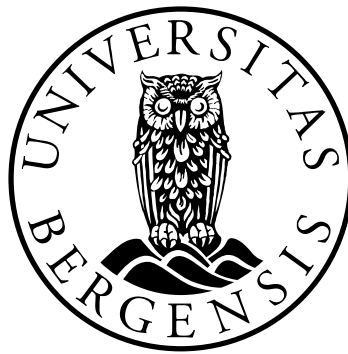


# The Norwegian labour market, a gender equality paradox?

A qualitative case study of Norway from the 1970s until today

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# Forord

Nå som masterløpet nærmer seg slutten, ønsker jeg å takke både venner og familie som gjennom hele mitt studieløp har trodd på meg og heiet på meg. Dere har vært en uvurderlig støtte for å få meg gjennom en utrolig lærerik, men også krevende prosess.

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## Abstract

This thesis seeks to investigate whether there is any hold in the claim that Norway is part of what is referred to as a “gender equality paradox”. Often, this is justified by illustrating that Norway is one of the most gender equal countries in the world while at the same time having one of the world’s most gender segregated labour markets.

By using theoretical approaches that focus on the devaluation of women, gender segregation in higher education, and the public sector’s appeal on women, I investigate through combining historical analysis and elements of explaining-outcome process tracing if the Norwegian labour market truly is a gender equality paradox.

Through my analysis I find that critical historical events have set the country down a trajectory that make especially horizontal gender segregation in the labour market difficult to change. I also find that persistent gender segregation in higher education, few incentives for men to choose non-traditional educations and occupations, and the challenges of combining motherhood with work, are obstacles for desegregating the Norwegian labour market.

The findings are somewhat in line with the theoretical framework but illustrate the need for considering historical events, and the importance of context for understanding puzzling outcomes. When looking a bit closer, the Norwegian labour market is no gender equality paradox.

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# Chapter 1

## 1 Introduction

According to the World Economic Forum, Norway is ranked as the third most gender equal country in the world as of 2021, only being topped by Finland and Iceland (World Economic Forum 2021). Why then, is Norway also known as being part of what some refer to as a gender equality paradox (Mandel and Semyonov 2006) characterized by a particularly strong horizontal gender segregation in the labour market?

The 1970s were characterized by important developments in Norway, both culturally and economically. The country grew richer due to oil revenues and the welfare state expanded vastly. Additionally, the women's movement spread across the Western world demanding that young women should be free to enter higher education as well as the labour force (Jensen 2004). Since the 1980s there has been a predominance of women in higher education, and men and women have participated in the labour force to almost the same extent since the early 2000s (Jensen and Sletvold 2019, 10; Statistisk Sentralbyrå 2021).

Because of this, it seems somewhat conflicting that an official Norwegian report (NOU) from 2008, stated that according to international comparative studies, Norway has one of the most gender segregated labour markets in the industrial world (NOU 2008:6, 40). In 2014<sup>1</sup>, only 15 percent of Norwegian employees worked in occupations with between 40 to 60 percent of both genders (Reisel, Søråas and Uvaag 2019, 11). A large share of Norwegian women works in the health, education, and care sector. In these occupations there works almost exclusively women. In construction, transport, information technology and crafts there works almost exclusively men. There is a predominance of men in the private sector, and in top positions in the labour market. Women on the other hand, dominate the public sector where the share of men has been only roughly 30 percent the last 10 years (NOU 2012: 15; Teigen and Reisel 2014, 11; Fredriksen 2019). Why do Norwegian women and men still choose so traditional educations and occupations, and is the Norwegian labour market part of a gender equality paradox?

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<sup>1</sup> Newest numbers available

Based on this I present my research question:

*What explains horizontal gender segregation in the Norwegian labour market from 1970 until today?*

## **1.1 Clarifications**

What is meant by a gender segregated or gender divided labour market? There are different measures for gender segregation in the labour market, but it is common to make use of one or more indexes. The most used index is the Duncan-index. The index measures whether there is a larger than expected presence of one gender over another in a given occupation by identifying the percentage of employed women or men who would have to change occupations for the occupational distribution of men and women to be equal. A Duncan-index value of zero occurs when the share of women in every occupation is the same as women's share of employment as a whole. This means that a score of zero on the index indicates perfect gender integration in the workforce, and one indicates complete gender segregation (Duncan and Duncan 1955; Bettio and Verashchagina 2009). Following this measure, and using numbers from 2007, 55 percent of either men or women would have had to change their jobs to make the Norwegian labour market completely balanced. The average in the EU at the time was 51 percent. The most recent numbers, from 2014, state that roughly 50 percent of either men or women would have to change their professions to make the Norwegian labour market gender balanced (Reisel 2014a; Reisel, Skorge Søråas, and Uvaag 2019, 14)

Gender segregation still seems to be quite a broad concept, and therefore it is common to divide gender segregation into vertical and horizontal segregation, whereas the latter is what I wish to study. Horizontal gender segregation refers to the distribution of men and women in educations, occupations, and sectors. Vertical segregation refers to the different placement of men and women in the hierarchy of different positions, where men often dominate in higher positions with more power, higher salaries, and prestige. These two different dimensions can be analysed separately but must be considered in conjunction with each other. This is because the horizontal segregation brings about a divide where men to a larger degree than women find themselves in careers that makes it easier to climb the ladder leading to higher positions. This relates to the fact that many women work in the public sector and other professions

where the career ladders are not as steep, such as nurses or teachers (Reisel and Teigen 2014, 15).

A natural response for many regarding this so-called paradox, and gender inequality in general, is the question of biological differences between men and women. This thesis will not in depth analyse whether such differences are causes for gender segregation in the labour market. This has several reasons. Firstly, if genetically determined factors predisposed gender inequality among humans', social relational processes would continue to have an important and mediating role. It is also useful to keep in mind that if some behaviour has a genetic cause, it is not necessarily the case that it is unchangeable or inevitable. Secondly, there are substantial empirical difficulties involved in ascertaining when a predisposing genetic cause is present. There are many problems in sorting out biological causes, but some of the most intractable derive from the close physiological relationship between organisms and their environment. For instance, correlation between physiological states, such as sex hormone levels or brain scans, and social behaviours or attributes do not in themselves answer questions about the direction of causality between biology and the social environment. Because of difficulties like this, it seems that at present we do not yet have much strong, highly reliable evidence one way or the other about biological sources of behaviours or attributes relevant for gender inequality. Biology never acts alone (Ridgeway 2011, 18-20).

In the case of this thesis, it will make more sense to think of gender as:

*a system of social practices within society that constitutes distinct, differentiated sex categories, sorts people into these categories, and organizes relations between people on the basis of the differences defined by their sex category* (Ridgeway and Smith-Lovin 1999, 192)

## **1.2 Why study this?**

Is it a problem that men and women work in different occupations? Being able to participate in the labour market is related to autonomy. It is about control over one's own life, economic independence, and access to power. The principal of equal access to paid work and equal working conditions are central to the Norwegian gender equality act (Ligestillingsloven) (NOU 2012: 15, 144).



Gender segregation in the labour market is connected to processes that generate inequalities in pay, status, and possibilities for developments in the labour market. Gender segregation can also entail significant problems when it comes to matching job offers and labour needs. At the same time, it can be claimed that the labour market's gender segregated structures not only expresses but contributes to maintaining tenacious cultural perceptions about what is "male" and what is "female". Where one works is an important social arena, but also one where gender is created as a social category as well as a place where expectations to what men and women are supposed to be and what sort of tasks they are supposed to do are played out on a daily basis (Teigen and Reisel 2014, 15).

The basis of choosing to focus on horizontal gender segregation is because it too often is perceived as being less problematic than vertical segregation, seeing that working in different occupations and sectors should be a result of free choice. Vertical segregation is naturally perceived as more illegitimate. However, in a social democratic understanding of gender equality, horizontal gender segregation is also perceived as a problem. Gendered choices are not perceived as free. Still, vertical segregation seems to be what has been the most studied and actively worked against in a Norwegian setting, and there have been few means directly pointed towards desegregating the labour force horizontally (NOU 2012: 15, 159; Ellingsæter 2014, 87, 95; Reisel and Teigen 2014, 15).

Another reason that horizontal gender segregation is an important theme to investigate is especially that the demand for labour in health and care occupations is increasing. In the years to come the numbers of elderly in the Norwegian society is predicted to increase quite heavily. The age composition of elderly in the population shows that there were 164 000 more Norwegians in the age between 60-79 years old in 2018 compared to 2008 (Statistisk Sentralbyrå 2019a). The demand for labour in the health and care sector will therefore only continue to increase, and it can be difficult to acquire enough labour should the current horizontal gender segregation continue (Reisel, Søråas and Uvaag 2019, 16).

### **1.3 Theoretical approach**

In this thesis I will make use of three theoretical approaches attempting to explain gender segregation generally, as well as horizontal gender segregation in the labour market

especially. Because I argue throughout my thesis that horizontal gender segregation in the labour market is a phenomenon that must be understood in the context of the country it is in, I begin with presenting a broader theoretical approach before narrowing it down. Therefore, I will firstly present devaluation theory which help us understand why female dominated occupations are perceived as being of less value in many societies both culturally as well as economically.

After this, theories attempting to explain gender segregation in higher education is included. This is because horizontal gender segregation in the labour market is strongly related to gender segregation in educational choices. Lastly, I will present what is known as the welfare state paradox literature. This literature has encountered many criticisms, and I will therefore end the theoretical framework with theory trying to explain why the public sector has an appeal on women, and especially mothers, in a Norwegian context. I formulate three hypotheses which are linked to the respective theoretical approaches in chapter two.

Hypothesis 1: The devaluation of typically female occupations makes them less attractive for men, contributing to horizontal gender segregation in the Norwegian labour market

Hypothesis 2: Persistent horizontal gender segregation in higher education leads to horizontal gender segregation in the Norwegian labour market

Hypothesis 3: For women, and especially women with children, the public sector is more attractive than the private sector, contributing to horizontal gender segregation in the Norwegian labour market

## **1.4 Methodological framework**

The methodological framework in my thesis is a qualitative case study of Norway from 1970 until today. The qualitative method chosen is a combination of a historical analysis together with elements of explaining-outcome process tracing. This method has been chosen because I wish to look at the underlying causal mechanisms that explain what causal forces help produce the relatively strong horizontal gender segregation in the Norwegian labour market. The way I do this is by identifying causal mechanisms that exist between my X and Y in each

hypothesis. Tables for all variables and mechanisms are presented in chapter five. By using qualitative methods, I achieve a deeper understanding of the case at hand than by using quantitative methods. The purpose of this analysis is not to develop new theories that can be applicable to other cases, but to develop an understanding of whether it really is true that the gender segregated Norwegian labour market is a gender equality paradox. I work deductively by testing hypotheses based on already established theories.

The data used in my thesis are of a varied nature but are all second-hand sources. They are both theoretical and empirical. By using a relatively large number of sources I strive towards having variation in my data.

## **1.5 Structure**

I will in the next chapter, chapter two, present the theoretical framework for my thesis. There are, like mentioned, three theoretical approaches. Each approach ends with a hypothesis. Chapter three contains my methodological framework, focusing especially on what a case study is and why a mix of historical analysis together with elements of explaining-outcome process tracing is the most suitable design to answer my research question. Here I have also added some discussion about the use of sources and data, as well as validity and reliability.

In chapter four I present a historical analysis of Norway from mainly the 1970s until today. Some parts date back further than 1970 to fully understand the developments in the country. The analysis focuses on events relevant according to the theoretical framework and my research question. In chapter five I systematically test my hypotheses using hoop-tests. I close the chapter off by illustrating how all the hypotheses are connected. Finally, I discuss my findings in chapter six. In this chapter I also present what might be limitations to the thesis, before I end with my conclusion.

## Chapter 2

### **2 Theories explaining gender-segregation in the labour market**

How can gender-segregation particularly in well-developed welfare states be explained?

Several scholars have taken on the challenge of trying to explain this phenomenon, and it is one that must be seen in light of historical developments and cultural values. In this part of the thesis, I will elaborate on some theoretical approaches that seek to explain why some countries have more gender segregated labour markets than others, and why some jobs are seen as being more lucrative than others. Most of these studies are of a quantitative nature, and therefore do not focus on one specific country. However, it is often rich democracies in the Western world that are under study.

#### **2.1 The devaluation of women**

The 1960s and 1970s are known as decades for sweeping changes in gender systems, particularly in the Western world. Women's employment increased dramatically, birth control became widely available, women entered higher education to a greater degree, and many forms of gender discrimination in employment and education became illegal. However, one can argue that there has been little cultural or institutional change in the devaluation of traditionally female activities and jobs, and as a result, women have had more incentive than men to move into gender-non-traditional activities and positions. This has led to an asymmetric change, women's lives have changed much more than men's, referred to as an uneven gender revolution (England 2010, 151).

However, in some subgroups and arenas there is less clear incentive for change even among women. Examples are the relatively low employment rates of less educated women and the persistence of traditionally gendered patterns in heterosexual romantic, sexual, and marital relationships. It can also be argued that the type of gender egalitarianism that took place especially in the United States, but also other Western countries, was the type most compatible with individualism and its cultural institutions and logics, which include rights of access to jobs and education as well as the desideratum of upward mobility and expressing one's "true self". This gender egalitarianism has led to reduction of discrimination in hiring,

which in turn has made much of what England (2010) refers to as the gender revolution possible. Women became able to enter formerly “male” spheres. Co-occurring with this gender egalitarianism, however, was a form of gender essentialism, the *belief* that men and women are innately and fundamentally different in interests and skills. A result of such developments is that women are more likely than men to challenge gender boundaries when there is no path of upward mobility without doing so. This is also connected to the lack of incentives for men to challenge stereotypical norms about gender as well as the “masculine” traits being more valued than the “female” (England 2010, 150-151; Ridgeway 2011).

When describing this “uneven gender revolution” devaluation theory must be explained. The devaluation theory, also known as comparable worth discrimination, reaches further than just women’s work, as its basic assumption is that women, and traditionally female activities are culturally devalued in society. An important consequence of this is that female occupations and tasks in general are assumed to be less valued than are male tasks. When relating to work and wages, comparable worth discrimination argues that the value of labour is gendered. Occupations dominated by men are ascribed greater value compared with occupations dominated by women. This in return decreases wages in female-dominated occupations for both men and women. Discrimination related to pay levels as well as undervaluation pertain to work performed by women or occupations filled by women, not against single individuals (England 1992; Magnusson 2009, 87-89).

The devaluation of and underpayment of predominantly female occupations has historically been an important institutional reality that provides incentives for both men and women to choose “male” rather than “female” occupations as well as the fields of study that lead to them. Studies have shown that predominantly female occupations pay less, on average, than jobs with a higher proportion of men. Parts of this wage gap is explained by gender composition. Therefore, it is a reasonable explanation that the desegregation that has occurred in the labour market as well as higher education has largely taken the form of women moving into male-dominated fields, rather than men moving into female-dominated fields. It can be argued that men have little incentive to transgress gender boundaries because they according to devaluation theory will lose money and suffer cultural disapproval when they choose traditionally female-dominated fields (England 2010 154-155).

England (1992; 2010) demonstrates with numbers from the United States that desegregation has proceeded much farther in middle-class than working-class jobs. Her results show that working class jobs in 2010 were almost as segregated as they were in 1950. Women have integrated the previously male strongholds of management, law, medicine, and academia in large numbers. Women have however hardly gained a foothold in blue-collar, male dominated jobs such as plumbing, construction, truck driving, welding, and assembly in durable manufacturing industries such as auto and steel. Charles and Grusky (2004) found that this situation was as a trend in affluent countries as well. In Norway this is also evident and especially in higher education (Brekke and Reisel 2013; Seehuus and Reisel 2017; Reisel, Skorge Søråas, and Uvaag 2019) which will be discussed further in chapter 2.2.

As mentioned, a gender egalitarianism has been developed that puts emphasis on free choice and equal rights to education and work for everyone (England 2010, 150-151). Achievements and upwards mobility are generally valued, and there is also a “post-materialist” aspect to this culture which relates to finding one’s “true self”. Many women and men wish to “move up” in earnings and/or status, and often use people in the previous generation of one’s own social class background and one’s own gender as a reference for further development for themselves. A commitment to “free choice” gender egalitarianism orienting toward gender-typical paths has probably been encouraged by the emerging form of individualism that stresses finding and expressing precisely one’s “true self”. Notions of self will however still be largely socially constructed pulling from socially salient identities. Because gender has such an omnipresence in our society it often becomes the most available material from which to construct aspirations and may be used even more when occupational and educational choices is seen as a deep statement of who you are. This is also part of the explanation as to why women have not to a larger degree integrated blue-collar jobs, seeing that these occupations are heavily associated with men. Additionally, for the women that such blue-collar jobs would have constituted progress or “moving up”, they would also have the option to “move up” by entering higher-ranking female jobs via more education (Charles and Bradley 2009; England 2010, 159; Ridgeway 2011).

The devaluation theory has however received criticism. Tam (1997) found that the negative effect of percentage female on wages disappears when occupational-specific on-the-job training and required qualifications are included in the model. Hakim (1998) using evidence from Brittan, argues that there are no longer only male- and female-dominated occupations

where male-dominated occupations have the highest earnings and prestige. She instead proposes a threefold typology of male, gender-integrated and female occupations, where gender-integrated occupations have the highest wages and prestige.

Magnusson (2009; 2013) has through several studies tested the devaluation theory using data from Sweden. Frequently a negative relationship between the percentage of women (percentage F) and wages has been interpreted as an expression of devaluation, seeing that cultural devaluation cannot be readily studied. She acknowledges the fact that several previous studies have shown a net negative association between wages and percentage F but points out that few prior studies have considered whether the relationship between share of women in occupations and wages is linear or not. Through her studies she finds clear evidence that the relationship is not linear. Using panel data, she finds that for both genders the rate of wage growth is highest when *moving from* strongly male or female-dominated occupations to occupations with a more mixed sex composition. These findings are inconsistent with devaluation theory. However, she finds that for both men and women it is generally the most negative to be employed in or move to moderately or heavily female-dominated occupations. Therefore, it is more negative to already be employed in an occupation which is female dominated, but one will have larger wage growth when moving to a gender-integrated occupation than a male-dominated one (Magnusson 2013, 232-238). This is somewhat in line with devaluation theory.

In another study Magnusson (2009) focuses on occupational sex composition and prestige in relation to the devaluation theory. If women are culturally devalued, it would also make sense that the proportion of females in an occupation or in traditionally feminine work would have a negative relationship to occupational prestige. All complex societies have some division of labour whereby occupations are specialized and separated. Occupational roles that entail power and control over resources are highly valued in all societies and are assigned high prestige scores by members of society. Prestige represents a hierarchy of individual positions and reflects shared norms and values in societies. Occupational prestige can also be a measure of occupations' desirability and the degree of success of the employees in these occupations. The prestige of an occupation is based on the value that accrues to society from the occupation. Therefore, occupational prestige can be seen as a representation of underlying societal values and is thus an important indicator of the general valuation of occupations

which plays a vital part in devaluation theory (Goldthorpe and Hope 1974; Treiman 1977; Magnusson 2009, 89).

Previous studies regarding prestige have yielded different results, but what seems to be the main finding is that even though women are found to work in occupations that are ranked as prestigious as men's', female occupations pay less. It therefore appears that workers in female-dominated occupations are accorded prestige corresponding with their occupational complexity, such as education and skill, but that wages in female-dominated occupations are not commensurate with occupational complexity (England 1979). Magnusson (2009) finds that the relationship between proportion of females in an occupation and occupational prestige is non-linear. Gender-integrated occupations have the highest prestige in the concordance with the findings that gender-integrated occupations have the highest wages. Care work occupations do not have lower prestige than others (Magnusson 2009, 96).

However, other occupations that involve types of interpersonal service work have relatively low prestige. The results suggest that the percentage females in an occupation does not systematically reduce occupational prestige. However, strongly male-dominated occupations have higher prestige than do strongly female-dominated occupations. It is further suggested that one must consider other factors such as on-the-job training, as well as the fact that prestigious occupations are likely to be those with high demands on "loyalty" to the organization and constant availability such as working non-agreement overtime, taking part in organizational arrangements outside regular hours, travelling on business and more. These obligations can be difficult to pair with for example having children or other family obligations, which women often spend more time on doing than men. One must also consider gender segregation with respect to jobs. Women and men largely tend to work with different tasks in the same occupation and in different workplaces as well. For example, male medical doctors work as surgeons while female doctors work with child health care or gynaecology. This can also lead to men and women having the same occupational prestige, but different wages (Magnusson 2009, 96-97).

