

# Asylum seekers and voting behavior

Master's thesis

By

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September 2019

## Preface

Writing this thesis is the final step to finish my master's degree in Economics at NTNU. I finally carried out this project, but I could not have gained this success without the help and support of many people in my surroundings.

Firstly, I would like to thank my supervisor, Fredrik Carlsen, for his patient advice and guidance with this thesis writing. Secondly, I would like to express my gratitude to my classmates, Thea Heiene and David Sørli Nielsen for their help and support during the process of this project. They are always accessible whenever I need help. They contributed appreciably to this thesis writing by discussing and answering questions about data analysis and political systems in Norway. Thirdly, my special thanks goes to Khine Kyaw who is currently associate professor at NTNU Handelshøyskole. Since my supervisor took a leave from the first week of June, she is the one whom I have frequently asked for advice for accomplishing this thesis.

Finally, I would like to thank my wife, Tha Cuai Zinhlawng and my daughters, Bawi Veel Par Zinhlawng and Tina Bawi Tha Chin Zinhlawng, for their understanding, patience, encouragement and moral support during the whole master program.

## **Abstract**

During the last two decades, Norway experienced a large influx of asylum seekers. The issue of asylum seekers or immigration has been a dominant topic in recent election campaigns in Norway and many European countries. This thesis exploits municipal-level variations on asylum seekers who stay at reception facilities in Norway, during a period of substantial inflows of asylum seekers (1997-2015) to estimate the causal effects on the electoral outcomes of anti-immigration party, namely Progress Party.

Using panel data with fixed effect model, the results show that asylum seekers have a positive impact on the voting outcomes of Progress Party with very small size of estimated effect. However, the estimated coefficient is not statistically significant, which implies that there is no evidence on the effect of asylum seekers on election outcomes of Progress Party. This result also holds when making use of several regression forms as for robustness checks. Overall, my results do not support the hypothesis that an increase in the share of asylum seekers within a municipality is associated with an increase in the electoral support for Progress Party.

## **Abstrakt**

I løpet av de siste to tiårene opplevde Norge en stor tilstrømming av asylsøkere. Innvandring og antall asylsøkere har skapt stor debatt i de siste valgkampene i Norge og mange andre europeiske land. Denne oppgaven utnytter variasjoner på kommunalt nivå på asylsøkere som oppholder seg på mottaksanlegg i Norge, i løpet av en periode med betydelig tilsig av asylsøkere (1997-2015), for å estimere årsakseffekten på valgfallet til anti-innvandringspartiet, hovedsakelig Fremskrittspartiet.

Ved bruk av paneldata med fixed effect model viser resultatene at asylsøkere har en positiv innvirkning på stemmeutfallet til Fremskrittspartiet med svært liten størrelse på estimert effekt. Imidlertid er den estimerte koeffisienten ikke statistisk signifikant, noe som innebærer at det ikke er holdepunkter for effekten av asylsøkere på valgresultatene til Fremskrittspartiet. Dette resultatet gjelder også ved bruk av flere regresjonsformer, og som for robusthetkontroller. Samlet sett støtter ikke resultatene mine hypotesen om at en økning i andelen i antall asylsøkere i en kommune er assosiert med en økning i valgstøtten til Fremskrittspartiet.

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## Chapter 1: Introduction

Over the recent years, an exceptional number of individuals have migrated to Europe for seeking refuge from war and political persecution. For example, over one million people-refugee, displaced persons and other migrants have made their ways to EU only in 2015 (BBC News, 2015). There has been a dramatic decline in the number of illegal immigrants arrived in European countries in the last three years from its 2015-2016 peak, mainly as the result of taking a hardline stance on immigration by some populist governments in European countries (BBC News, 2019). However, tensions between EU members over how to handle unsteady immigration still remain (Henley, 2018). Anti-immigration sentiment is rapidly raised across continent as the result of this extraordinary influx of immigrants. Accordingly, far-right and right-wing populist political parties who support restrictive to immigration policies have gained widespread support in recent elections, such as Freedom Party in Austria, Front National Party in France, Danish People's Party in Denmark, Sweden Democrats Party in Sweden, Progress Party in Norway, and Lega Nord Party in Italy. However, Danish People's Party has lately suffered big losses in Denmark's national election which is held on 5 June 2019 and the results show that there is a stunning shift from the right to the left in Denmark's political landscape.

