*	0.050	-0.006

Note: ***p<0.001, **p<0.05, *p<0.01, +p<0.1

[Appendix 9.3] Impact of national-level variables in explaining gendered labour market patterns with controls (Typical Outsiders)

	Women's employment rate	Women's unemployment rate	Gender gap in employment	Mother's employment rate	Gender norm	Childcare cost	Union density	Collective bargaining coverage
Family policy expenditure	-0.053	0.034	-0.020	-0.013	-0.193	-0.049	-0.205*	-0.141
*female	-0.098+	-0.097	-0.100+	-0.110+	-0.090	-0.095	-0.116*	-0.100+
Control	-0.027	0.266*	0.090	-0.114	-0.206+	0.064	0.257*	0.218*
Leave policies								
Effective maternity leave	-0.136	-0.146+	-0.123	-0.162+	-0.131	-0.129	-0.095	-0.103
*female	-0.067	-0.066	-0.067	-0.071	-0.068	-0.066	-0.047	-0.067
Control	-0.041	0.267**	0.088	-0.141	-0.053	0.138	0.038	0.080
Effective parental leave	-0.332***	-0.282**	-0.325***	-0.319***	-0.376***	-0.292***	-0.336**	-0.317***
*female	-0.087	-0.090	-0.087	-0.095	-0.110	-0.089	-0.040	-0.086
Control	0.044	0.107	0.0001	-0.046	-0.132*	0.048	0.057	0.039
Effective paternity leave	-0.087	-0.128	-0.056	-0.071	-0.118	-0.074	-0.095	-0.106
*female	-0.138*	-0.135*	-0.138*	-0.140*	-0.152*	-0.138*	-0.144*	-0.135*
Control	-0.031	0.261**	0.063	-0.057	-0.125	0.098	0.072	0.152+
Fathers' quota	0.081	0.013	0.044	0.049	0.110	0.100	0.033	0.059
*female	0.001	0.001	0.002	0.002	0.011	0.001	-0.014	0.0001
Control	0.016	0.251*	0.084	-0.100	-0.121	0.126	0.095	0.122
Paid leave for mothers	-0.151	-0.109	-0.132	-0.199+	-0.211*	-0.144	-0.223+	-0.119
*female	0.038	0.035	0.037	0.033	0.032	0.038	0.076	0.038
Control	-0.180+	0.219*	0.223*	-0.208*	-0.106	0.032	0.104	0.089
Paid leave for fathers	0.007	0.027	0.085	0.066	-0.045	0.006	-0.021	-0.105
*female	-0.148**	-0.149**	-0.149**	-0.150**	-0.162**	-0.149**	-0.155**	-0.149**
control	-0.186+	0.237*	0.0247*	-0.166	-0.100	0.021	0.100	0.211+
Childcare services								
Childcare use (2009)	0.148	0.112	0.187+	0.276*	0.081	0.106	0.026	0.035
*female	-0.047	-0.043	-0.050	-0.047	-0.040	-0.045	-0.086	-0.047
Control	-0.081	0.261*	0.171+	-0.274*	-0.056	0.122	0.124	0.127
Childcare use (2015)	0.101	0.144	0.090	0.161	0.073	0.074	-0.016	-0.007
*female	-0.002	-0.003	-0.004	-0.002	-0.00003	-0.003	-0.033	-0.003
Control	-0.087	0.305**	0.114	-0.189+	-0.064	0.060	0.136	0.148
Full-time childcare use	0.049	0.033	0.112	0.158	-0.016	0.073	-0.061	-0.035
*female	-0.031	-0.029	-0.033	-0.032	-0.048	-0.030	-0.060	-0.031
control	-0.020	0.258*	0.145	-0.202+	-0.116	0.143	0.158	0.162

Note: ***p<0.001, **p<0.05, *p<0.01, +p<0.1

[Appendix 9.4] Impact of national-level variables in explaining gendered labour market patterns with controls (Dead-end Insiders)