By now the devaluation of traditional female jobs has been mentioned as one explanatory factor regarding both the wage gap between women and men, as well as occupational segregation. There are two other such explanatory factors that are widely known, that will be briefly explained. Firstly, there is the crowding theory, which states that women are crowded



into a limited number of occupations which causes an oversupply of labour. This crowding effect is said to suppress wages in female-dominated occupations. This approach explains wage differences with the traditional market mechanism of supply and demand arguing that labour supply in female occupations would be “artificially” high due to discrimination. However, crowding phenomena could also appear as a result of worker preferences (Bergmann 1974). Secondly, there is the specific-human capital theory where researchers argue that the percentage F is a statistical artifact, capturing unmeasured productivity differences between women and men. Researchers supporting this approach claim that investments in specific human capital, especially skills developed through on-the-job training, presuppose long-term relations between employers and employees. Therefore, investments like these are biased against women who are more likely than men to interrupt their work life to care for their children and family. It is also argued that some occupations require more specific human capital, and therefore women are excluded from or avoid these occupations. In this sense, skill requirements may be a mechanism for occupational gender segregation, and specific human capital might explain the relationship between occupational gender composition as well as wages (Polachek 1981; Estévez-Abe 2005; Grönlund and Magnusson 2013, 1008)

Grönlund and Magnusson (2013) investigate these two theories together with the devaluation theory through a multilevel analysis on the basis that the three have yet to be empirically distinguished. They argue that the failure to include direct measures of the proposed mechanisms make it difficult to separate the hypotheses and assess their relative worth. This is particularly true for devaluation and crowding, where much research has stopped at demonstrating a negative wage effect of the number of women in an occupation (percent F) and interpreted this effect as support for either crowding or devaluation. Using data from the Swedish Level of Living Survey from the year 2000 they examine how prestige (devaluation), employee dependence (crowding) and on-the-job training (specialized human capital) are correlated with percentage F.

Grönlund and Magnusson (2013) test all three mechanisms to see if they are related to occupational segregation. The results regarding prestige in this study is the same as the previous studies conducted by Magnusson (2009; 2013), the relationship is non-linear and gender-integrated occupations has the highest level of prestige. All their indicators are related to percentage female in the predicted direction, that is negative, and correlations are statistically significant. However, the strength and shape of the correlations suggest that the

devaluation argument and the crowding argument are relatively weak if they attempt to capture the whole scale of segregation, for example if presented as causal mechanisms linking gender and wages at the occupational level. The correlation for specific human capital is stronger but suffer the same problems as previous factors. The finding that sticks out the most however, is that in the female-dominated occupations the mean level of on-the-job training is only about half that of the other groups. With regards to wages, they find that 40% of the total variance of hourly wages is explained by differences between occupations. The clustering effect is larger for women than for men meaning that choice of occupation is more decisive for women (Grönlund and Magnusson 2013, 1011).

As presented now by several different studies, devaluation theory is contested but seems to have some hold still. Even though there does not seem to be a linear relationship between percentage F and wages, prestige, or occupational segregation, and that working in gender-integrated occupations yield higher wages and more prestige, some results are in line with devaluation theory. Working in a moderately or heavily female-dominated occupation is negative for both wages and prestige, therefore making typically female jobs entailing care and interpersonal service work less attractive. At the base of “the uneven gender revolution” is the fact that women to a larger extent have entered male dominated spheres than the other way around. This taken together with devaluation theory can help explain what has caused horizontal gender segregation in the labour market. Based on the theory represented so far, I present my first hypothesis H1:

*H1: The devaluation of typically female occupations makes them less attractive for men, contributing to horizontal gender segregation in the Norwegian labour market*

## 2.2 The gender segregation in higher education

There is clearly a link between educational choices and occupational segregation. Choices made regarding what one studies heavily influences where one ends up working. Therefore, it is important to consider gender segregation in higher education, to be able to explain what causes horizontal gender segregation in the labour market. In this subchapter I will therefore present theories attempting to explain why there exists such a strong horizontal gender segregation in higher education in Norway. Note that some explanations will overlap with theories presented in the previous subchapter, because choice of education and occupation is so intertwined.

Within sociology and social psychology there is a common view that gendered choices are related to socialisation (Jacobs 1996; Dryler 1998). Through socialisation, boys and girls internalise different social roles as well as values. Parent's attitudes and expectations, other adults, peer groups, and the media influence young people's educational choices. The role of parents and their interaction with their children may also vary between boys and girls, as well as between fathers and mothers. Some suggest that children are being trained to imitate adults of the same gender, and some claim that children themselves actively choose to imitate adults of the same gender (Støren and Arnesen 2007, 254). This also relates to the fact that it is in human nature to categorize. We do this automatically to handle a potentially infinite amount of information. Gender is one of the distinctions that we learn earliest on in life, and that will always be present in social relations at the same time as it is a simple distinction because of its two main categories. It is for this reason that we cannot relate to other people without categorizing them as either a man or a woman. Even though gender might not seem relevant in every situation, it helps us create an automatic distinction that may help us in potential choices. When this automatic distinction is coupled with cultural scripts of what is seen as typically manly and womanly, we tend to expect different behaviours from men and women. These cultural "guides" therefore lies in the back of our minds when choices are being made, both regarding education as well as in occupational contexts. Social status is also considered to play a central role regarding choice of education (Ridgeway 2011; Reisel 2014b, 121).

There are particularly two aspects to take into consideration when trying to understand choices of education between boys and girls: one that emphasizes youth's preferences and choices, and one that emphasizes organizational or societal guidelines. These are often closely

linked to each other seeing that preferences and choices are influenced and shaped by society. Norms and stereotypes are often highlighted when considering organizational and societal influences, as well as the educational system and the labour market's organization. Research also shows that boys and girls are differently treated by adults from a very early age which again will effect what one thinks one is best suited for later on in life (Reisel 2014b, 122).

It is common to understand educational choices as well as occupational choices as being influenced by delimitation and compromise, where gender and social status play key roles in defining what is referred to as the "zone of acceptable alternatives" (Gottfredson 2002). This zone reflects the individuals understanding of where he or she might fit in in society and is created by individuals gathering patterns observed in society. The more one perceives a profession as fitting for one's self-image, the stronger the preference for this profession will be. According to this resonance, gender is the aspect of the self that is most used when discarding alternatives along the way. It is usually a higher probability for boys discarding alternatives based on gender than for girls. This is related to the fact that it often is more acceptable for both genders to act and choose what is associated with the masculine. Likewise, it is more acceptable for girls to wear "boys' clothes" than the other way around. When an alternative is discarded it is outside the so-called zone of acceptable alternatives and is rarely brought back (Reisel, Skorge Søråas, and Uvaag 2019, 20-21)

Theories taking on a more economical approach often explain gender segregation as a result of rational choice. The view is that women often follow a different education than men because they expect to spend more time on family obligations. Therefore, women choose an education that will lead to an occupation which is easily combined with child rearing and the family (Mincer and Polachek 1974; Polachek 1981; Mincer and Ofek 1982).

It must however be mentioned that these perspectives also point to gender socialisation. Such socialization develops into expectations regarding distribution of responsibility both in the home as well as for children. This means that the emphasis put on obtaining work that may be easier to combine with family obligations will differ by gender. Since these explanation models have been introduced there has however been a great development in gender equality especially in a Nordic context. Therefore it is an open question whether or not boys and girls think that differently about the labour market today (England 2010; Reisel 2014a, 121–22; Reisel, Skorge Søråas, and Uvaag 2019).

A second explanation within the rational choice approach is that of comparative advantages. When teenagers are to make choices for further education, it is natural that they choose according to subjects they already master well. This means that women and men may possess comparative advantages in relation to success within different studies (Jonsson 1999). Comparative advantage is a measure of the relation between an individual's ability in two or more areas of study. Men may, for instance, relative to other subjects perform better at mathematics than women. Consequentially, men may be more likely to achieve success in technical and natural science subjects. If this is the case, then it is rational that a higher proportion of men than women choose technical and natural science subjects. The willingness to take risks and insufficient assessment of own abilities could also possibly be explanatory. Generally, it is thought that majoring in science is difficult and hence riskier than majoring in for instance education. Some point to men being more willing to take risks than women. Men also tend to overestimate their mathematical competence relative to women and are therefore more likely to pursue activities leading toward a career in science and engineering (Montmarquette, Cannings, and Mashedredjian 2001; Støren and Arnesen 2007; Mastekaasa and Smeby 2008).

A more recent approach to explaining gender segregation in higher education, suggests taking socio-economic status into account. Such an approach must be seen in light of the sociological explanation of gender essentialism. This entails that there in all societies are some beliefs about men and women being fundamentally different, and therefore suited for different types of activities and professions. This in return is said to contribute to shaping boys' and girls' preferences and interests, as well as their choices of education and occupations later in life. Here women are seen as being naturally better at tasks involving care, and men are seen being stronger, more analytical, and technically oriented. These assumptions are reinforced by traits in the post-industrial Western societies which relates to finding one's "true self"(Charles and Bradley 2009; Seehuus and Reisel 2017, 288).

There are several sociological theories that lead to the assumption that gender segregation in education is more common among men and women who come from a lower social background. One explanation is that because gender socialization varies between social classes, traditional gender patterns might be more rigid in working class families (Dryler 1998; Charles and Bradley 2009). The great degree of gender polarization that is said to characterize the working class has been explained by the more macho gender roles that exist

amongst working class men. Due to their physically demanding labour, they have historically had the opportunity to construct themselves as being more masculine than their middle-class counterparts (McDowell 2003). DiPrete and Buchmann (2013, 122) in return claim that highly educated men and women have more gender egalitarian gender roles. Whether one operationalizes social background through parent's class position, parent's education, or parent's income, it appears that coming from the upper social class relates to a greater perception of gender equality than those coming from lower social classes who are associated with more traditional gender roles (Seehus and Reisel 2017, 289). Some also point out that at the time of choosing an education, young men and women are still in a very vulnerable part of life, where standing out from the crowd is less popular. If one is to lend support to the rational choice approach predicting that one chooses educations and professions based on what in return will yield the best salaries and highest social status, it also begs the question just how much available information young people have when making choices for the future (Hodkinson and Sparkes 2006).

The uneven gender revolution presented in the chapter 2.1 also relates to education. Desegregation in higher education has to a great extent occurred for the same reasons as they did in the labour market; women entered previously male-dominated educational fields. Devaluation theory is also relevant here. Seeing that there might not have been enough cultural or institutional change in how society values traditionally female-dominated activities and professions, women have had the greater incentive to choose less traditional. It is also here emphasized that it is women from the upper social classes that choose less traditional educations. Because of the large growth of the higher education sector in the Western world, both regarding numbers of students and how common it has become to be a part of higher education, graduating with a more prestigious degree than your parents is necessary to avoid descending social mobility (England 2010; Seehus and Reisel 2017).

The main point is that men and women seem to choose gender compliant according to their background. Women who come from a lower social background, where mothers tend to have no education, might choose to work in industrial, male dominated occupations to move upwards in social status. A job like this could entail a higher income, and perhaps a higher social status than female dominated occupations at the same level such as a cleaner or a store employee. These women are however more likely to "move upwards" by choosing traditional female occupations on a higher educational level, such as nursing or teaching. That higher

education is becoming increasingly more normal, also in groups that before did not partake in higher education, encourages such choices. For women from higher social classes, with mothers who have degrees precisely in areas such as nursing or teaching, it will be more necessary to cross gender boundaries to move even further “upwards”. This is because there are not yet any available female dominated fields that will entail higher social economic and social status than those the previous generation of women were in. These women have then integrated in educations such as law and medicine which have become less gender segregated over time. The results are women moving “upwards and sideways” whilst men still choose relatively male-dominated educations (England 2010, Seehus and Reisel 2017, 290-291).

Based on what has been presented in this sub-chapter it thus seems like socialization, society’s norms, rational choice, and your social background play important parts in influencing educational choices between the genders. I thus present my second hypothesis H2:

*H2: Persistent horizontal gender segregation in higher education leads to horizontal gender segregation in the Norwegian labour market*

### **2.3 The appeal of the public sector for women**

There is a strong predominance of women in the public sector, and men in the private sector in Norway. Numbers from 2019 show that the share of women in the public sector at the time was 70.3 percent and 29.7 percent for men. In the private sector there were 36.7 percent women and 63.3 percent men (Statistisk Sentralbyrå 2019b). Interestingly enough, the hourly wage difference between women and men are reduced when controlling for sectoral placements of the genders (NOU 2008:6; Schøne 2015, 361). This means that part of the gender pay gap can be explained by women and men working in different sectors and demonstrates a need for more research being done on what contributes to the selection of men and women into what sector. What then, makes the public sector so popular among women?

Many scholars have referred to the Scandinavian labour markets as puzzles, and some even as paradoxes. This is rooted in the countries commitment to gender equality, whilst their labour market to a relatively high degree remains gender segregated (Esping-Andersen 1999; Charles and Grusky 2004; Estévez-Abe 2005; Mandel and Semyonov 2006). A theoretical approach that has received great attention is the work done by Mandel and Semyonov (2006) who coined the term “welfare state paradox”. The paradox itself entails that the state in its role as a legislator and implementer of family policies, and in its role as an employer, creates sheltered labour markets for women where their rights are protected and secured. By doing so the welfare state contributes to increasing women’s labour force participation, enhances the economic independence of women and mothers, and strengthens their power within the household and in society at large. However, these state actions do not enhance women’s occupational and economic achievements, since none of them seriously challenges the traditional distribution of market-family responsibilities between men and women. On the contrary, adjusting the demands of employment to women’s home duties or allowing working mothers reduced working hours and long leaves from work are likely to preserve women’s dominant roles as mothers and wives. As such, these interventions impede women’s abilities to compete successfully with men for powerful and prestigious occupational positions. An example of one way in which state-provided benefits can affect women’s occupational opportunities and influence their working patterns is through paid maternity leave. Even though paid maternity leave has paved the way for mothers back to the labour market after giving birth, thus strengthening women’s ties to the labour market, it has also removed many women from paid employment for several months. So even though paid maternity leave



serves as a device through which women's employment rights are protected and secured, a long absence from paid employment may discourage employers from hiring women into positions of authority and power, thus handicapping their ability to compete successfully with men for elite positions (Mandel and Semyonov 2006, 1912).

Institutional arrangements, such as regulations mandating reduced working hours, can further depreciate women's economic outcomes. Part-time employment is a common arrangement that enables women to combine paid employment with unpaid work, such as housework and taking care of children. Consequently, part-time work has become one of the major forms of employment for women in most industrial societies. Part-time employment is not a direct product of states' policies, but it is reinforced by regulation and protected by the welfare state. In Scandinavia part-time employees are entitled to full social benefits, paid vacation, and job security. The allocation of full benefits to part-time workers reflects the state's efforts to encourage and support women's economic activities, whether on a full-time or part-time basis. Although reduced working hours can contribute to decreasing conflict between work and family responsibilities for both parents, women are more likely than men to utilize this option. This is still apparent in Norway, where numbers from 2019 show that there were 14,9 percent men that worked part-time whereas there were 36,3 percent women, between the ages of 15-74 (Mandel and Semyonov 2006, 1912-1914; Statistisk Sentralbyrå 2020).

It is argued that the expansion of the welfare state transferred the gendered division of labour from the private sphere into the public domain. In this process traditional gender roles are perpetuated; women are disproportionately channelled into public service and care roles, while men get hold of jobs with more power that are placed higher in the hierarchy. Hernes (1987) referred to this process in terms of "the family going public" where women have become clients and employees of a highly developed welfare state with a large public service sector. A high concentration of women in the protected public sector and the practice of statistical discrimination by employers are not mutually exclusive but rather interdependent. Women's job preferences are influenced by both employer's behaviour and labour market opportunities. In labour markets where employers are reluctant to hire women to powerful and high standing positions, it is less likely that women would be motivated to compete with men for such positions. On the other hand, a large public service sector, which offers job protection and convenient working conditions, is likely to attract women. It is also important to note that while one cannot distinguish between employees' and employers' preferences,

these two mechanisms are indeed interrelated; their negative impact on women's occupational attainments are expected to be more pronounced in countries with a highly developed welfare state (Esping-Andersen 1990; Mandel and Semyonov 2006, 1915-1917).

In welfare states, the state also in many senses acts as an employer. With the expansion of public social services, many services have been transferred from the private sphere to the state domain. This process has a twofold effect on employment opportunities for women; first, it enables mothers to spend more time on paid work, and second, it provides women with new job opportunities. Moreover, the public-welfare sector offers white-collar and service jobs, many of which are "female-types" service and semi-professional occupations. Additionally, the public-welfare sector offers flexible employment hours and programs that tolerate paid absenteeism. Because of this, the public service sector has become one of the most preferred segments of employment for women. It is precisely the nature of the jobs in the public service sector, and the benefits of these jobs, that seems to channel women in disproportionate numbers into feminine occupational niches and away from lucrative and high standing positions. Feminist scholars have also pointed out that the rise of the welfare state, accompanied by a massive entrance of women into the labour force, did not alter the traditional division of labour between men and women (Estévez-Abe 2005, 203; Mandel and Semyonov 2006, 1916).

The welfare state paradox literature has since received many criticisms, most notably for using questionable indexes and measurements. Essentially the arguments from the critics have been firstly that there is no separating between women who are mothers and women who are not. Obviously generous family policies will not affect all women. Secondly, their key independent variable the "Welfare State Intervention Index" has received criticism for including too many aspects in one index, therefore losing its explanatory power. The index consists of three indicators: the number of fully paid weeks of maternity leave, the percentage of preschool children in publicly funded day-care facilities, and the percentage of the workforce employed in the welfare sector. Therefore it has been encouraged to instead view these indicators separately (Mandel 2012; Ellingsæter 2013; Korpi, Ferrarini, and Englund 2013; Brady, Blome, and Kmec 2020).

The points made by Korpi, Ferrarini, and Englund (2013) regarding class is also of interest. They make suggestions similar to Estévez-Abe (2005) when stating that well-educated

women may find their opportunities reduced in contexts where the earner-carer policy dimension is strong. This also is related to an argument from Mandel and Semyonov (2006) that generous family-policies create a sheltered labour market most suited for less educated women. The states' efforts to facilitate and protect women's work may result in lowering and hardening what is usually referred to in the sociological literature as "the glass ceiling". Women who do not have children and have higher levels of education might find it harder to break through this glass ceiling, because they still can experience statistical discrimination and have better job opportunities in the public sector, than the private. This is supported by Mandel (2012) who took a closer look at implications for women of different classes. According to her, highly skilled women in professional and managerial positions pay a significant wage penalty for working in the public sector. Her findings support the negative implications that welfare state policies have for the economic attainments of advantaged women (Mandel 2012, 253-254).

Nevertheless, the welfare state paradox is a contested explanation with regards to the gender segregated labour market. There have been several studies done in a Scandinavian as well as Norwegian context that rejects that these labour markets are "paradoxes" (Reisel and Teigen 2014; Reisel, Skorge Søråas, and Uvaag 2019; Core Forskning 2020). However descriptive, the explanation can be that because so many Norwegian women are part of the workforce and so many care-tasks have been transferred to the public sector, this gendered structure is not surprising. Women's entrance into the labour force first and foremost happened in areas that were similar to the private unpaid work done in the family (Teigen 2006; NOU 2008:6). The question then must be how long such structures are to take hold in the Norwegian labour market. This will be further discussed in chapters four and five.

Even though the welfare state paradox has its flaws, it is evident that an overwhelming number of Norwegian women work in the public sector (Statistisk Sentralbyrå 2019b). What can be the cause? Much of the focus in the welfare state paradox literature is on generous family policies, but there has been little quantitative research specifically on what effect having children has on especially horizontal gender segregation. One exception, albeit done some time ago, is a study by (Hansen 1995). With panel-data from Norway she follows individuals at two points in time and finds support for the public sector having appeal on women with larger care responsibilities. Schøne (2015) replicates this study to see if the findings still exist. The results are in line with Hansen (1995), women with children have a

higher probability of working in the public sector compared to women without children. This difference also increases when having more children. Women who have three children have almost a 10 percent higher probability of working in the public sector than women who do not have children. Compared to the average share of women without children that work in the public sector in their material, 48 percent, this makes a difference of 13 percent. With regards to men the results paint a different picture. They find small negative correlations between having children and working in the public sector. The results, in other words, do not imply that the public sector has any appeal on men who have children (Schøne 2015, 366).