From 2010 to 2015, an average number of asylum seekers who came to Norway every month is 810, but that number was increased to 2540 people in 2015 when the flow of these seeking asylum extremely increased in the autumn (Norway Today, 2017). According to the figure provided by UDI, 31 145 people applied for asylum in Norway only in 2015 (Aftenposten, 2016). The situation has been followed by frustration for voters who hope for less immigration and immigration has been a contentious issue in political debates that generates emotional reactions among the voter population. Sørensen (2016) suggests that the native voters perceive immigration as a threat to their way of life and will therefore want to punish the left-wing parties for overly permissive immigration policies and vote for right-wing parties. Furthermore, several studies have investigated the impact of immigration on the success of right-wing parties in recent years. These studies mostly find that there is a positive correlation between an increase in immigration and electoral support of right-wing parties in a number of European countries, i.e., Sørensen (2016) for Norway; Dustmann et al. (2018) for Denmark;

Halla et al. (2017) for Austria; Otto and Steinhardt (2014) for Hamburg (Germany); Barone et al. (2016) for Italy.

In the light of the previous findings on the success of right-wing parties in Europe and the current immigration situation in Norway, I choose to look at the case of the Progress Party in Norway which generated notable international attention and maintained its support over two decades. The Progress Party clearly campaigns for a restrictive immigration policies and is naturally known as anti-immigration party in Norway. Furthermore, the party promoted a clear position on reducing the number of asylum seekers in recent years and has presented a series of proposals for tightening Norway's asylum policy, including a lately proposal for abolishing today's asylum institution and replacing it with asylum reception centers in neighboring areas. In recent national elections in Norway, the Progress Party, which is painted in the media as right-wing populist party, has gained strong political support and it entered government five years ago after many decades in opposition. This party was established in the early 1970s, and its primary message was more to do with economic issues such as lower taxes and lesser public intervention (Bjerkem, 2016). Until the late 1980s, the party gained (except in 1977) around four seats in parliament (VG Nett, 2017). But in the late 1980s and 1990s after changing its name, the party reoriented its political message by focusing on immigration, criminality and care for elderly (Bjerkem, 2016). The party, then, went from being a small party to the second largest party in the parliament after the elections of 1997, 2005 and 2009, and the third largest in 2001, 2013 and 2017 (VG Nett, 2017).

When looking at the existing literature that investigate the role of immigration on natives' voting behavior, most of research papers focus on the impact of immigrants or allocated refugees on the election outcomes. In this paper, I rather want to focus on the role of number of asylum seekers in explaining voter support for anti-immigration party. **Accordingly, this thesis examines whether the number of asylum seekers has the impact on electoral outcomes of the Progress Party.** This thesis answers this question by analyzing the voting outcomes of the Progress Party in local and parliamentary elections (1997-2015) and development in relation to numbers of asylum applicants in Norway. So, my thesis contributes to the immigration literature by examining whether number of asylum seekers affects voting preferences in Norway.

In order to accomplish my objective, I make use of register data on asylum seekers allocated in various reception centers in Norwegian municipalities covering the period 1997 to 2016, and I merge this data with the municipal-level data on the voting outcomes of the Progress Party. Since my data only contains information on asylum seekers between 1997-2016, my analysis focuses on the local and national election outcomes of the Progress Party in the period 1997 to 2015, in which Norway experienced substantial inflows of asylum seekers. My empirical strategy is to relate variation in voting outcomes to variation in number of asylum seekers in municipalities. Furthermore, my strategy is based on panel data regressions with municipality fixed effects to eliminate unobserved time-invariant heterogeneity and so focus on the impact of the change in number of asylum seekers on the change in voting outcomes. In doing so, exploiting this variation in number of asylum seekers to municipalities allows me to estimate the causal impact of asylum seekers on voting outcomes.

The dependent variable is accordingly the vote share of Progress Party, which would be negatively or positively associated with change in number of asylum seekers. With my baseline fixed effect estimate, I get the results that show that an increase in the number of asylum seekers has a positive impact on right-wing voting as I expected: a one percentage point increase in the share of asylum seekers increases the vote share of Progress Party by 0.006 percentage point. Nevertheless, the estimated effect is not statistically significant, which indicates that there is no evidence that number of asylum seekers and the voting outcomes of Progress Party are positively correlated. These results are obtained with controlling for a range of municipality characteristics.