	Women's employment rate	Women's unemployment rate	Gender gap in employment	Mother's employment rate	Gender norm	Childcare cost	Union density	Collective bargaining coverage
Family policy expenditure	0.098	0.031	0.064	0.048	0.015	0.092	0.132	0.147+
*female	0.160*	0.160*	0.160*	0.167*	0.180*	0.160*	0.162*	0.161*
Control	0.024	-0.210*	-0.093	0.150+	-0.153+	0.086	0.001	-0.111
Leave policies								
Effective maternity leave	-0.021	-0.021	-0.047	-0.006	0.019	-0.051	-0.013	-0.057
*female	0.056	0.055	0.056	0.063	0.063	0.053	0.077	0.056
Control	0.093	-0.265**	-0.135+	0.188*	-0.184*	0.106	0.094	-0.063
Effective parental leave	0.209***	0.149+	0.193*	0.186*	0.241***	0.241**	0.261**	0.222**
*female	0.003	0.003	0.003	0.002	0.006	-0.005	0.112	0.004
Control	0.064	-0.193*	-0.081	0.152*	-0.159*	0.162*	0.126+	0.018
Effective paternity leave	0.106	0.164*	0.052	0.044	0.133+	0.144+	0.129	0.127
*female	-0.069	-0.074	-0.069	-0.069	-0.064	-0.069	-0.071	-0.069
Control	0.106	-0.280***	-0.122	0.172*	-0.153*	0.125	0.115	-0.063
Fathers' quota	-0.053	-0.019	-0.032	-0.030	-0.062	-0.091	-0.089	-0.070
*female	-0.057	-0.051	-0.058	-0.061	-0.067	-0.062	-0.089	-0.058
Control	0.073	-0.255**	-0.118	0.176*	-0.160*	0.101	0.111	-0.032
Paid leave for mothers	0.059	0.016	0.033	0.114	0.036	0.065	0.086	0.049
*female	-0.026	-0.025	-0.024	-0.023	-0.015	-0.027	0.043	-0.027
Control	0.175+	-0.233*	-0.282**	0.244**	-0.206*	0.140	0.102	-0.018
Paid leave for fathers	0.081	0.058	-0.003	0.009	0.062	0.114	0.064	0.129
*female	0.067	0.071	0.064	0.064	0.087	0.072	0.056	0.072
control	0.172*	-0.228*	-0.280**	0.207**	-0.200*	0.162+	0.100	-0.096
Childcare services								
Childcare use (2009)	0.047	0.076	0.025	-0.052	-0.072	0.070	0.088	0.176+
*female	0.030	0.026	0.030	0.028	0.027	0.030	-0.009	0.029
Control	0.064	-0.268**	-0.118	0.215*	-0.219*	0.103	0.050	-0.166
Childcare use (2015)	0.111	0.077	0.108	0.065	0.059	0.113	0.157+	0.229**
*female	0.027	0.026	0.026	0.021	0.015	0.027	-0.011	0.026
Control	0.037	-0.213**	-0.116+	0.152+	-0.142+	0.074	0.017	-0.189*
Full-time childcare use	0.028	0.066	-0.009	-0.081	-0.016	0.083	0.048	0.106
*female	-0.052	-0.054	-0.053	-0.053	-0.047	-0.051	-0.088	-0.053
control	0.088	-0.273**	-0.141	0.244**	-0.186*	0.126	0.075	-0.101

Note: ***p<0.001, **p<0.05, *p<0.01, +p<0.1

[Appendix 9.5] Impact of national-level variables in explaining gendered labour market patterns with controls (Subjective Outsiders)