Schøne (2015) also investigates if this effect is related to time of giving birth or if this selection already is established at a different point in time. Two years after giving birth there is a change in which women with children increase their probability of working in the public sector relative to those who don't have children. Six years after giving birth, mothers have about a 3 percent higher probability of working in the public sector than the women in the public sector who don't have children. The latter made up 40 percent of the women working in the public sector. A change of three percent would mean a relative change of 8 percent. The authors thus claim that having children has a moderate effect on sectoral segregation. When looking at men and numbers of years after becoming a father, there also is a positive correlation, albeit a very weak one. Generally speaking, there is little to no correlation between children and working in the public sector for men (Schøne 2015, 366-368).

There is also the claim that more women than men are expected to and wish to work part-time to take care of the family. In a survey from 15 European countries, it was found that 76 percent of all men wanted to work full-time. Among Norwegian men 66 percent said they wanted to work full time. Among European women 45 percent wanted to work full-time, while 40 percent of Norwegian women wanted to work full-time (Barth and Torp 2001). As mentioned, it might be more attractive for women to work in the public sector because part-time arrangements are preferable over those in the private sector. Schøne (2015) also finds that women that are future mothers have a greater probability of working full-time until they have children. This is thought to be strategic, because it influences how long paid maternity leave one is entitled to. After giving birth, this changes, and these women have a higher probability of working part-time than those who have not given birth. Men who are fathers also tend to work part-time instead of full-time, the tendency is however small (Schøne 2015, 370).

The welfare state paradox literature is contested however, an overwhelming number of Norwegian women work in the public sector. It is difficult to give any clear measure of to what extent having children affects gender segregation, especially between sectors. However, it seems apparent based on numbers and theories presented in this subchapter that it has a clear effect, especially on women. Thus, I present my last hypothesis, H3:

*H3: For women, and especially women with children, the public sector is more attractive than the private sector, contributing to horizontal gender segregation in the Norwegian labour market*

## **2.4 Finishing words**

As has been presented in this chapter there are several aspects to take into consideration when trying to understand gender segregation as a whole, and horizontal gender segregation in particular. These explanations overlap to some degree and should therefore not be viewed entirely separately. The theoretical approaches presented are rather complex. In order to make them more tangible the most important factors from them are sorted into causal mechanisms presented in different tables in chapter five.

## 3 Methodological approach

### 3.1 Case study research

A most important part of all research is what method one chooses to utilize to try to answer one's research question. It is fruitful to conduct large-N studies to be able to talk about trends, particularly regarding to what extent a labour market is gender segregated or not. Without comparison to other similar countries, it would make little sense to talk about how gender segregated the Norwegian labour market is, and what its implications are. However, like Grönlund, Halldén, and Magnusson (2017) mention, it can be wise to unpack certain "packages". Much of the research discussed in chapter two is of a quantitative nature, and often when it comes to research done on gender segregation in the labour market the Scandinavian countries are packed together as one. This is unfortunate seeing that even though the countries share several similarities they also differ, and to understand the effects of say generous family policies one must understand them in the context of the country they have been formed in.

Recalling that much of the criticism especially put forward towards the welfare state paradox research, is regarding not unpacking "packages" and making indexes of variables that possibly should be regarded separately, it seems fitting to research the same subject qualitatively through a case study. In addition, to be able to unpack these so-called packages, it allows the researcher to pay closer attention to what historical events and developments have influenced the current situation (George and Bennett 2005, 5). More precisely, I will make use of a historical analysis together with elements of explaining-outcome process tracing, to explain what has caused horizontal gender segregation in the Norwegian labour market.

There is a great scholarly debate about the definition and meaning behind what a case study is (Gerring 2004), and it is therefore important to be clear about the intent of one's research. The case study approach put simply, is the detailed examination of an aspect of a historical episode to develop or test historical explanations that may be generalizable to other events (George and Bennet 2005, 5). My aim for this thesis is to explain what has caused the gender equal country Norway to have such a horizontally gender segregated labour force. Therefore, it should also be pointed out that most methodological work on case studies understands this

research as a study of cases where the objective is to discover something about a broader population of cases. However, many case studies do not assume this nomothetic goal. The goal can also be to investigate a bounded unit to elucidate a single outcome occurring within that unit. To distinguish this from the usual usage of case studies, this can be referred to as a single-outcome study or a single-country study which is my approach in this thesis (Gerring 2006, 707; Pepinsky 2019).

George and Bennett (2005) identify three main advantages with the case study approach. Firstly, case studies allow a researcher to achieve high levels of conceptual validity, or to identify and measure the indicators that best represent the theoretical concepts the researcher intends to measure. Secondly, case studies examine the operation of causal mechanisms in individual cases in detail. Within a single case, one can look at many intervening variables and inductively observe any unexpected aspects of the operations of a particular causal mechanism. Finally, a third advantage of case studies, is their ability to accommodate complex causal relations such as equifinality, complex interaction effects, and path dependency. It is however important to note that this is a relative advantage, rather than an absolute one. Case studies can allow for equifinality, but to do so they produce generalizations that are narrower or more contingent (George and Bennett 2005, 19-22)

With advantages also comes disadvantages. The most prominent limitations and possible pitfalls of case study research relates to case selection bias, the trade-off between parsimony and richness, as well as the tension between achieving high internal validity and good historical explanations of particular cases versus making generalizations that apply to broader populations (George and Bennet 2005, 22). However, generalization across a broader population might not be the goal when working with a single-outcome study where the main interest lies in explaining a single outcome rather than generate new hypothesis (Gerring 2006). This will be elaborated more on in the part concerning historical analysis and process tracing.

### **3.2 Process tracing and historical explanation**

Process tracing is a method used when researchers want to go beyond merely identifying correlations between independent variables (Xs) and outcomes (Ys), and is a method often used when conducting case studies. Put simply, one wants to answer the generic question,

“What Xs caused Y in case Z?”, and the way to do this is through examining and testing hypotheses to discover what causal processes lead to a certain outcome. Process-tracing is commonly defined by its ambition to trace causal mechanisms. Studying causal mechanisms with process-tracing methods enables the researcher to make strong within-case inferences about the causal process whereby outcomes are produced (Beach and Pedersen 2013, 1-2; Mahoney 2015, 201-202).

Process-tracing is often viewed as being *one* method, but scholars Beach and Pedersen (2013) identify three variants of process tracing, theory-testing process tracing, theory-building process-tracing, and explaining-outcome process tracing. Theory-testing process tracing is used when one knows what A and B are, and one thinks there is a causal link between the two. Theory-building process tracing is used when one knows B but does not know A, there is an outcome that one knows of, but one does not know what caused it. Lastly, explaining-outcome process tracing is used when one is interested in *fully* explaining why B happened (Beach and Pedersen 2015, 2). Since I am inspired by explaining-outcome process tracing I will explain this in more depth.

Explaining-outcome process tracing attempts to craft a minimally sufficient explanations of a puzzling outcome in a specific historical case, with sufficiency defined as an explanation that accounts for all the important aspects of an outcome with no redundant parts being present. This is also referred to as the most case-centric variant of process tracing. Explaining-outcome process tracing is less interested in testing or building mechanisms that are applicable across a range of cases. It is rather an iterative research strategy that aims to trace the complex conglomerate of systematic and case-specific causal mechanisms that produced the outcome in question. The explanation cannot be detached from the particular case. In this case theorized mechanisms are seen as heuristic instruments whose function is to help build the best possible explanation of a particular outcome (Beach and Pedersen 2013, 18-19). This means that I will attempt to craft a minimally sufficient explanation for what caused the horizontally gender segregated Norwegian labour market. To help explain this, I will combine a historical analysis with uncovering causal mechanisms that work between X and Y.

This type of process-tracing can confirm or disconfirming the minimal sufficiency of a mechanism in a single-case study. However, one must be careful with drawing conclusions for a broader population given the context-sensitivity this type of inquiry gives. The ambition



is rather to account for particularly puzzling outcomes. Explaining-outcome process tracing might resemble historical scholarships, and scholars such as Mahoney (2015) elaborates on the wide use of historical explanations together with process tracing. Historical explanation is here referred to as identifying causes of outcomes that have already occurred. These explanations are usually composed of sequences of events or causal chains in which factor located at different points in time contribute to an outcome (Mahoney 2015, 202).

With historical explanation it is typical that one explains an outcome by appealing to events that unfold over time by making references to sequences of linked causal factors. This type of sequential analysis often identifies critical junctures when certain choices or events occurred that set the unit of analysis down long-run trajectories of change. The expansion of the welfare state during the 1970s as well as the rising women's movement are examples of such critical junctures in Norway. Mahoney also states that this type of analysis might call attention to what is referred to as path dependent processes of change. This is something I will make use of in my analysis, seeing that it is highly relevant for understanding why it is so difficult to desegregate the Norwegian labour market (Mahoney 2015, 204-205).

Path dependence is characterized by the fact that previous events in a process characterizes further development due to a combination of a set of mechanisms. The perhaps most intuitive mechanism is that it is costly to "change paths". There are advantages connected to carrying on like one is used to, and these advantages increase over time. This is also referred to as increasing returns. Humans seem to prefer the status quo rather than change. Each step taken along a path thus produces consequences that makes said path more preferable for each step taken. The effect of each step in addition has a tendency to increase over time through a circle of self-reinforcing events, also referred to as positive feedback (Pierson 2000, 253; Reisel 2014a, 40).

Also relevant concerning path dependency is the importance of the time of an event as well as the order of events that have taken place. One can discern between events that create change and periods where different paths are enhanced or consolidated. In addition to this, path dependency brings about three important insights for my thesis. Firstly, that other alternative outcomes could have been possible given other alternative historical events. What seems to be random historical events can have potentially great importance over time. Secondly, the combination of large or small historical events, slow change, and self-reinforcing processes

can maintain dysfunctional societal structures. Thirdly, one should be cautious to claim that an outcome is inevitable, natural, superior, or well-functioning just because it has been sustained over time (Pierson 200; Reisel 2014a, 40). This will be brought back up and discussed further in chapter six.

### 3.2.1 Testing hypotheses

It is common in process tracing to use different types of tests to figure out which of one’s hypotheses can be confirmed or disproved. There are four such tests developed by Stephen Van Evera (1997, 31-32). The different types of tests are presented in the following table.

*Table 1 Hypothesis tests in process tracing*

		<i>Sufficient for affirming causal inference</i>	
		No	Yes
<i>Necessary for affirming causal inference</i>	No	<b>1. Straw-in-the-wind</b> <b>Pass:</b> Affirms relevance of hypothesis, but does not confirm it <b>Failing:</b> Hypothesis is not eliminated, but is slightly weakened	<b>3. Smoking-gun</b> <b>Passing:</b> Confirms hypothesis <b>Failing:</b> Hypothesis is not eliminated, but is somewhat weakened
	Yes	<b>2. Hoop</b> <b>Passing:</b> Affirms relevance of hypothesis, but does not confirm it <b>Failing:</b> Eliminates hypothesis	<b>4. Doubly decisive</b> <b>Passing:</b> Confirms hypothesis and eliminates others <b>Failing:</b> Eliminates hypothesis

*Source: Collier 2011, 825*

The easiest test to pass is the “Straw-in-the-wind” which can neither confirm nor reject hypotheses. A “Hoop-test” is somewhat more demanding, and has more relevance, but cannot confirm a hypothesis. It can on the other hand reject hypotheses. “Smoking-gun” can confirm hypotheses, but not reject them. It can however weaken hypotheses’ relevance and is

therefore a good test. The last test is called “Doubly decisive” and is the only test which can both confirm and reject hypotheses (Collier 2011, 825-827). The reason for using such tests is to be able to make causal inferences about the theoretical hypotheses one has developed with a greater certainty.

Even though smoking gun and doubly decisive tests are the best tests to pass, they present several challenges. Smoking gun tests are highly unique but have low or no certainty in their predictions. Passage strongly confirms a hypothesis, but failure does not strongly undermine it. A smoking gun in a suspect’s hands right after a murder strongly implicates the suspect, but if there is no gun, the suspect is not exonerated. Employing this type of test is a high-risk strategy given that a small likelihood ratio usually implies relatively improbable evidence. If no evidence is found, it is not possible to update any confidence in the validity of any hypotheses. In other words, if no smoking gun is found the test is useless (Beach and Pedersen 2013, 104).

Doubly decisive tests combine both certainty and uniqueness. If evidence is not found, confidence in the validity of a hypothesis is reduced; at the same time the test discriminates strongly between evidence that supports the hypothesis and alternatives. In a criminal trial, a doubly decisive test could be the tape of a high-resolution surveillance camera from the scene of a crime. The prediction that the suspect should be identifiable in the tape is relatively certain, for if the expected evidence (suspect captured on the tape) is not found (and the tape has not been tampered with), one can with reasonable confidence conclude that the suspect is innocent. Further, if the tape shows the suspect committing the crime, this test confirms guilt unless there is evidence suggesting that the suspect was acting under duress (high uniqueness) (Beach and Pedersen 2013, 104).

Doubly decisive tests are ideal. However, in real-world social science research, it is almost impossible to formulate predictions in such a manner given the difficulty of finding and gaining access to the type of empirical evidence that would enable such a test. Furthermore, inverse relationships often exist between the uniqueness and certainty of tests in that the more unique the empirical prediction is, the less likely it is to find evidence for it, and vice versa. When it comes to choosing between certainty and uniqueness, it is suggested to prioritize certainty over uniqueness in process tracing tests. Each part of a causal mechanism should be seen as individually necessary. When operating with what are in effect single-case studies for

each part of a mechanism, one needs to design tests that have a relatively high degree of certainty, since the absence of the evidence of a certain prediction allows us to infer with a reasonable degree of certainty that the part of the mechanism was not present. Hoop tests are in this situation the best test to make use of, because it allows us to either completely reject a hypothesis or strengthen its relevance but not confirm it (Beach and Pedersen 2013, 104; Mahoney 2015).

Based on this argumentation I will stick to conducting hoop tests for my hypotheses. How does one then carry out such a test? Normally, one begins with the hypothesis  $X \rightarrow Y$ , then one starts by asking questions such as did both X and Y actually occur? Did X occur before Y? was it theoretically possible for X to affect Y? If the answer to any of these questions is “no”, then the hoop test has not been passed and must be rejected. To pass a hoop-test the variable must be either necessary or what Mahoney refers to as INUS<sup>2</sup> variables. These are variables that are neither necessary or sufficient alone but when interacting with other variables become sufficient for an outcome (Collier 2011, 826; Mahoney 2015, 208). If the hypothesis passes these preliminary hoop test, then one can begin to investigate the mechanisms that might link X and Y. By adding the mechanisms that I propose exist between X and Y in each of my hypotheses, the hoop tests become increasingly harder to pass. The tests in process tracing are often compared to a detective trying to solve a murder case. With regards to the hoop test the question could be “was the accused in the state on the day of the murder?”. If this hoop test is falsified the accused was not the murderer. Likewise, if one or more of the mechanisms I propose exist between X and Y are not present, the hoop test has failed (Mahoney 2015, 209-210).

My analysis is separated into a historical explanation followed by my process tracing approach where I will test my hypotheses. Given that my methodological approach is to combine elements of process tracing and historical explanation to explain a specific outcome in a specific case, I will search for INUS conditions when testing my hypotheses. After checking if my hypotheses pass the preliminary hoop test, I will check to see if each of the relevant mechanisms for a given hypothesis is able to “jump through the hoop”. Lastly, I will try to link all three of my hypotheses together given the “path dependent” nature of my approach.

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<sup>2</sup> An insufficient but necessary part of a condition, which is itself unnecessary but sufficient for the result

### 3.2.2 Causality and mechanisms

Some of these methodological concepts need more elaboration, especially when using process tracing. Two that are frequently mentioned are causality and mechanisms, often together as a *causal mechanism*. A minimal definition of causality states that to say that a factor, X, is a cause of an outcome, Y, is to say that a change in X generates a change in Y relative to what Y would otherwise be, given certain background conditions and scope-conditions (Gerring 2012, 199). The common challenge concerning causality is that it often is confused with correlation. It is important to discern between a causal connection and correlation between variables. As described above, the effect “travels” one way, that is from X to Y, and it is precisely this direction of the effect(s) that allow us to speak about causality. If there is only a correlation between variables, it is difficult to say anything about which way the effect is “traveling” (Gerring 2012, 153, 199). It is because of this common challenge that case studies can be particularly useful, seeing that they can uncover such causal connections and not just correlation between variables (George and Bennett 2005, 141).

When discussing causality, the concept of mechanisms is often brought up. George and Bennet define causal mechanisms as “ultimately unobservable physical, social, or psychological processes through which agents with causal capacities operate, but only in specific contexts or conditions, to transfer energy, information, or matter to other entities.” (George and Bennett 2005, 137). This means that causal mechanisms are the underlying factors that contribute to create an effect between X and Y. Implicit in process-tracing is a mechanistic understanding of causality. The defining feature of this is that we are interested in the theoretical process whereby X produces Y and in particular the transmission of what can be termed causal forces from X to Y. This does not necessarily imply regular association, a mechanism can be infrequent. What is necessary, is that X actually produces Y through a causal mechanism linking the two. The focus in this mechanistic understanding of causality is the dynamic, interactive influence of causes on outcomes and in particular how causal forces are transmitted through the series of interlocking parts of a causal mechanism to contribute to producing an outcome (Beach and Pedersen 2013, 26).

It is important to understand that causal mechanisms are more than just empirical events or intervening variables. Causal mechanisms must be understood as a type of system where X contributes to producing an outcome. When the purpose of an analysis is to craft a minimally

sufficient explanation of a particular outcome such as in this thesis, one almost always needs to combine several mechanisms into an eclectic conglomerate mechanism to account for a particular outcome. Cases are too complicated to vindicate a single theory, so scholars working with explaining-outcome process tracing are likely to draw on a *mélange* of theoretical traditions in hopes of gaining greater purchase on the case they care about. Further, to explain a particular outcome, it is usually necessary to include non-systematic parts in the causal mechanism, defined as a mechanism that is case-specific, such as for example historical events (Beach and Pedersen 2013, 32, 34-35).

There are many ways to go about the selection of causal mechanisms to include in an analysis. Common for all process tracing, and especially so for explaining-outcome process tracing is a deep knowledge about the case one is analysing. Mechanisms should be seen as empirical manifestations of the most important parts of the theoretical framework. They should focus on measuring the activities of entities that transmit causal forces (Beach and Pedersen 2013, 166). Based on this I have through careful reading of academic literature as well as empirical findings, attempted to discover mechanisms that transmit causal forces in each theoretical approach and placed them between X and Y in each of my hypotheses. Hypothesis testing in qualitative methods might not be as rigid as in quantitative approaches. Therefore, I will after the hypothesis testing is done focus on explaining the relationship between all the causal mechanisms presented. This is done to better explain and discuss what *must* be present to explain what has caused horizontal gender segregation in the Norwegian labour market.

### **3.3 Sources and data**

The sources and data utilized in my thesis are of a varied nature, and for most of the part consist of academic articles, surveys, and official Norwegian reports (NOU), as well as reports from different Norwegian research institutes. Some of the most central data are several reports from Institutt for Samfunnsforskning and Fafo. Equally important are particularly two official Norwegian reports from 2008 (NOU 2008:6 2008) and 2012 (NOU 2012: 15 2012) respectively. These include some of the most encompassing empirical findings and discussion about gender segregation both in higher education and the labour market, as well as the wage gap, in Norway. It has been important for me to find sources and data that are specific to Norway, given that many theoretical approaches take on a broader approach referring to for

example all countries in the Western world. To make my statements more tangible, I have also spent much time on finding relevant descriptive statistics from Norway. This might be graphs depicting how many women are in the labour force in Norway in a given year, or the kindergarten coverage in Norway. All these graphs are from credible sources such as SSB (Statistisk Sentralbyrå), NAV, and some are from academic articles. It is important to note that my sources are secondary sources in form of precisely academic articles, books, and research reports that I must interpret and assess. There exists a wide plethora of theoretical and methodological approaches to explaining gender segregation, choices made in this thesis as to what is most relevant are made by myself after attempting to make myself known with the most acknowledged literature.

### **3.3.1 Document analysis**

Document analysis is a thorough and systematic review of the content of various types of documents (Grønmo 2016). All sources that have been chosen for this thesis have been chosen because of their ability to highlight different aspects of my research question. I have categorized my data after the three different hypotheses to be able to review them effectively. To minimize the possibility of errors in my data I make use of data triangulation. This means that I am using multiple sources or data types to measure the same the same concept for a single unit (Blatter and Haverland 2012, 68). This is done so that can acquire as good information as possible. By using a wide variety of different sources as well as process tracing and historical analysos within the framework of a case study, the hope is to be aware of and minimize potential weaknesses the data might have as well as the limitations of the method. It should be noted that research on gender segregation in the labour market has been of scholarly interest for quite some time, but much research does not, as I have pointed out previously, have a qualitative focus and cluster together countries that are relatively similar. Therefore, it has been important to me to start with more general theories developed outside of Norway with a larger recognition, before focusing on more specific research done particularly in Scandinavia and Norway. It has also been of importance that books come from recognized authors and that articles are published in well-known, peer reviewed journals. However, my own interpretations and limitations can influence the understanding of the data.