Relating to the study of individual attitudes towards immigration and the rise of right-wing parties in Europe, many existing literature focus on the factors that shape attitudes towards immigration and contributed to the success of right-wing parties, mainly on economic factors, i.e. labor market concerns and welfare concerns and non-economic factors, i.e. cultural resentment (a threat to national culture) and the compositional amenities (see Facchini & Mayda 2009, O'Rourke & Sinnott 2006, Mayda 2006, Ortega & Polavieja 2012, Otto & Steinhardt 2014). I review the literature on both economic and non-economic concerns of attitudes. On that account, this paper also highlights the importance of economic and non-economic factors that likely shape individual attitudes towards immigrants. In other words, this paper emphasizes the importance of economic and non-economic concerns by taking into

account that public opinions on immigrants or asylum seekers are likely shaped by those concerns.

The remainder of this thesis is structured as follows. Chapter 2 describes background of the institutional setting, the voting system, immigrant population and background of the support of Progress Party and asylum seekers. Chapter 3 situates this paper in the context of existing literature analyzing the channels for shifting natives' voting behavior. Chapter 4 presents main variables, descriptive statistics, and data sources used for this paper. Chapter 5 introduces all empirical strategies and focuses on empirical results from my main strategy. Chapter 6 provides robustness checks, critique and discussion. Chapter 7 concludes the paper.



## **Chapter 2: Background**

To explain a relationship between number of asylum seekers and the anti-immigration party in Norway, it is important to shed light on political background and the situation of immigration in Norway. Since the paper aims to answer how the number of asylum seekers plays the role on the success of the Progress Party, background of other political parties are not presented in this section. Thus, this chapter introduces a brief background to the administrative divisions, the electoral system, the immigrant population, background of the support for Progress Party and development in number of asylum applicants in Norway.

### **2.1 The administrative divisions**

Norway is a constitutional monarchy with a parliamentary democratic system of governance. State power is divided between three institutions: the National Parliament (Storting-the legislative power), the Government (regjering-the executive power) and the Supreme Court (domstol-the juridical power).

With regard to administrative purposes, Norway is divided into 18 counties (2019), which are further subdivided into 422 municipalities (2019). Oslo is included as a county(fylke) although it is a city and its council has the power of county and its council is elected by the rules of municipal councils. The authorities of municipal and the county councils have been delegated from central government and central government/state administration is directly represented at the local authorities through the County Governors' offices. The municipalities are responsible to deliver a number of services including child care, primary and lower secondary school, social services, local roads, water supply and sewerage and local planning, while secondary schools, regional development, county roads and regional planning are administered at the county level. The municipal and county governments are partly financed by local taxes, charges and fees, local business management, and partly from the allocations from the central government (Unpan.org, 2019).

## **2.2 The electoral system**

According to [stortinget.no](http://stortinget.no), the Norwegian election system is grounded in the principles of direct election and proportional representation in multi-seat constituencies, in which direct election means that «the electors vote directly for representatives of their constituency by giving their vote to an electoral list», while proportional representation means that «the number of seats won by a party is, as far as possible, directly proportionate to the total number of votes received by each party in any given constituency». Both of the national and local elections are held according to a system of proportional representation.

The national parliament (Storting) has 169 representatives elected for a four year term and these parliamentary seats are proportionally distributed to 18 counties. The distribution of parliamentary seat is based on both population of each individual county and its geographical size (Birkedal, 2016). There is no opportunity to call for new elections during the four-year term. Furthermore, Norway has a staggered election system, meaning that national and local elections are held every fourth year, but they are separated by an interval of two years so they are never held in the same year. Thus, the election period is four years for both national and local elections. In addition, Norwegian election is not based on individual candidates, but on individual political parties. So when an elector votes, it is not for individual candidates, rather it is for the lists of candidates that have been run by different parties (Birkedal, 2016).

## **2.3 The voting right**

The voting right is universal suffrage from the year a person turns 18 years old. To be precise, a person who turns 18 within the year of the elections is eligible to vote in local and regional elections, as well as in national election. Only Norwegian citizens can vote in the parliamentary elections, whereas foreigners who fulfill certain length of residence requirement (at least 3 years) can also vote in regional and local elections. Before new rules were implemented in 2016, permanent residency was normally granted if the applicant fulfilled the following criteria: 1) 300 or 600 hours of Norwegian language classes, 2) the applicant has stayed in Norway for at least 3 years, 3) the applicant has not committed a serious crime while staying in Norway. After staying in Norway for 7 years, application for

Norwegian citizenship was usually granted if the applicant has no record for serious crimes within 7 years.