	Women's employment rate	Women's unemployment rate	Gender gap in employment	Mother's employment rate	Gender norm	Childcare cost	Union density	Collective bargaining coverage
Family policy expenditure	-0.185**	-0.134*	-0.231**	-0.206**	-0.162*	-0.173**	-0.157*	-0.186**
*female	0.093	0.091	0.095	0.080	0.084	0.084	0.084	0.092
Control	0.023	0.103	-0.114+	0.096	0.010	-0.066	-0.050	0.034
Leave policies								
Effective maternity leave	0.069	0.064	0.071	0.061	0.039	0.084	0.023	0.078
*female	0.069	0.070	0.069	0.091	0.093	0.060	0.075	0.069
Control	-0.019	0.141*	-0.016	0.033	0.058	-0.078	-0.090	0.017
Effective parental leave	-0.066	-0.005	-0.080	-0.064	-0.066	-0.081	-0.084	-0.077
*female	0.180*	0.176*	0.180**	0.176*	0.182*	0.171*	0.191*	0.180*
Control	-0.033	0.169*	-0.031	0.025	0.073	-0.076	-0.112+	-0.024
Effective paternity leave	0.025	-0.004	0.027	0.010	0.003	0.007	-0.005	0.019
*female	0.187**	0.189**	0.187**	0.211**	0.215**	0.187**	0.194**	0.186**
Control	-0.054	0.143*	0.018	-0.018	0.083	-0.057	-0.111+	-0.027
Fathers' quota	-0.137*	-0.154*	-0.116	-0.106	-0.118+	-0.111	-0.119+	-0.109
*female	0.008	0.002	0.006	-0.003	-0.001	-0.005	0.022	0.006
Control	-0.081	0.191**	0.016	-0.011	0.100	-0.070	-0.092	-0.006
Paid leave for mothers	-0.042	-0.014	-0.040	-0.030	-0.022	-0.048	0.084	-0.049
*female	0.129+	0.126+	0.129+	0.124+	0.126	0.129+	0.097	0.129+
Control	-0.065	0.141+	0.019	0.008	0.105	-0.087	-0.113	-0.023
Paid leave for fathers	-0.175*	-0.161*	-0.191*	-0.189*	-0.169*	-0.201**	-0.198**	-0.209*
*female	0.074	0.071	0.073	0.066	0.060	0.074	0.092	0.073
control	-0.063	0.118+	-0.043	0.052	0.078	-0.120+	-0.075	0.064
Childcare services								
Childcare use (2009)	-0.031	-0.030	-0.055	-0.064	0.044	-0.029	-0.030	-0.033
*female	0.004	0.005	0.005	0.004	0.006	0.003	0.032	0.004
Control	0.001	0.136+	-0.056	0.056	0.107	-0.075	-0.093	0.005
Childcare use (2015)	-0.139*	-0.112+	-0.147*	-0.165*	-0.123	-0.138*	-0.200**	-0.196**
*female	-0.019	-0.020	-0.018	-0.041	-0.044	0.021	0.002	-0.020
Control	-0.0004	0.124*	-0.046	0.092	0.008	-0.063	-0.022	0.097
Full-time childcare use	0.0002	-0.014	-0.026	-0.016	0.036	-0.027	0.024	0.008
*female	0.106	0.107	0.106	0.106	0.109	0.106	0.132+	0.106
control	-0.029	0.137+	-0.034	0.011	0.111	-0.076	-0.133+	-0.037

Note: ***p<0.001, **p<0.05, *p<0.01, +p<0.1

[Appendix 9.6] Impact of other national-level variables in explaining gendered labour market patterns

	Outsiders	Typical Outsiders	Dead-end Insiders	Subjective Outsiders
Women's employment rate	0.002	-0.026	0.028	-0.040
*female	0.105*	-0.087	0.212**	-0.003
Mothers' employment rate	0.058	-0.090	0.155*	0.008
*female	0.057	-0.099+	0.113	0.067
Gender employment gap	-0.039	0.041	-0.093	0.010
*female	-0.083+	0.156**	-0.177	-0.139*
Women's unemployment rate	0.062	0.258**	-0.206*	0.151*
*female	-0.154	0.022	-0.148+	0.019*
Unemployment rate	0.074	0.265**	-0.196*	0.155*
*female	-0.158**	0.004	-0.138	0.014
Childcare cost	0.039	0.074	0.057	-0.069
*female	0.112*	-0.028	0.140+	-0.014
Gender norm	-0.104*	-0.106	-0.156*	0.080
*female	-0.073	0.016	-0.092	-0.016
Gender norm (mothers)	-0.081	-0.112	-0.116	0.083
*female	-0.054	0.009	-0.073	-0.019
Gender norm (fathers)	-0.113*	-0.077	-0.174*	0.063
*female	-0.084	0.022	-0.096	-0.011
Union density	0.053	0.105	0.100	-0.125+
*female	-0.029	0.036	-0.100	0.049
Collective bargaining coverage	0.004	0.124	-0.064	-0.008
*female	0.043	0.045	0.093	-0.049

Note: ***p<0.001, **p<0.05, *p<0.01, +p<0.1