### 3.3.2 Validity and reliability

Every researcher strives for high validity and reliability in their work. The validity of findings or data is traditionally understood to refer to the “correctness” or “precision” of a research reading. In other words, one aims for high validity to avoid measurement errors. It is common to discern between internal and external validity, where the former refers to the extent to which causal statements are supported by the study. The latter refers to the extent to which the study’s findings can be generalised to a population and/or to other settings (Gerring 2012; Lewis et al. 2014, 356). Reliability on the other hand, considers the precision of what one wishes to research. Does one measure what one wishes to measure? Measures must be clear and precise if the study is to be replicated later (George and Bennet 2005, 106; Gerring 2012, 159).

Reliability is often tied to replicability. There however are discussions surrounding the goal of replicating qualitative studies, particularly because of the complexity of the phenomena being studied and the inevitable impact of context. Replicability should however not be ignored all together in qualitative research, especially if one wishes to develop new theories that can be generalized across cases. This is as previously mentioned, not necessarily the goal in explaining-outcome process tracing. What instead should be considered, is related to considering whether the data have been consistently and rigorously interpreted. Thus, reliability of findings depends on the likely recurrence of key features of the data and the integrity with which they have been classified (Lewis et al. 2014, 355-356).

As Gerring (2007, 184) states, “process tracing evidence is, almost by definition, difficult to verify, for it extends to evidence that is nonexperimental and cannot be analysed in a sample-based format”. He therefore suggests two answers as to how to secure the validity in this research design: 1) clarify the argument, with all its attendant twists and turns, preferably with the aid of a visual diagram or formal model and 2) verify each stage of this model (Gerring 2007, 184-185). I have taken the remarks regarding validity and reliability into account by adding several figures presenting mainly descriptive statistics in the historical explanation part of my analysis. In the hypothesis testing part of my analysis, I have created tables and figures illustrating how the mechanisms are supposed to work between X and Y as well as a figure illustrating how all the causal mechanisms are connected. Data triangulation is as mentioned used to minimize errors in my data.



### 3.3.3 Finishing words

Thus, my methodological aim for this thesis is to combine a historical analysis with elements of explaining outcome-process tracing. In the historical analysis I identify critical junctures leading to and sustaining horizontal gender segregation in the Norwegian labour market. My starting point is the 1970s, which can be deemed a critical juncture because of the rising women's movement at the time, as well as the expansion of the welfare state. Through chapter two I have identified three theoretical approaches for explaining gender segregation, which are also the basis of the hypotheses I will test in the second part of the analysis. My methodological approach might differ from traditional process tracing because I do not present competing hypotheses so to speak. This is however intended because, as mentioned, I seek a more historical narrative seen together with a path dependent logic. Explaining-outcome process tracing elements are however still chosen, because it is fruitful to investigate the mechanisms that exist between X and Y. To put it simpler, my aim is through the next chapter to present a "story" of important developments in Norway, and through hypothesis testing check to see if this "story" is able to explain what has caused gender segregation in the Norwegian labour market. It is both difficult to identify, and unlikely that there is *one* explanation for labour market gender segregation in Norway. Therefore, my hypotheses are intended to present a more sequential logic as opposed to a competing one. I therefore argue that a combination of historical analysis and explaining-outcome process tracing elements where hoop tests are used is the best way to answer my research question.

## **4 The Norwegian case**

This chapter represents the historical analysis of my thesis. This is both to explain an outcome by appealing to events that unfold over time (Mahoney 2015, 204-205), as well as to present the context for the analysis of my hypotheses. It is in this part I will identify certain choices or events that can be characterized as critical junctures, and that must be considered when trying to answer my research question. I will begin the chapter with some elaboration on what is referred to as the era of the housewife. This and some other historical events presented in the chapter date back further than 1970 but must be added in order to fully understand the historical development in Norway which is relevant for explaining what has caused horizontal gender segregation in the labour market. The historical developments presented follow the same structure as chapter two. After presenting the changing role of the housewife I will give an overview over the current picture. Following this I will present developments in higher education before closing off with developments regarding the public sector and family policies.

### **4.1 The changing role of the housewife**

Norway with its past as an agrarian society, has always been gender segregated when it relates to where men and women work. A very simplified historical overview of Norway from the 1950s to the 2020s tells a story about women leaving the role of the housewife behind and becoming a stable part of the labour force. The first decades after the Second World War have been referred to as the period of the housewife in a Norwegian context. For a couple of decades over half of all adult women had their homes as their only or most important workplace. The word housewife was the definition of a married woman in the period between 1945-1970. It is however important to mention that not everybody was a fulltime housewife. There were married peasant women as well as working women, who usually became full time housewives after having their first child (Hagemann 2015a).

One reason for there being so many housewives in this era was the young population in the 1940s, almost half of it being between 16 and 44 years old. A large share of this population married, also at an early age. In the 1950s the average age of a bride was 23 years old. This resulted in a baby-boom starting in the mid 1940s and lasting until after the 1960s. In 1946 there were born more than 70 000 children in Norway, a record still to be broken. In the post-

war-period the housewives alone had the responsibility for housework and tending to children, and even more so than previous generations. Housekeepers were on their way out, and so was the tradition of having unmarried relatives helping around the house. It was difficult for a normal family to get their children enrolled in kindergartens, and there were few of them. Housework was heavy work, goods such as electricity and running water was sparse in many villages (Hagemann 2015a).

The work of the housewives most definitely was important work. What women did at home made everyday life easier for children as well as for the breadwinner. Indeed, many women found it relieving not having to engage in paid work together with the strenuous tasks they had in the home. However, the life of a housewife was not unproblematic, they were financially dependent on their spouses and very vulnerable should the marriage end. With time the lack of workers grew larger in Norway, but for many it remained important that the married women were given the opportunity to stay at home. For instance, the Norwegian Labour Party (Arbeidpartiet) had as a goal that families with children should be able to make do with one income. Tax policies became the most important instrument for making this possible also for the average family. As the housework started to become easier and children older, more and more women wanted jobs outside of the home and especially the opportunity to make their own money. However, the housewife friendly tax policy for a lot of women at this point became an obstacle. This was because few women made enough money themselves to compensate for the effects of tax progressions and tax deductions for having children (Koren 2013; Hagemann 2015a).

It was during the 1970s women entered higher education and the labour force in large numbers. Daughters of the post-war-period were now becoming adults and wanted change. The new feminism was an international generational revolt influenced by post-war prosperity. This movement saw its beginning in the United States, but quickly spread to other Western countries. The first new-feminist groups in Norway came to in 1970, before the now well-known Women's front (Kvinnefronten) was established in 1972. During the same decade as the new women's movement developed in Norway, there was also a female revolution in higher education and labour. There was a shortage of labour especially in the care and administrative sectors. The occupations placed here in many ways resembled what women had done for free in the home ranging from teaching to nursing. The women's uproar seemed like a protest against the post-war housewife society, but this type of society was already in

the process of being dismantled. The women’s movement demonstrated for the opportunity of combining work with having a family, for the right to control when and if they would have children, and for equal opportunities for political representations and leader positions (Benum 2015; Hagemann 2015b).

### 4.2 The current picture

After understanding somewhat more about the transition from Norwegian women being housewives to gradually becoming a part of the labour force, it will make sense to look at the current picture. Labour markets in all industrialized countries have a somewhat gender segregated structure, exemplified by the female health worker and the male machine operator. The Norwegian labour market itself is first and foremost characterized by a low degree of unemployment and a relatively high degree of employment amongst both men and women. The labour market is very stable with both a high job security and a solid social security system managing sick leave and unemployment. This became evident during the 2008 financial crisis, which Norway recovered from relatively steadily compared to other OECD<sup>3</sup>-countries (Reisel 2014a, 31).

Norway, as well as the other Nordic countries, is characterized by a high degree of occupational participation of women. About half of the employed population in Norway are women, and Norway has the second highest occupational participation of women among the OECD countries. Only Iceland has a higher number. It was during the 1970s that Norwegian women really entered the workforce, and the big change was that married women with children entered the work force. This growth of women in the workforce continued through the 1980s, particularly amongst mothers of young children (Jensen 2004; Reisel 2014a 31). Throughout the 2000s the occupational participation has been relatively stable as can be seen in table 2. Persons included are between the ages of 15-74.

Table 2 Persons in the Norwegian labour force over time, percentage

	1973	1983	1993	2003	2013	2020
Women	44	46	59	66	66	65
Men	77	76	69	73	71	70

Source: AKU, Statistisk Sentralbyrå 2021

<sup>3</sup> Organisation for Economic Co-operation and Development

The table, based on labour force surveys, shows that the share of women in the labour force has increased heavily the last 50 years. At the same time there has been a small decline in the share of men in the work force that can be connected to earlier ages of pension and longer time spent in education, as well as men being hired in industries more sensitive to changes in the economy. However, even though women's and men's participation in the labour force has started to become more equal there still are three main differences between the two gender's adaptation to the labour force: that women and men work in different sectors, industries, and professions, that men to a larger degree than women are leaders, and that women to a larger degree than men work part-time (Jensen and Sletvold 2019, 14-15).

It has been claimed that Norway has one of the most gender segregated labour markets in the industrial world (NOU 2008: 6, 40). This is however no longer entirely the case. As can be seen in figure 1, Norway is now one of the least gender-divided countries in Europe, when measuring gender segregation using the Duncan index. Recall that for there to be a perfect gender integration in the workforce there must be a score of zero (Duncan and Duncan 1955). However, Norway with a score of approximately 0.5, is still very much characterized by both a vertical and horizontal gender division. What this means essentially is that the labour markets in Europe as well as The United States are very gender segregated. Even though the Norwegian labour market no longer stands out as having one of the *most* gender segregated labour markets in Europe, the division is still considerable. A score of 0.5, means that if the labour market is to be completely gender integrated, almost 50 percent of all men and women in Norway would have to change their profession. What however must be mentioned is that figure 1 only presents paid labour, what jobs are done in and outside the labour market varies from country to country. The pattern would be clearer if unpaid care-work was included. Countries with lower female participation in the labour force, are also more segregated (Reisel, Skorge Søråas, and Uvaag 2019, 12-15).

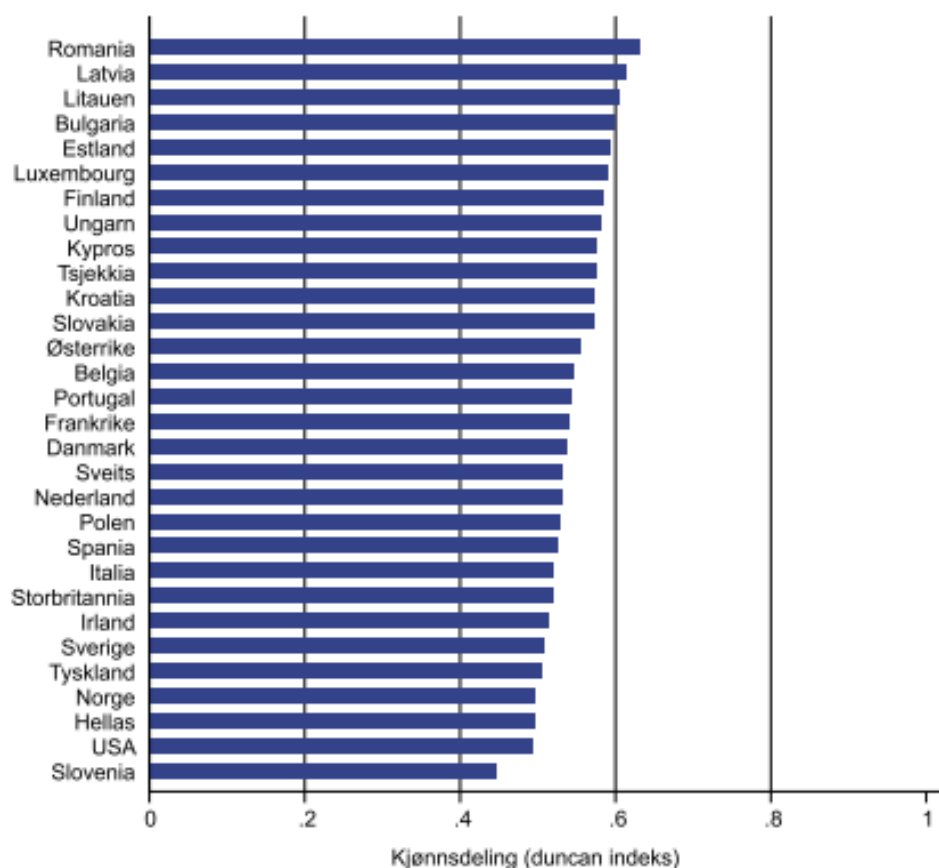


Figure 1 Gender segregation in Europe and The United States as of 2014

Source: Reisel, Skorge Søråas, and Uvaag 2019, 14

With regards to vertical segregation and the current situation, there is a considerable male dominance in leader positions in the Norwegian labour market. Amongst the leader positions in the 200 biggest companies in Norway only 22 percent are women. When it comes to the top leaders in said companies, the share of women sinks to 10 percent. There are few female top leaders particularly in the business sector, and the changes over time seem to move slower here. In NGO's<sup>4</sup> half of the leaders are women. In larger and medium-sized businesses only 27 percent of leaders are women. Given that women now perform better than men in school and are overrepresented in higher education it should be questioned why more women are not recruited into leader positions (Teigen and Reisel 2017; Reisel, Skorge Søråas, and Uvaag 2019, 16).

With regards to the horizontal segregation and the current situation, almost everyone in Norway works in a gender segregated occupation. Only 15 percent of those who are

<sup>4</sup> Non-governmental organizations

employed in Norway work in what is referred to as gender integrated professions. Gender segregation in the labour market has consequences for the gap in both pay and working hours for men and women, as well as contributing to skewing career opportunities. The male dominated and female dominated professions also differ from each other. One of the reasons why there is a significant horizontal gender segregation in Norway is because there are relatively few men that work in the largest professions such as primary teacher, nurse, or as health professionals (Barth et al. 2013; Reisel, Skorge Søråas, and Uvaag 2019, 16-17).

It is also interesting to note that the gender segregation is lowest amongst those who are about 30 years old. After this, the segregation gradually increases towards the age of retiring. This is because older workers often have chosen more traditional professions than younger workers, and that the gender segregation increases over time also for the younger workers. The latter might be explained by mothers and fathers choosing differently when their children are toddlers, which ends up having consequences in their later work life. In addition to this, the gender segregation becomes smaller for each generation (Reisel, Skorge Søråas, and Uvaag 2019, 17-18).

The pay gap between women and men is not at the core of this thesis but is connected to gender segregation in the labour market. Because of the strong increase in women's participation in the labour force as well as in higher education the last 40 years, there has been a sharp decrease in the hourly wage differences between women and men. This does not mean that the gender pay gap between women and men in Norway has been closed, and research has shown that the reduction of the gender pay gap in Norway has stagnated somewhat since the 1980s (Østbakken Misje, Barth, and Schøne 2014, 205).

In 2020 women earned 89 NOK per each 100 NOK men earned looking at the labour market as a whole. An important explanation for this is that men and women in Norway work in different sectors, businesses, and occupations, where men work in occupations which on average pay more. The pay gap is somewhat lower between women and men in the public sector than in the private sector. This is because wages in the public sector have a stronger connection to formal qualifications, occupations, and position, and thus are lower than in the private sector. It must therefore be acknowledged that equal pay in the public sector, is related to the low wages in female dominated occupations seeing that the two overlaps. The reason for the wages being lower thus are twofold: the value ascribed to female dominated

professions is often lower than the male dominated ones. Secondly, the way wage negotiations in Norway are organized makes the pay differences between the sectors stagnant. Here negotiations are done in the private sector before the public sector. This result creates a norm for further tariff discussions in the public sector. The reason behind this is to make sure that the pay growth in Norway isn't larger than the competitive industries can take. This model of wage negotiations is an obstacle for adjusting the pay in female dominated occupations that are overwhelmingly represented in the public sector (Core Forskning 2020).

### **4.3 Developments in higher education**

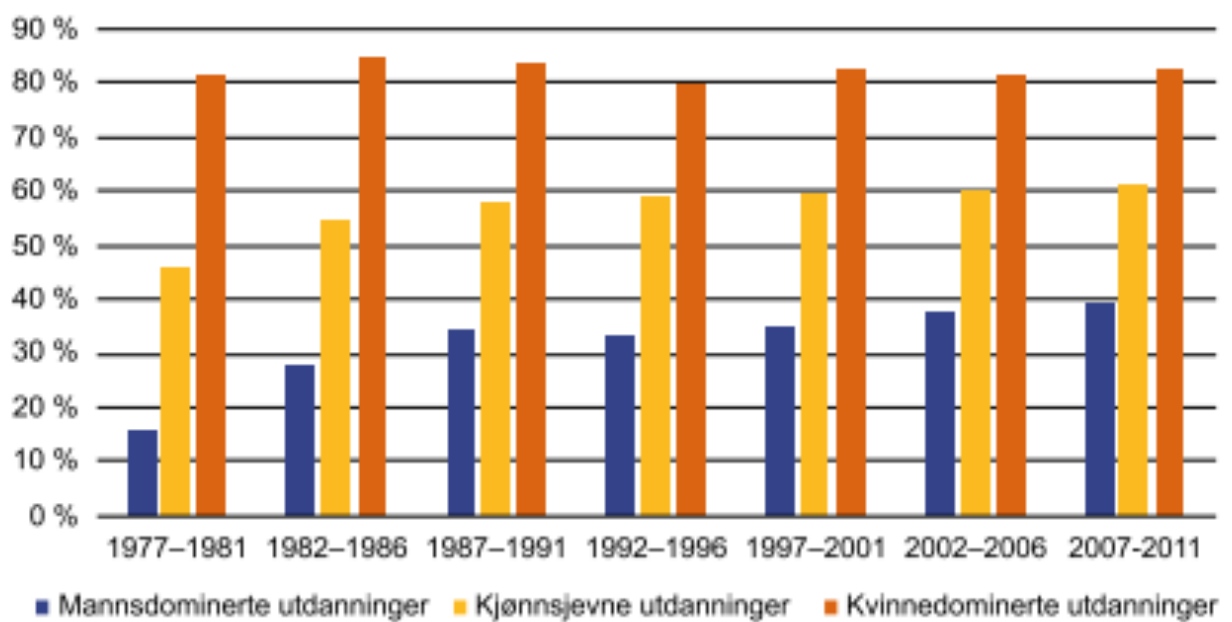
An increasing focus on all members of society having the same access to education is a most central part of the expansion of the Norwegian welfare state. Likewise, the increased level of education among the public is a central change in the Norwegian society. This development started already in the 1950s and 1960s, but especially rose during the 1970s. This must be seen partly as a result of a development in welfare arrangements, and partly as a consequence of the “new” labour market that developed at the same time. During the era of traditional industry, higher education was not always necessary. In the unskilled industrial jobs, young men without any higher levels of education than primary school could acquire jobs. This was not the case in the post-industrial labour market. Therefore, there has been a strong increase in workers' level of education over the last decades. Traditionally, geographical place of residence, social background, and gender played important roles in explaining who applied for higher education. This has also changed over the last decades, especially regarding where you live and gender. There still is a considerable divide as to which gender chooses what (Jensen 2004, 74-75; Brekke and Reisel 2013; Seehuus and Reisel 2017).

The desegregation that has taken place in the labour market is strongly connected to women's entrance into higher education. Figure 1 illustrates the development in male dominated educations (blue), gender-integrated educations (yellow), and female dominated educations (orange) over time. The male dominated educations had a mean average of 16 percent women during the end of the 1970s. This changes significantly during the period presented in the figure, and the share of females in such educations today is about 40 percent. This is particularly due to the increase of women in educations such as medicine, psychology, law, and economy. There has also been a considerable increase of women in the engineering educations. All over the gender-even educations are still even. When it comes to the female



dominated educations, the share of women during the period remains stable. Men have not to the same extent as women chosen non-traditional. It is however important to note that there has been a strong increase in the total number of students during the last 50 years, so that even though the share of men in the female dominated studies are the same, the *number* of students have almost doubled. In other words, both men and women undergo more female dominated studies than before (Seehuus and Reisel 2017; Reisel, Skorge Søråas, and Uvaag 2019, 14-15).