According to UDI (2016) and Guttu (2017), new rules in 2016 came up with additional tasks to get both permanent residency and citizenship. The additional tasks are: (1) to get permanent residency, the applicant additionally needs to pass Norwegian language-test at A1 level and social studies test in whatever language the applicant choose even though he/she has already fulfilled the criteria which is mentioned above (UDI, 2016), (2) to become Norway citizen, the applicant must additionally pass Norwegian oral test at minimum A2 level and citizenship test (statsborgerprøven) in Norwegian (Guttu, 2017). So, it takes two years before being able to vote in local elections even after getting residence permit, and it takes a long time to receive Norwegian citizenship. Accordingly, I assume that asylum seekers do not participate in both of local and national elections. Hence, the issue of naturalization (a legal process by which a citizen of another country or asylum seeker becomes a citizen of the hosting country so that they can participate in the elections) and the effect of the re-allocation of asylum seekers who might move to other municipalities while in Norway, are disregarded in this analysis.

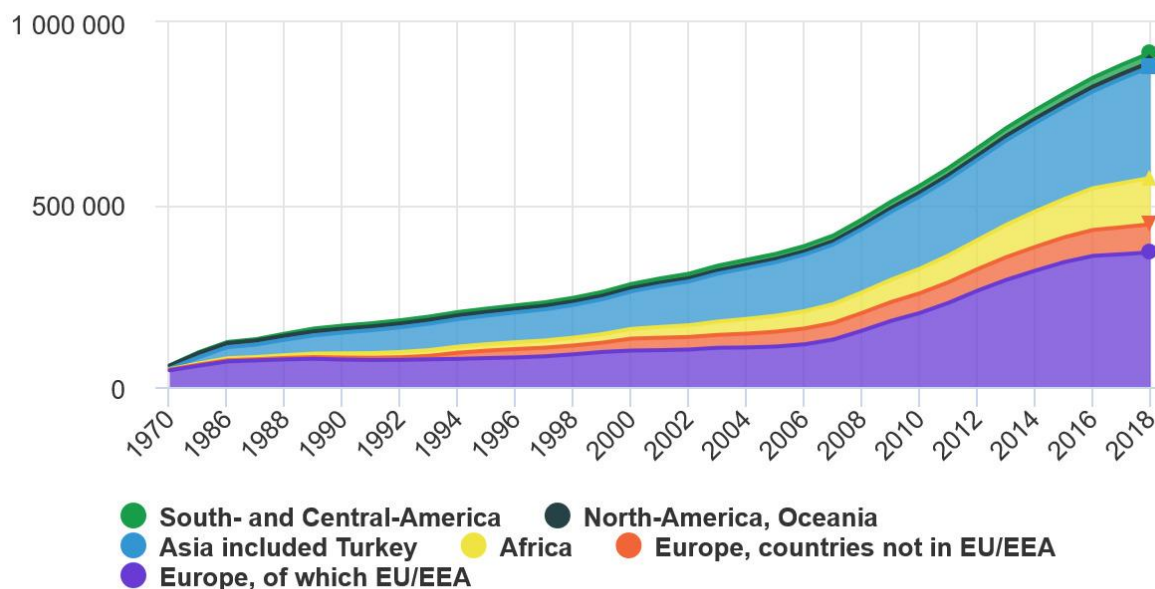
## **2.4 Immigrant population in Norway**

There were only a few immigrants in Norway before the late 1980s. Sørensen (2016) states that there were about 3500 immigrants from non-Western countries and this number accounted for 0.1 percent of total population in Norway in 1970. As a result, two-thirds of municipalities did not have a single person originating from the outside of the Western countries. After the Norwegian economy improved from 1970s, many people who were outside from Western countries (Asia, Africa and Latin America) also came to Norway and the number of immigrants therefore began to rise steeply from 1980s and 1990s, mainly as the result of asylum seekers escaping from war, persecution and political turmoil in various parts of the world.