Figure 2 Gender divided educational choices over time

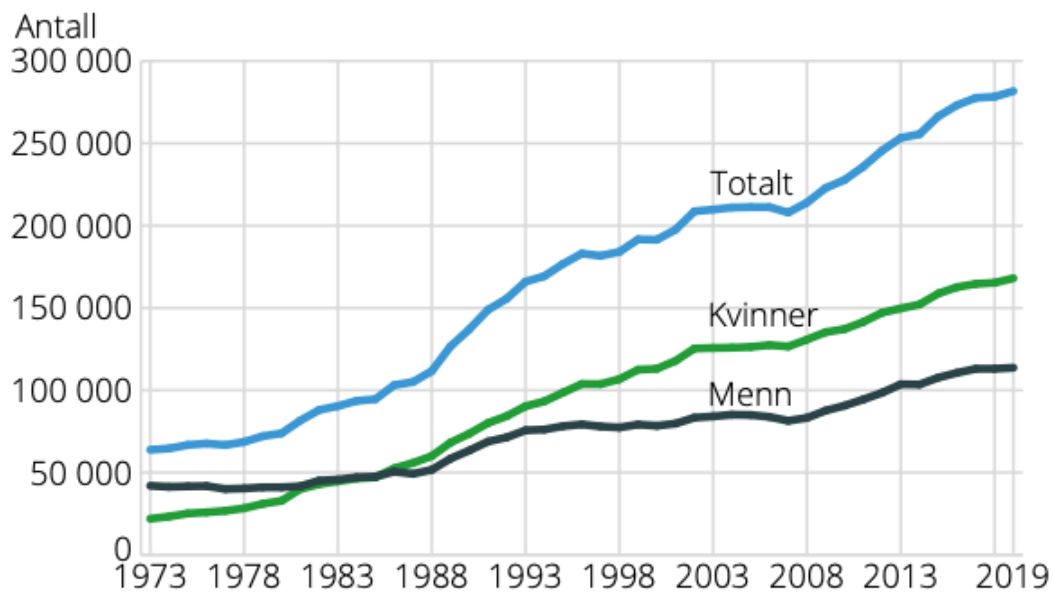


Source: Reisel, Skorge Søråas, and Uvaag 2019, 15

During the mid 1980s, for the first time ever, there were registered more women than men in higher education in Norway. Since then, the number of students has increased heavily, and more so amongst women than men. As an example, 60 percent of all students in Norway were women in 2011. During the last 20-30 years the explosion of students in higher education has stabilized and even though the gender segregated patterns in choice of education are changing, the biggest changes happened at an earlier point of time. This development is illustrated in figure 3. High status educations like medicine and law have gone from being gender-even to being female dominated during the last 30 years whilst the previously extremely female dominated educations such as pre-school teacher has gained a considerable number of men. Still, given this development women are heavily overrepresented in health-

and social work educations, and underrepresented in science- and technical educations. It appears to be developments towards gender equalization in the male dominated rather than the female dominated educations. In 2013 there were almost twice as many young women as young men with low-educated parents who were students in Norway. Amongst those with the highest educated parents, there were only 20 percent more women than men in higher education. This difference is connected to the fact that girls on average have better grades than boys (Brekke and Reisel 2013, 11-12).

Figure 3 College and university students over time<sup>5</sup>



Source: Statistisk Sentralbyrå 2020b, 16

<sup>5</sup> Exchange students are not included. Persons in doctoral degree programs are not included (Statistisk Sentralbyrå 2020b, 15)

#### **4.4 From an industrial to a post-industrial society**

When trying to understand the large welfare state that exists in Norway today, one must consider changes made especially after the second World War. During the decades after the second World War had ended, Norway developed from being an industrial society to becoming a post-industrial society. In addition, there was a large expansion of the welfare state which had consequences for the labour force. It is often considered to be a divide between the 1950s-1960s and the 1970s in Norway. The first post-war decades were characterized by stability, economic growth, and industrial expansion. The 1970s on the other hand are characterized by important changes, both regarding the economy as well as culturally. Regarding the economy, the industry had to give way to the oil. Culturally there were several elements of radicalization during the 1970s, both regarding the environment and especially the women's movement. The change in women's roles was perhaps the biggest societal change in the 1970s, they entered the labour force as well as politics, and entered higher education to the same degree as men. Something that also stood out during this decade was that married women to a greater extent started working. This created a need for both family policies as well as gender equality policies (Jensen 2004, 64; Benum 2005).

In Norway the State played a most central role in industrial reconstruction after the World Wars. The national objectives were fast economic growth and modernization, which entailed a focus on developing the industry. The oil crisis of 1973 was an international sign of crises across Western countries, but already at the end of the 1960s one could see the contours of the weakening of traditional industry. The 1970s were characterized by rationing and outsourcing production to the developing world. The results of this were a large reduction in industrial employment in the traditionally industrialized Western countries. In a Norwegian context there were particularly two factors that became especially important during this time: oil, and the State's role in reconstructing the industry. During the oil crisis hopes of large future oil revenues made it possible to counter the crisis with an expansive economic policy. After realizing that this crisis was not of a short manner, the attitude shifted towards acceptance of restructuring, as well as aiming for more market focused policies. Because of this, industrial employments were once again heavily reduced during the 1980s. However, there were still political goals about full employment and equal welfare services to all. As opposed to the 1950s and 1960s full employment was also meant for women from the 1970s and onwards (C. J. Hansen and Selstad 1999; Jensen 2004, 64-65).

In the 1970s the economy was characterized by a stable growth due to revenues from oil. However, in the 1980s there were greater economic fluctuations. The economic downturn in the 1980s and 1990s produced the most serious economic crisis in the Norwegian economy since the interwar period. In 1993 the unemployment rate reached 8,5 percent before the economy turned and started growing again. During the 1970s however, was a large expansion of the Norwegian welfare state. Because there was a great focus on decentralizing in this period, a need for labour in the counties and municipalities was created. Therefore, the expansion of the welfare state was particularly important for women in two ways: it created a demand for female labour and “relieved” women by taking on some of the tasks many women had done for free in the home. Women’s entry into the labour force during the 1970s and 1980s was in many ways aided by this decentralization (Jensen 2004, 65-69).

The growth of employment in the public sector was particularly strong in the 1970s, but also in the 1980s and 1990s. During the period from 1962 to 1990 the number of employees in municipal administrations grew from 93 000 to 335 000 employees. Again, it must be mentioned the importance this had for women’s opportunity to enter the labour force. The development of schools, nursing homes, as well as the before mentioned administrations, made the labour force more accessible for women than the previously industry-dominated market. The welfare state expansions also worked as a safety net for people falling out of the labour force as well as for those choosing early retirement (Esping-Andersen 1990; Jensen 2004, 69).

In 2014 SSB announced that the number of employees in the public administration<sup>6</sup> had nearly tripled since 1970. In 2013, there were 690 000 people employed in the public administration, which is an increase of 440 000 people since 1970. There has been a steady increase each year in the period between 1970 to 2013. Municipal care services are the part of the public administration that has seen the largest increase, with the share being between five and six times larger than in 1970. The increase is explained by care tasks for children below the compulsory school age and those in need of care with disabilities receiving this the home in 1970. In 2013 these tasks were done by the municipalities and counties. Recipients of

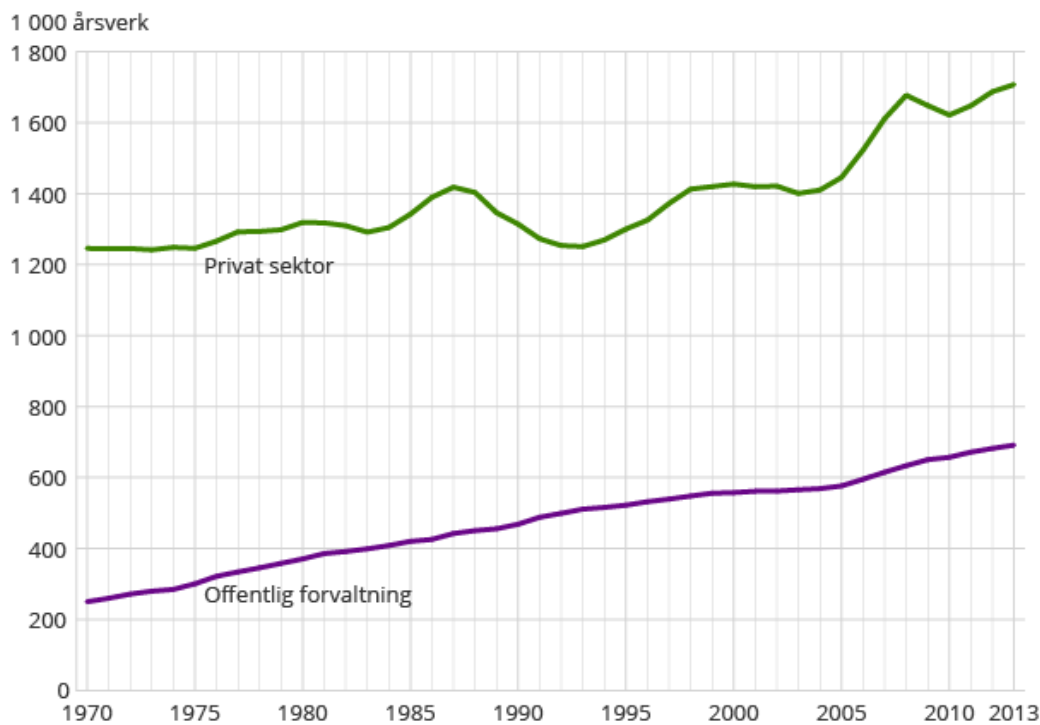
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<sup>6</sup> The sum of those employed in state, and municipal administration (Statistisk Sentralbyrå 2014)

municipal care services have increased particularly in kindergartens, after-school programs (SFO), and home nursing. These are occupations where women dominate (Statistisk Sentralbyrå 2014).

Figure 4 Number of full-time equivalent employees in the private sector and the public administration

#### Antall årsverk i privat sektor og offentlig forvaltning



Kilde: Statistisk sentralbyrå.

Source: Statistisk sentralbyrå 2014

As can be seen in figure 4, there has been a steady increase in both the public administration and the private sector. The number of employees in the public administration is nearly tripled in the given time-period. The private sector increased with 20 000 more employees than the public administration. However, this only amounts to a 37 percent growth, for comparative purposes the population growth in the period was 32 percent. In the time-period presented in the figure there has been an increase in full-time equivalent employees every year in the public administration. The largest increase was in the period between 2006-2009 with an average of 18 500 per year. The lowest increase was during the period 2000-2004 with only 2600 more full-time equivalents per year. Yearly there has been a mean average of a little more than 10 000 more full-time equivalents yearly in the public administration (Statistisk

Sentralbyrå 2014). In 2020 it was estimated that 765 000 people work in the public administration (Statistisk Sentralbyrå 2021b).

#### **4.5 A robust and generous welfare state**

Before explaining developments in only family policies that might draw women, and especially mothers, towards working in the public sector, important developments regarding the welfare state and pensions must be mentioned. This is to show briefly how encompassing and robust the Norwegian welfare system is. The development of the Norwegian welfare state was part of a broader international ambition of meeting the need of social security in a modern society, with roots all the way back to the 1800s. Especially after 1945 developments came more rapidly, and after a few decades all Norwegians were eligible for economic support from the welfare state should their own livelihood fail them. The welfare policies were not only goals in themselves, but also a means for modernization and economic growth (Lange 2015).

Heavy investments in health, education, and housing renewal were not meant to only relieve need and create well-being but to encourage productive work efforts and value creation. Child benefit schemes were planned before the war and unanimously adopted already in 1946. Full old-age pension without means testing came about in 1957 and disability pension three years later. In the meantime, unemployment and sickness benefits were significantly strengthened and expanded, and a comprehensive accident benefit was introduced. In the mid-1960s the planned social security areas were covered. With the national insurance scheme adopted in 1965 the welfare schemes received a new boost, social security and pensions were now to reflect the wage level one would have as an employed person (Lange 2015).

The large increase in women's employment in the 1970s, was in many ways not a result of an intended public policy. Some even argue that it came as a surprise to the government. It was the married women themselves that took responsibility for combining work with having a family. Much of the arrangements aiding married women who worked was owed to the growing women's movement during the time. The women's movement demands eventually became central for the growing gender equality policies that were being developed. As an example, in 1972 the Equal Pay Council (Likelønnsrådet) that had existed since 1959 was replaced by the Gender Equality Council (Likestillingsrådet). Additionally, the Gender

Equality Act (Likestillingsloven) was created in 1978, as well as the law regarding self-determined abortion. However, one of the main goals for Norwegian family and gender equality policy has been to make it possible to combine work with having a family for both mothers and fathers (Jensen 2004, 70-71).

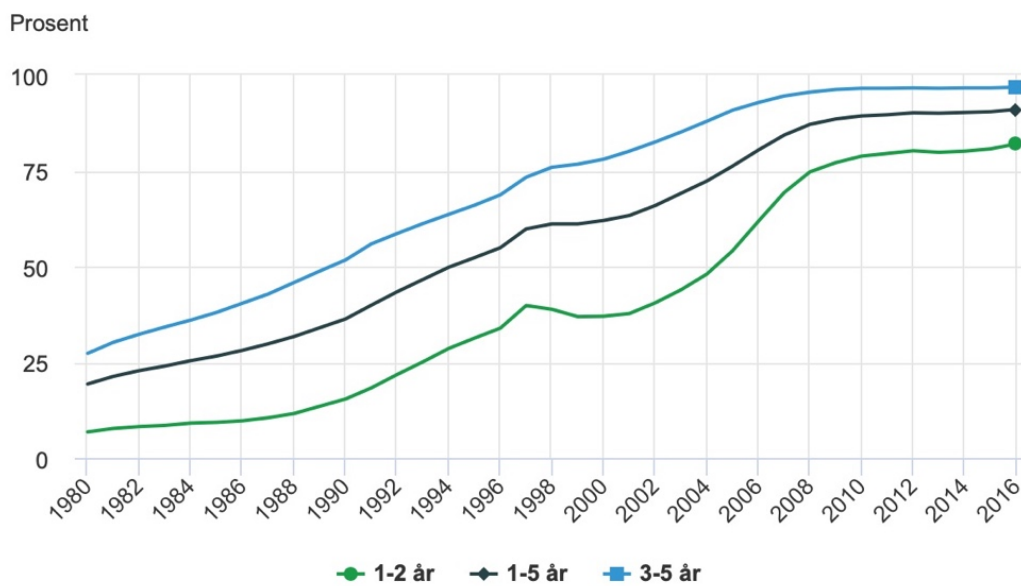
A central element regarding these developments is paid maternity leave. Firstly, this means that women can stay at home and care for infants while still receiving their salary. Secondly, they have a job to return to. There have been several developments of paid parental leave in Norway, and the role of the father is especially evident in the Nordic countries. In the Working Environment Act (Arbeidsmiljøloven) from 1977, rules regarding pregnancy and leave, adoption, childhood disease, as well as leave in relation to breast feeding were further developed. The law also entails fathers' right to parental leave. The law has since been changed several times. In 1982 workers were given the right to apply for reduced working hours for reasons such as caring for children, even though state employees were said to already have such benefits. The Occupational Safety and Health Act (Arbeidervernloven) as well as the Working Environment Act mainly focus on the right to parental leave and say little or nothing about economic considerations. Rules regarding mothers' rights to benefits after childbirth or diseases associated to this, was before the National Insurance Act (Folketrygdloven) of 1966 stipulated in the Health Insurance Act (Syketrygdsloven) of 1930 and later in the Health Insurance Act of 1956. According to the National Insurance Act of 1966 and the amendment act of 1977, the mother, and in certain cases the father, is entitled to parental allowance according to special conditions. The law also covers the rights of parents to sickness benefits for children's illness. Subsequent additions address the adoptive parents' rights to care allowance upon adoption. The law was later amended several times (Tornes 1986; Hansen 1991, 9-11; Jensen 2004, 70-71).

With more and more women becoming active in the labour force, a larger demand for kindergartens and arrangements to look after small children was also created. This was however not a prerequisite for women entering the workforce during the 1970s. It was the women themselves that took responsibility for combining work and family responsibilities by working part-time and hiring private babysitters. In 1975 only about seven percent of all children younger than six years old were enrolled in kindergartens. It should also be noted that Norway is the only one of the Nordic countries where the focus regarding kindergarten development has been on the children's needs, and not on the working mothers' needs. This

has also been included in discussions about whether or not having a ministry that caters to both gender equality policies and family policies was the most appropriate option, one reason being that arrangements that benefit children and families not necessarily benefits gender equality (Leira 1992; Jensen 2004, 72). There have since been changes in the ministries whereas now equality lies in the same ministry as culture.

Figure 5 Kindergarten coverage in Norway, 1980-2016, percentage

**Figur 1. Barnehagedekning**



Kilde: Statistisk sentralbyrå.

Source: SSB (Statistisk Sentralbyrå 2017)

As can be seen in figure 5, there has been a great expansion in kindergarten coverage in Norway. In 2016, 91 percent of all children were enrolled in a kindergarten, when looking at the category of children between three to five years old 97 percent were enrolled. This is a grand development compared to 1963 when kindergarten coverage was firstly measured in Norway. At this time, only two percent of children between the ages of one to five years old were enrolled in a kindergarten. It is also worth mentioning that in 1998 a cash-for-care benefit was introduced in Norway, entailing that you are entitled to money if you have children between the ages of one and two years old who don't attend a governmental subsidized kindergarten. If the child is adopted one is entitled to money until the child starts school. In the year 2000, 86 700 children received cash-for-care benefits. In 2012 cash-for-care benefits were removed for two-year-old children. In 2016 only 12 700 children received

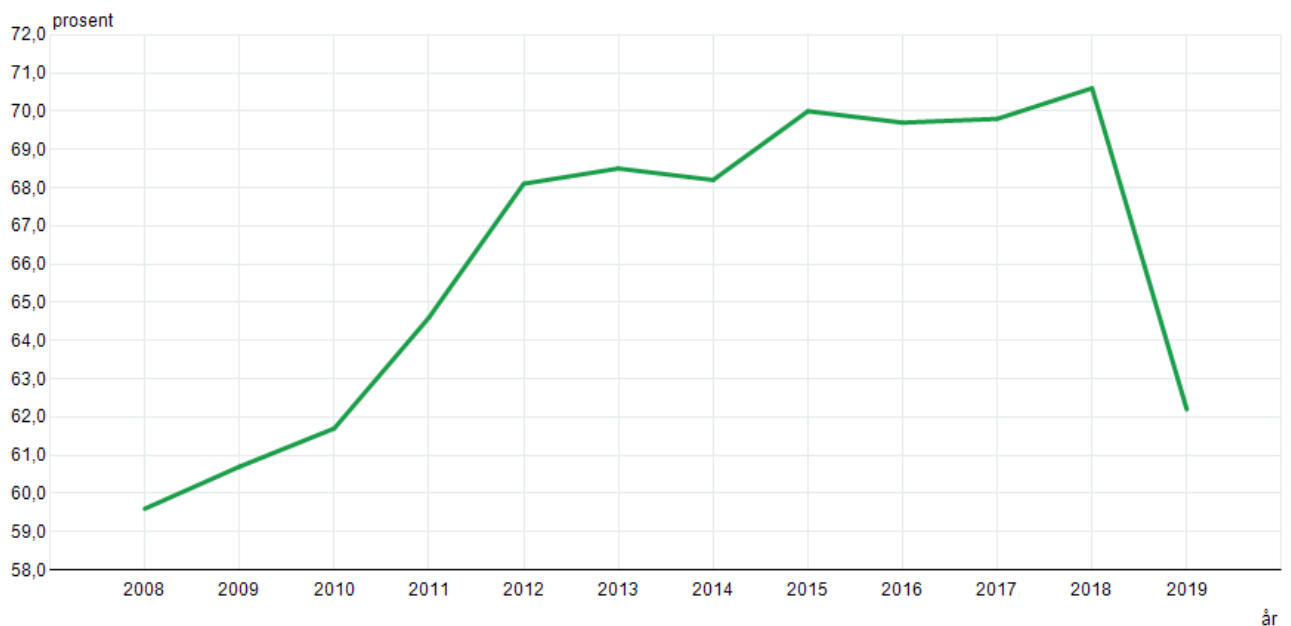


cash-for-care benefits. This fits the slight drop and then rise in number of children between the ages of one and two years old in figure 5 (NAV 2007; Statistisk Sentralbyrå 2017).

In Norway the so-called father quota regarding parental leave is relatively unique and has become increasingly popular since its introduction in 1993. With this, fathers were entitled to paid parental leave reserved for them. The length of the parental leave for fathers was initially four weeks long before being increased to 14 weeks, and then being reduced to 10 weeks in 2014 with the Solberg government. The share of fathers using their parental leave has increased in the entire country. In 2018 the father quota was amended to being 75 days (15 weeks father quota, 15 weeks mother quota and 16 weeks shared), in 2019 there was another amendment stating that the length of the father quota is dependent on whether the parents choose 80 percent or 100 percent coverage for their leave. For choosing 100 percent coverage there is a 75-day father quota, and for an 80 percent coverage there are 95 days. In figure 6, the share of fathers using their father quota is represented. There is a steady increase until 2019 which must be seen in relation to the amendment of that year (Statistisk Sentralbyrå 2017; NAV 2020).

Figure 6 Share of fathers using the entire father quota or more of the paid parental leave period 2006-2019

09293: Indikatorer for kjønnslikestilling. Grunnlagstall, etter år. Hele landet, Andel fedre som tar hele fedrekvoten eller mer av foreldrepengeperioden.



Source: (Statistisk Sentralbyrå 2019d)

## **4.6 Finishing words**

Through this part of my analysis, I have identified several critical junctures in Norway since the 1970s that might influence horizontal gender segregation in the labour market. The changing role of the housewife, the transition from an industrial to a post-industrial society together with an expanding welfare state have all been important for women's entrance into both higher education and the work force. With a deeper knowledge about the developments in Norway, I can now move on to testing my hypotheses.

## 5 Analysis of hypothesis

In this chapter I will analyse the three hypotheses I formulated in chapter two. My hypotheses are somewhat overlapping and share some of the same aspects. This will be further discussed in chapter 5.4. However, the hypotheses are based on a theoretical background and with the hopes of being able to explain “the bigger picture”.

For each hypothesis I will present a table containing the independent and dependent variable for said hypothesis, as well as the relevant causal mechanisms. The point of presenting such tables is to illustrate what underlying factors contribute to create an effect between X and Y. I will explain the mechanisms, before conducting a hoop-test for each hypothesis. Like mentioned in chapter 3.2.1, the hypothesis must first pass a preliminary hoop test. After that, one can investigate if the hypothesis will “jump through the hoop” while adding the proposed mechanisms, making the tests increasingly difficult. The causal mechanisms chosen here are obviously a few of a very complex network of mechanisms. These have been chosen on the background of theory and what I myself consider to be most central to my research question. Because of my historical narrative approach, I am mainly looking for what is referred to as INUS conditions. These are factors that are neither necessary nor sufficient for an outcome but rather are essential components for a combination of factors that are jointly sufficient for an outcome (Mahoney 2015, 203).

Like I argued in chapter three, the best approach to answer my research question is to understand the hypotheses in relation to each other, not as competing explanations. To make this even more evident I will close off this chapter with linking together all three of the hypotheses and show which mechanisms “flow” through all the hypotheses and which are more unique for each hypothesis.

### 5.1 H1: Devaluation of women’s jobs

*H1: The devaluation of typically female occupations makes them less attractive for men, contributing to horizontal gender segregation in the Norwegian labour market*

In table 3, I have listed my X and Y together with the relevant causal mechanisms. These will be elaborated on before I conduct a hoop test for the hypothesis.

Table 3 Overview of causal mechanisms for H1

Independent variable X	The devaluation of women’s jobs
<b>M<sub>1</sub> Increasing demand for labour in the welfare state</b>	With the expansion of the welfare state, there also came about an increased demand for labour particularly in the care, education, and health sectors.
<b>M<sub>2</sub> Gender essentialism</b>	The <i>belief</i> that there are fundamental differences regarding what it is to be a man or woman, especially concerning what jobs one is best suited for
<b>M<sub>3</sub> percentage F and wage levels</b>	It is contested whether a predominance of women in an occupation leads to lower pay, however most women in Norway work in sectors and occupations where the wage is lower than for men.
Dependent variable Y	Horizontal gender segregation in the Norwegian labour market

#### 5.1.1 Causal mechanisms for H<sub>1</sub>

*M<sub>1</sub> Increasing demand for labour in the welfare state:* The demand for labour in the welfare state has already been presented in chapter four and is also seen as a causal mechanism. The expand of the welfare state from the 1970s and onwards, together with a focus on decentralization created a demand for labour in the counties and municipalities. The coincidence of an expanding welfare state and a rise in women’s rights movements

contributed to a large increase in the number of women active in the labour force. Because of poor kindergarten coverage and the nature of the jobs available, many women had to work part-time jobs. There was additionally a great demand for labour in occupations that traditionally are dominated by women, such as in nursing, teaching, and administrative tasks (Jensen 2004; Hageman 2015; Reisel 2014a).

*M<sub>2</sub> Gender essentialism:* Women's position in many areas of society has changed drastically in Western countries since the 1960s. However, the development has been uneven, with gender segregation in the labour market remaining an obstacle for gender equality. It is argued that these slow changes are due to underestimating how deep beliefs there are regarding what it means to be either a man or a woman, also referred to as gender essentialism (Charles and Grusky 2004; Charles and Bradley 2009; Ellingsæter 2014, 87-87).

It is important to discern between inherent differences between the genders, and the *belief* that the genders are different. It is the latter that is emphasized in gender essentialism. For this reason, one can say that the horizontal gender segregation is deeply anchored in the society's economic organization, upbringing, and social interaction, and is not likely to disappear in the nearest future. Gender essentialist ideas will rather be enforced as long as choice of occupation is perceived as something so tied to representing our own identity. In a liberal equality ideology, it is also important to note that gender typical career choices are seen as a legitimate result of free choice – women and men might simply prefer different types of jobs. Women's right to choose professions where their preferences and so-called special abilities are expressed must therefore be defended. That female and male dominated occupations pay differently, and the question about where such preferences stem from, lay outside the liberal rationale. However, in a social democratic understanding of gender equality, gendered choices are not perceived as free (Charles and Bradley 2009; Ellingsæter 2014, 87).

A central part, as explained in chapter two, of gender essentialism is that occupations have properties that are either “manly”, or “womanly” and that men and women will choose in line with these beliefs. This is somewhat true in Norway, young adults make career choices that are relatively gender typical, but without knowing much of what the occupations entail. Studies have shown that notions of gender can form wishes and aspirations and effect the transition from studies to work life. It has also been pointed out that women who choose non-typical professions such as a police officer or electrician can receive more positive admiration

than men choosing non-typical occupations such as nursing. This is connected to both that there are less incentives for men to choose non-typical as well as feminine traits generally being devalued (NOU 2012: 15; Ellingsæter 2014, 89).

The gender essentialism approach is however criticised by Ellingsæter (2014). She argues that it is not necessarily the gender essentialist attitudes that maintain gender segregation, but rather historical patterns reproducing themselves over time through slow and self-reinforcing mechanisms. She also highlights structural relations, especially occupational arrangements that are not easily combined with having children, that contribute to maintaining both horizontal as well as vertical segregation (Ellingsæter 2014; Seehuus and Reisel 2017, 288).

*M<sub>3</sub> Percentage F and wage levels:* It is well known that many women in Norway work in professions where the pay is lower than for men. The question then is: is the pay lower only because there is a predominance of women in a given profession or sector? This has been contested by especially Grönlund and Magnusson (2009; 2013) who rather demonstrate a lower level of prestige and status for female dominated jobs, as well as a non-linear relationship between the percentage F and wage levels. Østbakken Misje, Barth, and Schöne (2014, 206) demonstrate several factors that can help explain the importance of the gender segregated labour market for gender differences regarding pay. Firstly, a high number of women are employed in the public sector within professions relating to health and care where salaries traditionally have been low. Secondly, employees in the public sector are influenced by collective deals where salaries are set through negotiations in the State and the municipalities. Like mentioned in chapter 4.1, negotiations take place in the public sector after the private sector, the salaries in the public sector are therefore within the framework of the private sector. This model with centralized, collective deals also contributes to “pressuring” salaries together. In sum this contributes to keeping salaries relatively low and make the opportunities for large wage increases in the public sector difficult. M<sub>1</sub> and M<sub>3</sub> are therefore to a large extent overlapping. It might not be *just* that the percentage F is causally linked to lower pay but rather that women happen to work in occupations with lower pay, and these occupations happen to be in the public sector in Norway.

### 5.1.2 Hoop test

Based on the causal mechanisms that have been explained in relation to my first hypothesis concerning the devaluation of women's jobs, I can now test this hypothesis.

The preliminary hoop test states that X and Y have to both occur, and X must occur before Y (Mahoney 2015, 208). Like mentioned in chapter four, all industrialized countries have a somewhat gender segregated labour market (Reisel 2014a, 31). In a historical context it is safe to say that traditional female activities and work have a long history of being devalued. This is present in both the social and the economic status that traditionally female occupations such as being a nurse, housekeeper, kindergarten staff etc., has and have had (England 2010). Even though perceptions of such jobs are changing, I argue that X occurred before Y and that the hypothesis has passed the preliminary hoop test. A further discussion of the structure of working life and women, is briefly mentioned in M<sub>9</sub>, and chapter six. In a historical perspective, it is not long since it was "normal" to confine women only to the family and for the legal and customary subjection of women to their husbands within the family (Kymlicka 2002).

Now that the hypothesis has passed this preliminary hoop test, I can investigate the causal mechanisms that might link X and Y and conduct a more difficult hoop test. To do this, I will check if all the proposed mechanisms between X and Y has been present in my case.

Studies from a Norwegian and Scandinavian setting that concerns labour markets reveal gender essentialist beliefs (Reisel, Skorge Søråas, and Uvaag 2019). That such beliefs endure must partially be seen in light of a previously high degree of gender segregation in Norway. Such segregation processes can be reinforced over time and the lack of structural change can aid in haltering perceptions about gender. It is however important to not just focus on gender essentialism as an explanation alone. Gender essentialist ideas are built on stable and static occupational patterns that in return are interpreted as one of the strongest expressions of one's *gendered* identity. It should be considered that this is not the only expression of identity. Such gender essentialist ideas have also been challenged several times in a Norwegian context, where a most notable example is that of parenthood effecting both genders more equally. Women are working more and fathers less, and fathers are spending more time with their children (Ellingsæter 2014, 101-102). I however argue that gender essentialism is a relevant

mechanism for my dependent variable, Y, to explain *what has caused* gender segregation. With a path dependent logic in mind, such patterns are hard to break free from. Even though some state that it is rather self-reinforcing patterns that repeat themselves over time instead of gender essentialism that maintains gender segregation (Ellingsæter 2014), I argue that this is somewhat two sides of the same story and that the two must be considered together. Without gender essentialist beliefs, devaluation of traditionally female tasks and occupations would not exist.

Gender essentialist beliefs are not necessarily connected to any critical junctures, but I argue that it must be seen as a backdrop for how developments in the labour market have been laid out. A more tangible mechanism is the increasing demand for labour in the welfare state. Women growing up in the 1970s were eager to work and educate themselves, based on ideas that spread from the growing women's movement (Hagemann 2015a). There is a common prejudice towards women's pay being lower than men's because women choose to work more part-time jobs than men. This, however, has an historical explanation. Like mentioned in chapter four, the initiators of women entering the labour force were the women themselves, and many had no other opportunities than working part-time because of the low level of kindergarten coverage. Along with part-time jobs for many, the jobs that were available within the expanding welfare state were for women jobs they already did for free in the home. In a devaluation perspective, this perpetuated the beliefs that such jobs were of a lower status, and only meant for women (Jensen 2004; England 2010; Hageman 2015b).

The last mechanism presented for H<sub>1</sub> is that of the percentage F and wage levels. Like mentioned in chapter two, there exists much research on whether the predominance of women in a profession leads to lower wages. Magnusson (2009) and Grönlund and Magnusson (2013) have used numbers from Sweden, a country relatively similar Norway, to look for such a relationship and find no clear linear relationship between a predominance of women and consistently lower wages. Norwegian researchers such as Østbakken Misje, Barth, and Schøne (2014) suggest another way of thinking about it. Wages are lower in female dominated occupations in Norway, and these occupations are in the public sector. These occupations also happen to be in the public sector because of Norway's encompassing welfare state. In other countries such as The United States, many of these occupations are still female dominated but not in the public sector. The coincidence that these professions are female dominated, and in the public sector makes the wages lower in Norway (Reisel 2014a, 42-43).



I therefore argue that even though the predominance of women in an occupation and automatically lower wages are contested, this is the case in Norway namely because of these historical developments that have made the labour market be organized as it is today.  $M_3$  can help explain what has caused horizontal gender segregation in the labour market.

The uneven gender revolution demonstrates how gender segregation in higher education and in labour markets has stabilized somewhat because women have made choices that are untraditional (England 2010). It is argued that this is related to devaluation theory which states that traditional female activities as well as occupations are devalued in our society. A common way to measure this is through demonstrating the generally lower wage levels in female dominated occupations. Because of this it is said that it is not attractive for men to choose non-traditional occupations in the same way women have had to in order to achieve upwards mobility. It is less lucrative for men to choose these occupations traditionally dominated by women both because wages seem to be lower, and because of gender essentialist beliefs. Working within teaching or care is of a lower status than occupations with masculine traits (England 1992). Based on the mechanisms presented, I argue that devaluation theory has some hold in Norway even though the relationship between a predominance of women in an occupation and lower wages is made up of more factors than just these two. In Norway, the historical development that has taken place has made this possible because women who have helped strengthen the welfare state cluster in the public sector where the wages traditionally are lower than in the private sector and often of a lower status (Østbakken Misje, Barth, and Schøne 2014). All mechanisms are present in my case and the hypothesis “jumps through the hoop”, it’s relevance is strengthened.

## 5.2 H2: Higher education

In this section I will analyse my second hypothesis. I have presented my X and Y as well as the proposed causal mechanisms linking them together in table 4.

*H2: Persistent horizontal gender segregation in higher education leads to horizontal gender segregation in the Norwegian labour market*

Table 4 Overview of causal mechanisms for H2

Independent variable X	Persistent gender segregation in higher education
<b>M<sub>4</sub> The international women's movement</b>	The international women's movement spread to Norway, women entering higher education became less and less controversial.
<b>M<sub>5</sub> Socialization</b>	It is a common view in sociology and social psychology that gendered choices are related to socialization. Choices made at a relatively young age, such as choice of education, is often when the gender identity is most vulnerable
<b>M<sub>6</sub> Social status</b>	It has been proven that especially women with parents who come from a lower social status choose more gender compliant educations and occupations. Additionally, women from higher social classes might not want to choose female dominated educations that lead to occupations with traditionally low wages. The latter can also be true for men
<b>M<sub>7</sub> The transition from upper secondary school to higher education</b>	Women might be overrepresented in higher education because a there is a natural transition from health- and social work programs within upper secondary school to higher education. The same is not true for vocational programs in upper secondary school, which are dominated by men
<b>Dependent variable Y</b>	<b>Horizontal gender segregation in the Norwegian labour market</b>

## 5.2.1 Causal mechanisms for H<sub>2</sub>

*M<sub>4</sub> The international women's movement:*

This was explained in more detail in chapter four and will therefore only be briefly elaborated on in this section. From the early 1960s the number of women both in paid work and higher education increased. At the same time, notions of gender equality became more and more established in the Norwegian society and towards the 1970s this was starting to no longer be a controversial theme. During the 1970s several gender equality policies became institutionalized in Norway. Higher education became more accessible for women. The Gender Equality Act (Likestillingsloven) was introduced in 1979 paving the way for The Equality Ombudsman (Likestillingsombudet) working towards fighting gender discrimination in the work life as well as higher education (Jensen 2004).

*M<sub>5</sub> Socialization:* As presented in chapter two, gender is one of the easiest ways of categorizing other humans. Therefore, gender is also such an important part of our identity that is being shaped from the day we are born. Experimental studies have shown how men and women in general have different preferences when it comes to social orientation, risk, and competition (Croson and Gneezy 2009). Some of this can be because of inherent differences but research shows that boys and girls are differently treated from a very young age. This has been evident from studies done on kindergarten staff showing that even when they are consciously trying to treat boys and girls the same, they still are being treated differently. An important point here is that boys tend to receive more negative attention for behaving outside of their gender norms than girls do. It can also be claimed that boys are socialised into much narrower gender roles than girls. Therefore, it can seem peculiar that relatively few women choose non-traditional educations. The expectations of women being caring and becoming mothers from society, friends and family members must however not be forgotten (NOU 2012:15; Brekke and Reisel 2013, 13).

During adolescence, students' gender identities are shaped and notions of different occupations' gendered character will therefore influence how youths make choices in higher education. How subjects are presented and profiled can have a great influence. The gender identity is particularly vulnerable when youths choose especially which program they wish to undergo in upper secondary school. Social norms can have a large influence on boys' and girls' notion of real freedom of choice. It is also shown that pupils of this age have relatively

little knowledge about what different occupations entail, and that they must have a special interest and will to enter a specific profession if they choose gender non-compliant. This will also influence what type of, if any, higher education they choose to take on later in life (Brekke and Reisel 2013). This must also be seen considering gender essentialism which has been explained previously in this chapter.

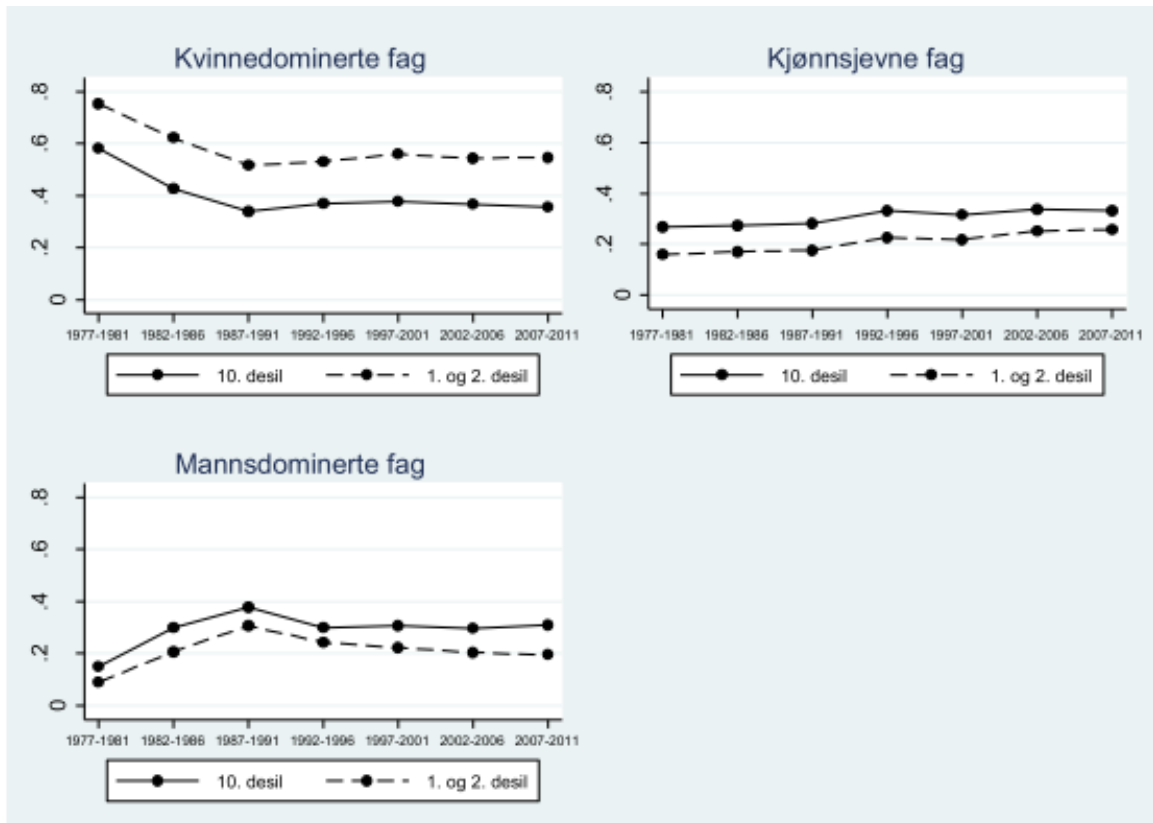
As an example, young girls often perform better than boys in school. In upper secondary school girls perform better than boys in science related subjects but do not choose educations in the science field to the same extent as boys. Grades matter little for choosing gender compliant and this might be more related to socialisation. However, boys who perform better in mathematical subjects compared to other subjects tend to choose less female dominated. This can be related to the theory of comparative advantages explained in chapter two as well as rational choice theory. Men, more often than women, choose according to what they perform well at. Women also seem to be more influenced by their parent's level of education and income (NOU 2012: 15, 138).