According to Statistics Norway, there were 746 700 immigrants and 170 000 Norwegian-born to immigrant parents in Norway at the beginning of 2018. With these figures, immigrants accounted for 14.1 percent of total population of Norway in January 2018, while Norwegian-

born to immigrant parents accounted for 3.2 percent (ssb.no, 2018). Figure 1. displays data on the immigrant population in Norway divided into groups by different country background.

**Figure 1. Immigrants and Norwegian-born to immigrant parents, by country background**



Source: Immigrants and Norwegian-born to immigrant parents, Statistics Norway.

## 2.5 Asylum seekers in Norway

First, I distinguish the difference between the terms refugee and asylum seeker. An asylum seeker is a person who has sought protection as a refugee but whose claim has not yet been evaluated and is waiting to receive a decision on their claim, while a refugee is a person who is protected by international laws and has a right to legal protections guaranteed by the United Nations Refugee Agency or UNHCR.

In the cases of Norway, those who seek asylum in Norway stay at various asylum reception centers in different municipalities after the police registration is completed and wait for the outcomes of their cases from UDI. While they are waiting for a decision on their claims, they can choose to stay at asylum reception center or with relatives or some friends, but there is no economic support if they live outside reception centers (Norsk organisasjon for asylsøkere, 2019). With regard to unaccompanied minor asylum seekers, the Norwegian Child Welfare Services (det statlige barnevernet) is responsible for those who are under the age of 15 years

and they are offered a place to stay at a care center for minors, while UDI is responsible for those who are between the age of 15 and 18 years old and these minors asylum seekers are offered to stay at a reception center which is specially oriented for people of this age (Folkehjelp, 2017). Some unaccompanied minor asylum seekers so choose to stay outside the ordinary reception system while waiting for their cases from UDI, usually with close relatives in Norway. This paper, then, focus on the asylum seekers who stay at reception centers since my data on asylum seekers is applied for those who live in reception centers.

When looking historical context of refugees/asylum seekers who came to Norway, we then need to take a restropective look at the 1970s because the highly rise in immigration was started from 1970s. Sørensen (2016) stresses that the Norwegian population was a relatively homogenous in term of ethnicity, language and culture until the 1970s, largely made up of white Christian population. In the late 1960s, Norway accepted a number of labor immigrants from some European and Asian countries (i.e. Morocco, Yugoslavia, Turkey, Pakistan) as the result of a booming economy and a population shortage (Besty, 2005). This extensive labor immigration was eventually followed by other immigrants, including refugee and family reunification. Large groups of immigrants in the 1970s were asylum seekers from Chili and Vietnam. Then, the number of asylum seekers was sharply increased in the mid-1980s as new groups from countries such as Iran and Sri Lanka arrived. In the 1990s, a large group of war refugees came from Balkan countries and from Iraq, Somalia and Afghanistan in the late 1990s.

The number of asylum seekers was gradually increased in the 2000s, particularly from Eritrea, Somalia, Afghanistan, Iraq as well as Liberia and Myanmar. The number has, then, reached its peak in the 2010s especially when more than 30000 people from Syria, Afghanistan and other war-torn areas arrived Norway in 2015 (ssb.no, 2017). This extraordinary flow of asylum seekers undoubtedly creates major challenges for Norwegian welfare system in the way of integration and forced deportation for those who are not granted asylum in Norway. On this account, a number of proposals have been made by the Progress Party after its entering government in order to tighten Norway's asylum rules, which leads to a slightly change in regard to asylum policies in recent years (government.no, 2016). As the result, there has been a dramatic decrease in the number of arrivals in the last three years. For example, only 2654

people claimed asylum in 2018 compared to 31 145 people in 2015, according to government statistics.

## **2.6 The support of Progress Party**

The progress Party is one of the most successful right-wing parties in Europe. The party has not only gained the seats in parliament, but has also entered the government after the 2013 parliamentary elections and after being opposition party for 40 years. It was established in 1973 and originally named Anders Lange's Party. It was founded on a liberalist platform, which campaigns for lower taxes, lower restricting and directly controlling private commercial activity. The party unexpectedly gained 4 seats in the 1973 elections and entered parliament for the first time. Bjerkem argues that a growing anti-tax sentiment in public opinion and the charismatic personality of Anders Lange were crucial factors to this unexpected breakthrough in 1973.