*M<sub>6</sub> Social status:* Several studies have shown that social background is an important factor in explaining persistent horizontal segregation in higher education, and that especially women who come from a lower social background choose more gender-typical educations than those who come from a higher social class. Seehuus and Reisel (2017, 297) studied this in Norway where they defined high social background as persons with parents in the highest income deciles, which are the 10 percent with the highest income. Low socio-economic background is defined as persons with parents in the first- and second-income decile, which are the 20 percent with the lowest income.

Seehuus and Reisel (2017) found that women who come from a low social background have a much higher probability of choosing female dominated educations than women who come from a higher social background. The findings are illustrated in figure 7 and 8. The dotted line represents those who come from a low social background. Towards the 1990s the probability of choosing traditional decreases somewhat for both categories when looking at women. This is because more and more women chose gender-integrated and male dominated educations. However, women from a high social background still have a higher probability of choosing both gender-integrated educations as well as male-dominated subjects. Social background matters less for men in all types of education, which is evident in figure 8. The authors

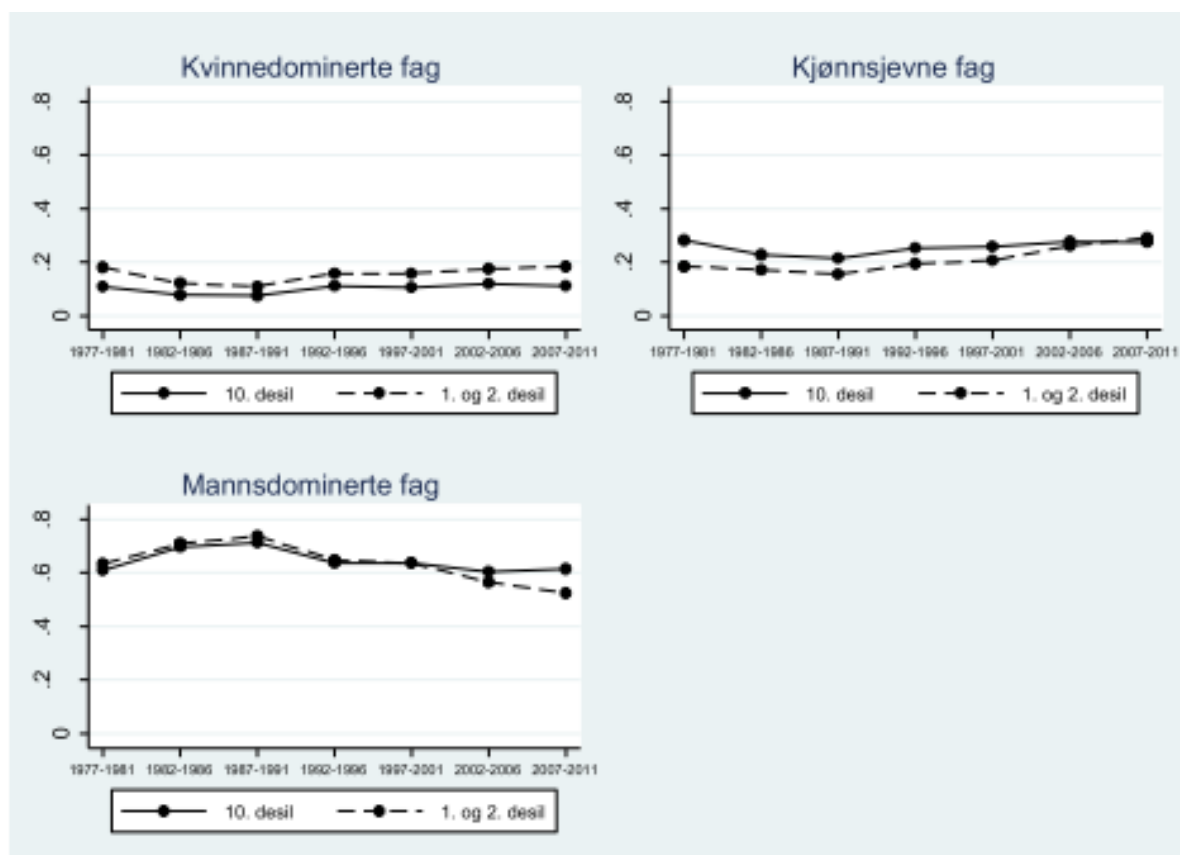
however also state that the stagnation of horizontal segregation in higher education from the 1980s and onwards cannot fully be explained by an influx of students with a low social background, even though gender segregation is more evident in this group (Seehuus and Reisel 2017, 297).

Figure 7 Probability of choosing gender non-compliant based on parents' income for women. 1977-2011. Bottom left: "Male dominated subjects", top left "female dominated subjects", top right "gender-integrated subjects".



Source: Seehuus and Reisel 2017, 297

Figure 8 Probability of choosing gender non-compliant based on parents' income for men. 1977-2011. Bottom left: "Male dominated subjects", top left "female dominated subjects", top right "gender-integrated subjects".



Source: Seehuus and Reisel 2017, 297

The authors mention that incentives for men to choose less traditional not being visible enough as well as understanding how the social climate has changed as important factors that must also be considered when understanding segregation in higher education. Undergoing higher education and choosing what to study means something else today than it did in 1977. It is also important to note that many female-dominated "working class" professions have educations on a bachelor's degree level, and therefore is a part of higher education. The situation might not be the same for male dominated professions such as for electricians or carpenters. Therefore, although social background is seen as an important factor for persistent gender segregation in higher education it cannot explain the entire picture (Seehuus and Reisel 2017; Reisel, Søråas and Uvaag 2019, 47).

This must also be seen in relation to devaluation theory presented in chapter two and M<sub>2</sub>. Because traditionally male dominated occupations generally are of a higher status and have better pay than female dominated occupations it is in line with rational choice theory that men

seldom choose educations that lead into female dominated occupations. This also means that women who come from a higher social background will choose gender non-compliant to avoid social degradation. A consequence of this is that to the extent that there exists any desegregation in the Norwegian labour market, it will mostly be because of women choosing high status educations that were previously male dominated (Brekke and Reisel 2013, 12).

*M<sub>7</sub> The transition from upper secondary school to higher education:* Studies have shown that in educational systems that has a broad offer of vocational training in their upper secondary school programs, men choose more gender typical educations, if any, as well as professions. Vocational educations are more gender segregated than studies in higher education, with a larger share of men. It is however important to note that such vocational programs protect against unemployment for both women and men by reducing the probability of not finding a job after their studies are over. Additionally, not everybody wants to pursue higher education (Reisel, Skorge Søråas, and Uvaag 2019, 41).

Traditionally female dominated vocational educations have a more established culture for the transition to higher education than in many of the male dominated vocational educations. After finishing upper secondary school within health and social work programs, there are many natural transitions to higher education to become either a teacher, social worker, or nurse. There is also often a greater need for entering higher education after finishing these vocational programs to acquire jobs, than it is for those dominated by men. In the male dominated upper secondary school programs there is a more established culture for being an apprentice and then enter the labour force without any additional education. Therefore, many young Norwegian boys can “skip the step” of entering higher education and still acquire jobs with good pay and relatively high social status (Brekke and Reisel 2013, 11).

### **5.2.2 Hoop test**

Asserting if X occurred before Y might be trickier in this hypothesis compared to the two others. The hypothesis states that *persistent* horizontal gender segregation in higher education helps explain what caused horizontal gender segregation in the labour force. However, I argue that X occurred before Y based on events explained in chapter four. Before the events of the 1970s very few women in Norway entered higher education, and it is a logical development that women entered educations that would lead to female dominated occupations when this is

where the demand was. As has also been explained in chapter four, the gender segregation in higher education has been significant and is strongly connected to gender segregation in the labour market. The hypothesis has thus passed the preliminary hoop test.

Some of these mechanisms are more tangible than others and like in the previous and the upcoming hypotheses the mechanisms between X and Y will overlap somewhat. That some historical events have produced gender segregation in higher education is a given fact. The historical framework is the same for all the three hypotheses, and therefore what prompted horizontal gender segregation in the labour force also did so in higher education. Women wanted jobs and because of this entered higher education to a larger degree than before (Jensen 2004). This is particularly evident in figure 3, which demonstrates that women have been overrepresented in higher education since the mid 1980s. I therefore argue that many if not all the mechanisms presented in H<sub>1</sub> is relevant for understanding what previously has led to such a horizontal gender segregation in higher education.

To explain *persistent* horizontal gender segregation in higher education the remaining mechanisms presented in table 4 will be more relevant. As mentioned, identifying other persons gender helps us categorize others, and expressions of identity is closely linked to gender (Ridgeway 2011; Reisel 2014b). This combined with a process of socialization that starts the moment we are born highly influences choices made both regarding where we work and what we wish to study. It is repeatedly shown how young girls perform better than young boys on average, but also in the so-called STEM<sup>7</sup> subjects which traditionally are dominated by men and boys. Girls on average have 0.3 higher final assessment grade points than boys in mathematics, and 0.5 higher final assessment grade points in science than boys when finishing compulsory education. Even though girls perform better from an early age, far fewer young women choose educations in the STEM field. This can be due to a mix of gender essentialism described in M<sub>1</sub> together with socialisation into different gender stereotypes one is presented with from a young age. There have been several experimental studies showing that gender stereotypes disrupt girls and women's understanding of own abilities regarding educations in STEM, making them believe they are not capable. This type of perception about what one's own gender is capable and best suited for can influence how well boys and girls perform tasks typically associated with the opposite gender by curbing one's professional

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<sup>7</sup> Science, technology, engineering, and mathematics



confidence thus leading to uncertainty (Reisel, Skorge Søråas, and Uvaag 2019, 33; Statistisk Sentralbyrå 2019b). Therefore, it seems that socialisation and strong beliefs about gender stereotypes can aid in maintaining horizontal gender segregation in higher education.

M<sub>6</sub> and M<sub>7</sub> must also be seen together. It is repeatedly presented that social background is a highly relevant factor for what choice one will make regarding education and occupation. If you come from a family with low social status, your parents have low income and low education, you are more likely to choose more traditional when it comes to education especially if you are a woman (Brekke and Reisel 2013; Seehuus and Reisel 2017; Reisel, Skorge Søråas, and Uvaag 2019). This is also related to devaluation theory, if you are a woman and have a high social background, it is more likely that you will choose educations leading to high status jobs to avoid social degradation. A reason that women who come from a low social background chose female-dominated subjects in higher education, is that traditional educational choices for men who come from a lower social background often is through vocational training in upper secondary school. After this, it is more common to be an apprentice for a relatively short amount of time, before entering the workforce. This helps us understand why women are overrepresented in higher education. The transition to higher education is for many women more natural than for men, seeing that female dominated occupations such as a nurse, teacher, or social worker require higher education. These are occupations often found in the public sector with relatively low pay, compared to what men can achieve after vocational training (England 2010; Brekke and Reisel 2013, 7).

It must also be considered that with the emergence of the women's movement during the 1970s there was a large public debate about the value of traditionally female care work, as well as women's experiences in all parts of the working life. This was particularly evident during the 1980s, at the same time as the number of women surpassed the number of men in higher education. In this perspective, a more even gender balance and men's entrance into female dominated educations and occupations wasn't necessarily only viewed as something positive. An expectation of lower wages together with fewer incentives to choose non-traditional does not push men in the direction of choosing female dominated educations. It can also be said that women use their education as a more compensatory strategy to achieve equality in the working life. When men and women with the same educational level are compared, men earn more than women. Women therefore *must* have higher levels of

education than men to reach the same wage levels as them (Reisel, Skorge Søråas and Uvaag 2019, 45).

Based on the explanation of these mechanisms I argue that H<sub>2</sub> passes this more difficult hoop test. There exists a causal relationship between persistent horizontal gender segregation in higher education and horizontal gender segregation in the labour force. The mechanisms presented here help us understand why. The hypothesis' relevance is thus strengthened, but not confirmed.

### 5.3 H3: The public sector and women

This is my last hypothesis, and like the two preceding hypotheses the relevant causal mechanisms are presented in the following table.

*H3: For women, and especially women with children, the public sector is more attractive than the private sector, contributing to horizontal gender segregation in the Norwegian labour market*

<b>Independent variable X</b>	<b>Public sectors' appeal on women, especially mothers</b>
<b>M<sub>8</sub> Structure of working life</b>	It can be argued that the structure of working life is still more suited to fit the nuclear family.
<b>M<sub>9</sub> Generous family policies and safety</b>	The development of the welfare state, alongside a strong commitment to gender equality has created generous family policies sometimes working against their intended goal, exemplified by what is referred to as "the welfare state paradox". The literature is contested but working in the public sector, and being employed by the state, can give a greater sense of safety than working in the private sector. This caters to women who are mothers
<b>M<sub>10</sub> Statistical discrimination</b>	Although difficult to measure, many women can face statistical discrimination in hiring processes. Employers can expect women to disrupt their working life with maternity leave making them less attractive for certain jobs. This is said to affect both women who are, and women who are not mothers
<b>Dependent variable Y</b>	<b>Horizontal gender segregation in the Norwegian labour market</b>

Table 5 Overview of causal mechanisms for H3

### 5.3.1 Causal mechanisms for H<sub>3</sub>

*M<sub>8</sub> Structure of working life:*

One must take into consideration that until well into the previous century, most male theorists on all points of the political spectrum accepted the belief that there was a foundation in nature for the confinement of women to the family, and for the legal and customary subjection of women to their husbands within the family. Contemporary theorists have progressively accepted that women, like men, should be viewed as free and equal beings capable of self-determination and a sense of justice, hence free to enter the public realm. Adding to this, liberal democracies have progressively adopted anti-discrimination statutes intended to ensure that women have equal access to education, employment, and political office (Kymlicka 2002, 378).

Even though there has been a huge development in gender equality in the last years, many societal structures were created in a time when gender roles were much more traditional. Such is the case in many work arrangements, where the structure of several occupations was and is based on the nuclear family making it difficult for women with larger care responsibilities to combine work and personal life. Let's consider two examples here. The first concerns the use of minimum height and weight rules for access to certain jobs such as firefighters, police, and the army. The rules are officially gender neutral, but since men are on average taller and heavier than women, these rules can operate in favour of men. This is typically justified on the grounds that the equipment used in the job requires a certain height or strength, and hence these are the valid requirements (Kymlicka 2002, 380).

Herein lies the problem itself. Why are these the standards? The answer is of course that the people designing the equipment assumed that it would be used by men, and so they designed it for the average male height and build. This however is not inevitable. Just consider for example Japan, where men have traditionally been considerably shorter than in the Western world. There, military, and firefighting equipment has been designed for shorter and lighter people. The problem here is not old-fashioned prejudice or chauvinism, the employer using these height and weight restrictions may pay no attention to the gender of the applicant. The problem rather is that the job requirements were initially designed by men, on the assumption that men would fill the job (Kymlicka 2002, 380).

This is transferable to work. Many jobs still require that the person, gender neutral, who is qualified for them will be someone who is not the primary caretaker. Given that women still often are expected to have more responsibility considering childcare in our society, men will tend to do better than women in competing for such jobs. This is not because women applicants are openly discriminated against, but because women lack a relevant qualification for the job, for example being free from childcare responsibilities. This is often the case in occupations described as “prestigious” where demands on loyalty to the organization and constant availability, e.g. working non-agreement overtime, taking part in organizational arrangements outside regular hours, travelling on business and so on are high (Kymlicka 2002, 381; Magnusson 2009, 97).

#### *M<sub>9</sub> Welfare institutions:*

Often exemplified through “the welfare state paradox” literature, there has been a large debate about whether generous family policies especially concerning long and paid maternity leave, the percentage of preschool children in publicly funded day-care facilities, and the percentage of the workforce employed in the welfare sector has created a sheltered labour market for women, allowing them to enter the workforce but not fully compete for prestigious positions. Women’s rights are here protected and secured but are criticised for not seriously challenging the traditional distribution of market-family responsibilities between women and men (Mandel and Semyonov 2006). Research has shown that the literature is not able to explain the entire picture in Norway. Like presented in chapter 4.1, Norway is no longer one of the countries in the world that is the most gender segregated as the welfare state paradox would suggest (Østbakken Misje, Barth, and Schøne 2014).

However, it seems more credible that where you work has a greater effect on gender segregation than the welfare state institutions per say. It is argued that working in the public sector creates a bigger safety for women with children, especially small children. The public sector might offer better benefits regarding part-time work if needed, and many occupations dominated by women are better suited for returning to work after maternity leave. This is because many tasks in several occupations in the categories of care, education, and administration do not change rapidly so that the work tasks have not changed drastically while someone is on maternity leave. Through studies done on women with larger care responsibilities it has been found that the appeal of working in the public sector increases with the number of children the woman has. Women who have three children have almost a 10

percent higher probability of working in the public sector than women who don't have children. This is presented with numbers from Norway and repeated over time. Having children does not have the same effect on men (Hansen 1995; Estévez-Abe 2005; Schøne 2015; Schøne 2015, 366).

This is also in line with rational choice theory. If you expect to have children and be the primary caretaker, it is rational to choose a career that is more predictable and safer. Norwegian studies have also shown that the “motherhood penalty” is considerably lower in the public sector than the private. For reference, in 2002 mothers earned 10.42 percent less than fathers. This difference increased and was in the period between 2002-2009 11.75 percent before dropping to 10.33 percent in 2011. Comparing this to women and men who do not have children, the hourly wage difference is halved. In 2002 a woman without children earned 4.52 percent less than a man without children. For this group the hourly wage difference fell somewhat until 2007 before rising again. After this the difference have gone down from 4.51 percent in 2007 to 3.01 percent in 2011 (Barth et al. 2013, 75; Schøne 2015).

*M<sub>10</sub>: Statistical discrimination:* Although difficult to measure, statistical discrimination is said to play a part regarding gender segregation in the labour market. Employers avoid hiring women, so it is assumed, because they are more likely than men to quit for family-related reasons, i.e., childrearing or care of elderly parents. Employers make their hiring decisions on the basis of the higher statistical probability of women quitting (Estévez-Abe 2005, 184). Because the information on individual job applicants is limited, employers discriminate against entire groups of employees considered to be less productive. As the cost of a bad match might be trivial for jobs with little or no on-the-job training, the risk of statistical discrimination is mainly relevant to women with high human capital resources, who are the potential candidates for elite positions, or positions that afford a career trajectory. This does not mean that less-skilled women are entirely immune from statistical discrimination, it is rather that it is an obstacle for all women. The knowledge that this might take place can steer women towards jobs they know, or assume to be more “safe” (Mandel 2012, 243-244).

Employers can therefore influence gender segregation considerably. This is done in at least three types of ways: i) Several studies highlight how women are favoured in women dominated professions, ii) how men are favoured when it comes to investing in and developing workers, assigning roles and tasks in the workplace, and in promotions, and iii)

that employers in many incidents can formulate demands for a certain job, regulate individual wage negotiations, organize the work, and influence the working time regimes. Existing research states that these are aspects of working life that affects gender segregation (Reisel, Skorge Søråas, and Uvaag 2019, 62)

### **5.3.2 Hoop test**

Did X occur before Y? In this case it has been proven by several studies that there exists an appeal on women for working in the public sector, especially for women with children (Hansen 1995; Schøne 2015). Through chapter four I have also shown that because the urge for women to enter the labour force came from the women themselves, they made the arrangements to make this work, not the state. Therefore, many women had to take part-time jobs to be able to still care for their children, and the jobs available for women were often in the care-or administrative sector in the public administration (Jensen 2004; Hageman 2015a, b). Based on this the hypothesis has passed the preliminary hoop test, because for many women working in the public sector was initially the only option.

There are difficulties with measuring several of these mechanisms, however I argue they are a good representation of INUS conditions for the particular outcome in Norway.

Norway and the rest of the Scandinavian countries are widely known for their generous family policies, particularly long paid maternity leave. The welfare state paradox has by many been rejected, and Norway no longer has a labour market that is as gender segregated as it was 10-15 years ago. However, “sheltered” labour markets for women exist. In 2019, 70 percent of those working in the public sector were women (Statistisk Sentralbyrå 2019b).