However, internal disagreements and the death of Lange led the party to be with no seats in the parliament in the 1977 elections and the party changed its name to the Progress Party in 1978 (Bjerkem, 2016). In the mid-1980s, there were public protests over the sharply increase of asylum seekers, which numbers peaked at 8600 in 1987 (Besty, 2005). The party reconstructed its political message in the late 1980s to focus on immigration, criminality and better public health care for old-age (Bjerkem, 2016). Sørensen (2016) also suggests that a restrictive immigration policy became a key policy element for the party in the 1987 local election, in which there was a breakthrough for the party. After receiving only 3.7 % of parliamentary vote in 1985, the party received 13 % in the 1989 national election. In the same way, the party gained 5.3 % of the vote in the 1983 local election and 10.4 % of the vote in 1987. Over many recent years, the party went from being a small party to the second largest party in parliament after the elections of 1997, 2005 and 2009 and third largest party in 2001, 2013 and 2017. In Figure 2, I display the development of electoral support for the Progress Party in the local and national elections.

## **Chapter 3: Theoretical accounts and related literature**

As immigration population has grown and Europe experienced its biggest influx of migrants and refugees since the second world war, immigration and asylum seekers have been fast-growing phenomenon in recent years. Under those circumstances, an extensive literature on the impact of immigration to electoral outcomes has also quickly developed. The questions of what factors shape individual preference in support of right-wing parties and what concerns are linked to the success of right-wing political parties are important for understanding voter's shift induced by the issue of immigration or asylum seekers. The aim of this paper is not to answer explicitly these questions. However, in this chapter I want to present the dominant determinants of natives' responses toward immigration, namely economic determinants and non-economic determinants.

Furthermore, a number of scholars have focused on different theoretical approaches to understanding the natives' attitudes toward immigration. Some scholars divide literature on determinants of natives' attitudes based on the political economy approach and the political psychology approach (Wigg, 2017), whereas others considerably distinguish the determinants of immigration attitudes by just referring determinants as economic and non-economic factors (Mayda 2006, Davis & Deole 2015, Ortega & Polavieja 2012, O'Rourke & Sinnott 2006, Scheve & Slaughter 2001). I use the latter for discussing the factors that can likely shape native voters' preference in favor of anti-immigration party.

### **3.1 Economic factors**

According to Scheve and Slaughter (2001), economic factors are generally assumed to be the impact of immigrants on natives' return through labor market competition and the fiscal burden of immigrants on the public sector. The first issue (labor market competition) refers to a situation where natives perceive immigrants negatively fearing that they will lose their jobs due to skilled immigrants, whereas the second issue (fiscal burden) refers to a situation where immigration poses natives' concerns that immigrants are likely to be beneficiaries of costly welfare programs (Davis & Deole 2015). These two issues have been the most important economic factors in a recent and growing body of literature analyzing the

determinants of attitudes towards immigration (Ortega & Polavieja 2012, Mayda 2006, Scheve & Slaughter 2001, Facchini & Mayda 2009, Davis & Deole 2015).

### **3.1.1 Labor market competition**

The size of the population of asylum seekers, which is my main explanatory variable in this paper, does not have a direct impact on the labor market, but it is related to the natives' opinions and perception regarding the labor market since asylum seekers also are those who enter into national labor market after granting asylum. Therefore, in this section I look at the previous literature that studied the effect of labor market competition on immigration attitudes based on the international trade model (the Heckscher-Ohlin) and the factor-proportions-analysis (FPA) model (see Scheve & Slaughter 2001, O'Rourke & Sinnott 2006, Mayda 2006). The HO model concentrates on small open economies and its differences in relative factor endowments. It assumes that there is only one national labor market and three factors (skilled labor, unskilled labor, and capital) produce at least two commodities and all these three factors are completely mobile across sectors. On the grounds of this, the trade can take place between countries by importing or exporting these factors of production. With these assumptions, each country chooses the output mix to maximize the national income as in equilibrium of national wages (Scheve & Slaughter, 2001). In contrast to HO model, the FPA model focuses on a closed-economy and assumes a single aggregate output market. As in the HO model, the FPA model also assumes a national labor market that characterizes every factor of production and the factors can move freely within countries' borders (Mayda, 2006).