The mechanisms for this hypothesis are overlapping and fits the historical narrative. The era of the housewife came to an end in the late 1960s and early 1970s. Confining women to their husbands and families only became less and less normalized, many women sought to break these norms and wanted both education and work. This also meant that they had to enter male dominated spheres, where the structures were based on and made for men (Kymlicka 2002; Hageman 2015a). Statistical discrimination, however difficult to measure, is also said to be quite widespread both in regards of hiring women as well as pay (NOU 2008:6, 134). Numbers presented particularly from the study done by Schøne (2015) demonstrates the public sector appeal on women who have children.

It must also be mentioned that it is not the services in the welfare state themselves that have a “segregating effect”, even though the welfare state has amplified them. Like mentioned previously in this chapter, other types of welfare states with a high share of women in the labour force, such as the United States, services like kindergartens and preschools, health and education are also dominated by women even though many of these occupations are in the private sector. Much of the public sector in Norway is therefore dominated by women because these specific jobs are in this sector. The controlled Norwegian labour market with strong unions and the tripartite cooperation have also contributed to withhold a relatively high status as well as high pay for many male-dominated occupations. This might have amplified the horizontal segregation by creating weak incentives for men to choose differently (Reisel 2014a, 42-43).

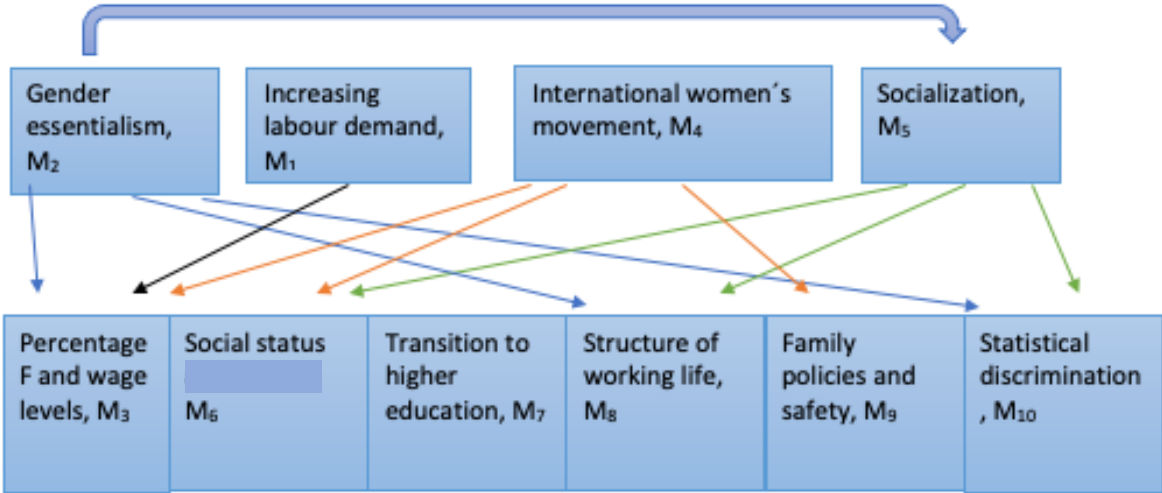
Based on the mechanisms presented for H<sub>3</sub> I argue that it passes the hoop test. There exists a causal relationship between the public sectors appeal on women, particularly mothers and horizontal gender segregation in the labour market. The hypothesis’ relevance is strengthened, but it is not affirmed. However, many mechanisms are hard to measure, and path dependency must be elaborated on. A further discussion on this will be presented in chapter 6.

## 5.4 Combining it all

In figure 9, I have presented a summary of all the 10 causal mechanisms presented in the previous analysis. They are however placed in a more chronological order in the different hypotheses which I will elaborate further on in this subchapter. One of the aims of process tracing is going beyond the correlation between X and Y and open the so-called black box of causality (Beach and Pedersen 2013, 11). To make this more evident, I will demonstrate how the causal mechanisms are not just relevant in the hypothesis they are presented in, but that they build on and influence each other.

I will now review the causal mechanisms, specifically focusing on explaining the different coloured arrows in figure 9. That gender essentialism, M<sub>2</sub>, gives us certain *beliefs* about what men and women are best suited for (England 2010, 150-151) I argue influence M<sub>3</sub>, M<sub>8</sub>, M<sub>5</sub>, and M<sub>10</sub>. Firstly, gender essentialism is linked to lower wages in occupations dominated by women. M<sub>1</sub> also has a rather obvious effect on M<sub>3</sub>.

Figure 9 Relationship between causal mechanisms



With the increasing demand for labour in the expanding welfare state, women entered the labour market to a great extent. A large proportion of the jobs there was a shortage in, were traditionally female dominated occupations located in the public sector (Jensen 2004). In the public sector, wages are lower than in the private, and therefore women who are overrepresented in the public sector have lower wages than men who are overrepresented in the private sector (Core Forskning 2020). This is however still linked to gender essentialism. Deep beliefs about what it is to either be male or female influence choices of education and occupation. During adolescence preferences are also shaped by how adults behave. A highly gender segregated labour market thus influences youth's choices because it can make one think that this is how things are "supposed to be". In other words, the pattern over time has become self-reinforcing (Ellingsæter 2014; Reisel, Skorge Søråas, and Uvaag 2019).

Gender essentialism must also be considered when looking at M<sub>8</sub> and M<sub>10</sub>. It seems rather evident that the structure of working life, which was developed in a time when women were confined to the family and the home (Kymlicka 2002, 378), is influenced by gender essentialism. The same can be said for statistical discrimination. It might not be that any employer discriminates with intent, but these notions of what different genders are best suited for and how they act influence all of us. M<sub>2</sub> is therefore placed in the context of H1, with the intent of illustrating both a mechanism that influences the devaluation of women's jobs, as well as a mechanism that flows through all the hypotheses and creates a backdrop of how one



might perceive gendered stereotypes which still seem to influence horizontal gender segregation.

It should also be mentioned that  $M_1$  and  $M_4$  are related historically, and it is important to remember that it was the women's movement that pushed forward to let women enter the workforce, and not a state driven initiative (Jensen 2004). Because of this one can also say that  $M_4$  influences  $M_3$  the same ways as  $M_1$  does.  $M_4$  to some extent influences  $M_6$  because, as mentioned, one of the goals of the women's movement was for women to gain access to higher education. This does not mean that  $M_4$  influences social status but that the entrance of women and men from all social classes is somewhat owed to the women's movement (Seehuus and Reisel 2017). Lastly,  $M_4$  has influenced  $M_9$  in the context of demonstrating and pushing for better gender equality and family policies (Benum 2015; Hageman 2015b).  $M_4$  is therefore also a causal mechanism that is relevant for all hypotheses but is placed in the context of H2 in an attempt to make my analysis chronological and structured.

$M_5$  is possibly the mechanism that is most easy to understand why is relevant for all mechanisms and hypotheses. It has been placed in H2 because socialization is particularly important when one is young and must make choices that will affect one's life in the long run, such as choice of higher education. It should be evident from what is presented so far in my analysis that the gender identity we in many ways are socialized into is hard to break apart from and influence us in many important aspects of life. This is because gender is one of the most prevalent ways of expressing our own identity (England 2019, 159). However, it will make the most sense to say that even though socialization flows through all the hypotheses, it has a clear effect on especially  $M_6$ ,  $M_8$ , and  $M_{10}$ . Concerning  $M_6$ , one must also recall the emergence of how important it is in our post-industrial society to "express one's true self". There is a post-materialist aspect to this implying that one must achieve upward mobility to be successful (England 2010, 150-151). Therefore, socialization is important because we in many ways are socialized into thinking some occupations are of a higher status and prestige than others. All of this also ties in with devaluation. Obviously, occupations that generate a higher salary will be more desirable, but it is then important to remember why especially female dominated occupations generally have lower wages and how being socialized into thinking typically male "traits" such as being tough and competitive is more valued than typically female "traits" such as being sensitive and caring (Magnusson 2009; England 2010).

When it comes to M8, the structure of working life is a product of the time it was created in (Kymlicka 2002, 378). Socialization as well as gender essentialism is relevant here because it helps us understand why some structures in society have come to be. This is also relevant for M10. Because we are socialized into thinking the genders act in certain ways, it is not surprising that employers might discriminate against women thinking that they will be less available at work than men. It is however obviously a problem that this is done, independent of whether the employer does this intentionally or not. Like mentioned in chapter two, it has also been found that this affects all women, and not just women who are mothers (Mandel 2012, 243-244).

Based on this it should be evident that it is more fruitful to answer my research question using a sequential logic where the hypotheses build on each other, rather than having competing hypotheses. The mechanisms M<sub>1</sub>, M<sub>2</sub>, M<sub>4</sub>, and M<sub>5</sub> are relevant for all three hypotheses as well as the remaining 6 mechanisms but have been placed in their respective hypotheses to follow the chronological order of events as they are laid out in chapter four. As mentioned in chapter 3.2.2, when working with causal mechanisms one is interested in the process where X *produces* Y through a causal mechanism linking the two (Beach and Pedersen, 26). These four explained mechanisms thus help to produce Y, horizontal gender segregation in the labour market, but must also be presented for the remaining six mechanisms to be able to produce Y.

### **5.4.1 Finishing words**

Now that both parts of the analysis are done, it is important to reflect a bit before I will discuss my findings in chapter six. In chapter three, validity and reliability are briefly mentioned and I wish to consider these two again.

Including several theoretical approaches is a part of the explaining-outcome process tracing method (Beach and Pedersen 2013). By identifying several causal mechanisms based on the careful reading of theory and empirical evidence, as well as organizing them in tables and figures, I argue that my analysis holds a high internal validity. I have measured and researched what the research question asks about by clarifying my arguments with several visual aids. The latter also has relevance for the reliability of my thesis. By presenting the causal mechanisms in an orderly manner, as well as undermining them with empirical

findings, the data has been consistently and rigorously interpreted. Another advantage related to presenting my causal mechanisms in such a manner is that they possibly could be standardized and used in quantitative approaches in later studies (George and Bennet 2004, 106).

## **6 Discussion and conclusion**

In this chapter I will discuss the findings from my analysis, considering the theoretical approaches presented in chapter two. Do these theories attempting to explain gender segregation in the labour market, and especially horizontal gender segregation, have any hold in Norway? I will also consider possible limitations in my thesis before presenting my conclusion where I will answer my research question.

### **6.1 Discussion of findings**

After a historical analysis of my case and a systematic testing of my hypotheses, what has caused horizontal gender segregation in the Norwegian labour market is clearer. My aim throughout the thesis has been to demonstrate that this is a rather large question with an answer that will be multifaceted. Attempting to answer this question with one explanation in mind would not suffice. However, the analysis is somewhat lengthy and a discussion about what really has been discovered is necessary.

In chapter two I presented three theoretical approaches, all claiming to explain gender segregation. Particularly the welfare state paradox literature (Mandel and Semyonov 2006) has been criticised for being too general in their assumptions (Korpi, Ferrarini, and Englund 2013; Grönlund, Halldén, and Magnusson 2017). This critique, together with the fact that quite a lot of research done on the matter has been conducted through large-N studies, I argue is a defence for choosing a qualitative approach in my thesis.

Devaluation theory states that all female tasks are valued less in our society (England 2010). This will help us understand why occupations traditionally dominated by women often are paid less, of less prestige, and less attractive for men to choose. H1 passed the hoop test, and its relevance has been strengthened. What does this mean? Devaluation theory is closely linked to what England (2010) refers to as the “uneven gender revolution”. This term refers to how in the United States desegregation has taken place in high status occupation, mostly because women have entered previously male dominated spheres such as medicine and law (England 2010, 154-155).

This theoretical approach seems to have some hold in a Norwegian context, but one must consider the historical development in the country. There seems to have been a somewhat “uneven gender revolution” in Norway as well. Desegregation has mostly occurred because women have chosen non-traditional. This is particularly evident in numbers pertaining to higher education. Educations that lead to high status jobs, such as medicine and law, have gone from being male to being female dominated in the last 40 years, also implying a change in the working structure. It is however important to note that even though there has been a desegregation between subjects, there can still exist segregation within a field. For example, men can work in more prestigious areas such as surgery while women work with children and gynaecology when it comes to medicine (Magnusson 2009; Brekke and Reisel 2013, 11-12). However, occupations that often are viewed as being “lower class” still are the most gender segregated in Norway. As an example, there were 204 000 men employed in construction work in 2020 as opposed to 21 000 women. In industrial labour there were 156 000 men compared to 50 000 women employed (Statistisk Sentralbyrå 2019b). The claim that the percentage F and lower wages is related is however more uncertain. Yes, most women in Norway work in occupations where the wages are lower, but this is not solely because there is a predominance of women there. Here, the historical development is important to understand why this is the case (Reisel 2014a). The question then might rather be, why does this not change?

This leads me in to my second hypothesis. It is without a doubt that horizontal gender segregation in higher education is strongly linked to occupational gender segregation. Therefore, it is puzzling that women seem to outperform men in almost every stage of education and still choose so traditional (Reisel, Skorge Søråas, and Uvaag 2019). This must be seen considering especially socialization and the strong expression of identity that is related to gender. Because we are shaped according to our gender from the day we are born and make choices regarding our education at a young age where our identity is very vulnerable, choices are still considerably gender compliant (England 2010; Ridgeway 2011; Reisel 2014a, 40). It has also been demonstrated that young men and women with parents from a low social background are the ones who choose the most gender compliant, contributing to a further segregation (Seehuus and Reisel 2017). A factor that also should be considered is the lack of incentives for young men to choose non-traditional. The transition from upper secondary school to the working life is also important. The combination of few incentives for men to choose to become for example a nurse instead of an electrician, and the

fact that many of your male friends and possibly older male family members have done the same before you makes the pattern difficult to break (Brekke and Reisel 2013, 11-12).

Lastly there is the public sector appeal on women who have children. Through chapter 2.3 and 5.2.3 it has been demonstrated that there is a causal effect between being a mother and working in the public sector. It does not appear that the welfare state paradox has been able to explain fully why Scandinavian labour markets are gender segregated but it is evident that being a woman and having children is an important factor in understanding horizontal gender segregation. A central finding in the literature is that having children affects women's careers more than men's (Schøne 2015; Reisel, Skorge Søråas, and Uvaag 2019, 51). This is particularly evident because it is relevant in all three of my hypotheses. The expectation of becoming a mother and the societal norms of what a mother should be influences a woman from girlhood until she is an adult. This is perhaps where Kymlicka's (2002, 378) point becomes most evident. We live in structures that when they came about were created for men, by men. The intent might obviously not be to discriminate, but the effects of such structures still influence us. Having children must be considered when trying to understand gender segregation. Even though fathers are more involved in the home than they used to be, it is still far more likely that women have the main responsibility for taking care of the children. It has also been demonstrated that having children makes the probability of working in the public sector higher for women than for men (Schøne 2015; Reisel, Søråas and Uvaag 2019, 62).

All in all, horizontal gender segregation in the Norwegian labour market is a multifaceted phenomenon. It must be understood considering the coincident of married women and mothers entering the workforce, a low conjuncture in the industry, the transition to a post-industrial service economy, and the development of the welfare state in the wake of the second World War (Reisel 2014a, 31).

## **6.2 Limitations**

When discussing my findings, it also is natural to consider the possible limitations of my thesis. Firstly, I have not differentiated between immigrants and natives. Immigration has increased in Norway since the 1970s, and in 2021 immigrants make up 14.8 percent of the Norwegian population (Statistisk Sentralbyrå 2021a). Increased immigration has had a clear desegregating effect on the Norwegian labour market. Østbakken et al. (2017, 55) find that

the Duncan index is lower when immigrants are included in the Norwegian labour force, as opposed to when just natives are included. NOU 2012: 15 (2012, 153-154) also illustrates that male immigrants, particularly from the Global South and Eastern Europe, are concentrated in different occupations than the general population. Some of these occupations are female dominated, such as cleaners and nursing assistants. Women from these same areas are concentrated in the same occupations as the general population but they also are overrepresented amongst cleaners and nursing assistants. With regards to education, there are relatively few studies done on gender typical choices of education and immigrants. Main findings however state that children of immigrants choose somewhat less gender-typical than the majority of the population (Reisel, Søråas and Uvaag 2019, 7). In other words, immigrants bring about both stability and change (Reisel 2014 a, 36). To conduct an analysis that is at the micro-level, the differences between immigrants and natives should be considered. If I was to look at differences between natives and immigrants, there would have been several conceptual challenges as to differentiating between different immigrant groups, children with one immigrant parent, children with two immigrant parents and so on that fall beyond the scope of this thesis

Secondly, it could be argued that regional differences also should have been considered as the differences between core and periphery in Norway have been strong (Reisel 2014b). Lastly, I have taken a rather traditional stance when it comes to the composition of families in this thesis. This is not to undermine those who are in same-sex marriages or those who are children of either two mothers or two fathers, but simply because there to my knowledge exists little to no research done on same sex-couples and gender segregation in the labour market. It would be interesting to learn more about the division of childcare between either two women or two men, and how that effects their working life.

Even though these aspects are not included, one might still say that this thesis attempts to answer too much. Each of my hypotheses covers broad fields of research that could make up a thesis on their own. It is however in the nature of explaining-outcome process tracing to be able to *fully* explain an outcome (Beach and Pedersen 2015, 2). When working with process tracing one must also consider the problem of an infinite regress in which the analyst seeks to test and verify causal linkages by appealing to more and more fine-grained sequential evidence. Therefore, it is important both to know how much to add as well as when to stop (Mahoney 2015, 202). Based on this, I argue that all of the elements presented in my thesis

must be included, and I argue that the perspectives included in my thesis are sufficient to answer the research question.

### **6.3 Conclusion**

My research question in some ways is twofold. To answer what has caused the Norwegian market to become horizontally gender segregated, one must look at certain events that took place in the 1970s. These events set the country down a trajectory that lay the foundation for the outcome that exists today. This follows a path dependent logic. Like mentioned in chapter 3.2, path dependency brings about three important insights for my thesis. Firstly, that other alternative outcomes could have been possible given other alternative historical events. What seems to be random historical events can have potentially great importance over time. Secondly, that the combination of large or small historical events, slow change, and self-reinforcing processes can maintain dysfunctional societal structures. Thirdly, that one should be cautious to claim that an outcome is inevitable, natural, superior, or well-functioning just because it has been sustained over time (Pierson 200; Reisel 2014a, 40).

Perhaps the most important finding in my thesis is that the coincidence of married women and mothers entering the workforce, a low conjuncture in the industry, the transition to a post-industrial service economy, and the development of the welfare state in the wake of the second World War has created some patterns in the labour market that in many ways have become self-reinforcing. One of the ways the ways in which the labour market has become self-reinforcing is through the fact that the stronger the notions of what men and women are better suited for, the stronger the gender segregation becomes. Adolescence is often characterized by social positioning, consolidating one's own self-image, and identity. A strongly gender segregated labour market in this way also effects higher education. If one at a young age has a strong belief about what one's own gender is best suited for, and this is confirmed in the labour force, educational choices will continue to be traditional (Reisel 2014 a, 40-42).

The gender segregated labour market is also self-reinforcing due to several organizational structures, such as a widespread use of part-time positions in the health- and care sector. These arrangements are difficult to change because they are so well established in a very large part of the Norwegian labour market. Path dependency also entails that critical junctures yield



long term consequences because of namely these self-reinforcing processes. This logic states that many societal patterns can't be explained by what the current political norms is. This way of thinking challenges the idea that activities only carry on if they are expedient. As an example, there is today a great need for labour in the care sector as well as in engineering. These are to parts of the labour market that are respectively heavily female and heavily male dominated, and where the recruiting mainly is done for more engineers (Reisel 2014 a, 40).

It is particularly the entrance of mothers into the labour force together with the growth of the post-industrial economy that has characterized the horizontal gender segregation in Norway. It is however not the welfare services themselves that have a segregating effect, even though the welfare state in some ways have aided in reinforcing the gender segregation. As mentioned in chapter 5.3.2, the coincidence that the female dominated occupations in Norway are located precisely in the public sector that helps us understand why salaries are lower here, and why there is such a great gender divide between the public and private sector (Reisel 2014a, 40-44). In addition, there are several challenges to combining a working career with having children, especially if you are a woman. Statistical discrimination (NOU 2008:6), the organization of the working life (Kymlicka 2002), and the safety that might come from working in the public sector (Schøne 2015) all aid in explaining what has caused horizontal gender segregation in the Norwegian labour market. It is however important to remember that increased gender equality in some ways brings about a more gender divided labour market simply because female employment will rise at the same time as more typically female tasks are being put within the framework of paid work. If housework had been categorized as an occupation in the same way as other occupations, a great deal of other countries with seemingly little gender segregated labour markets, would look very different (Reisel and Teigen 2014, 222). The so-called Norwegian gender equality paradox when looked at a bit closer, is perhaps not such a paradox after all.

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