Based on these two models in which citizens are endowed with different factors of production and income levels (i.e. skilled labor, unskilled labor, and capital), the previous studies analyze how the influx of skilled labor versus unskilled labor affect natives' attitude toward immigration. The affect of immigrant workforce on national wages is the same in these two models as the same reasoning (Scheve & Slaughter, 2001). Focusing on a simple FPA model where we can assume that immigrant workers are less skilled than native workers, the influx of unskilled immigrants will therefore increase the supply of unskilled workers compared to other factors in the market. Consequently, there will be more competition in the market for unskilled labor and wages for low-skilled natives will be decreased, whereas wages for natives



with high skill will be increased. On the other hand, if immigrants with high skills are more than native with high skills skilled labor will be more in the market. As a result, the wages for high skilled workers will be decreased, while wages for low-skilled workers will be increased. In short, the FPA model predicts that there is a relationship between skill-levels and natives' attitudes towards immigrants and suggest that low-skilled workers in a hosting country should favor policies to lower immigration inflows and vice versa.

In line with the theories mentioned above, the essential findings are reported in previous studies in regard to the relationship between labor skill and policy preference. First, Scheve and Slaughter (2001) find support for the FPA model, using survey data on National Election Studies for US (1992, 1994, 1996). They conclude that low-skilled individuals are more likely to favor more restrictive immigration policy and high-skilled people are likely to prefer less restrictive immigration policy.

Second, O'Rourke & Sinnott (2006) also report their findings which are consistent with the findings of Scheve & Slaughter(2001), using a cross-country survey data on individuals from 24 countries. They conclude that «the high-skilled are less opposed to immigration than the low-skilled, and this effect is greater in richer countries than in the poorer countries and more equal countries than in more unequal one, and skill does not appear to matter for the attitudes of those not in the labor force» (p.857). In addition, they found that «the determinants of attitudes towards refugees are quite different from the determinants of attitudes towards immigration in general» (p.857).

Thirdly, Mayda (2006) also report her findings which are consistent with HO model and FPA model. Her analysis also covers a data for individuals from 22 countries on socioeconomic background, opinions on immigration and trade policies, political preferences and national identities. She finds that «opinions about immigration policy are significantly correlated with individual skill» (p.526). As in the previous findings, she also find that skilled people are more likely to be pro-immigration in countries where native people are more skilled than immigrants and skilled people are less likely to be pro-immigration in countries where native people are less skilled than immigrants, and «countries with higher immigrant inflows and lower skill composition of immigrants relative to natives tend to be less pro-immigration on average» (p.528). In addition, she also finds that the population size of asylum seekers is associated with more negative attitudes towards immigration.

As in the case of Norway, immigrants are on average less skilled than natives and even high skilled immigrants are usually employed in unskilled jobs. I therefore expect that low-skilled natives will oppose immigration more than high-skilled natives due to economic concerns over labor market competition.

### **3.1.2 Welfare benefits**

The consideration on welfare benefits is the important issue in regard to the analysis of individual attitudes towards immigration within and across countries, as well as for the studies of electoral success of right-wing parties in Europe. The analysis on this issue is based on models in public finance (Wiig, 2017), which assume that low-skilled immigrants are likely to represent a net burden for public finance for hosting countries. For instance, in some hosting countries immigrants are generally less-skilled than natives, so that immigrants are prone to belong to the lowest level of income distribution, which makes them probably to be dependent of welfare benefits. This will affect natives' income distribution to welfare program as well as benefits they receive from it. This in turn becomes a driver of their attitudes towards immigrants. To shed light on this insight, two models are widely cited; tax adjustment model and benefit adjustment model (see Mayda 2006, Facchini & Mayda 2009, Otto & Steinhardt 2014, Davis & Deole 2015, Barone et al. 2016).

Tax adjustment model assumes that the government adjusts the tax rate following the inflow of immigrants, so that per capita benefits are not changed. According to this model, high-skilled natives will be more negative to low-skilled immigrants than low-skilled natives since natives with high-income bear most of the welfare costs through taxation. On the other hand, benefit adjustment model suggests that a welfare state adjusts per capita benefits and keeps the tax rates constant. Then, low-skilled natives, who are likely at the bottom of income distribution, will suffer from loss of benefits because of low-skilled immigrants, so that they are more likely to oppose immigrants compared to high-skilled natives.

By using data on the cross-country and individual-level variation, Facchini & Mayda find that people with high-income oppose immigration in countries where immigrants are on average less skilled than natives and per capita benefits are fixed (tax adjust model) and immigrants are therefore perceived as the net burden of welfare state. They also find that there is a

positive correlation between income and pro-immigration where immigrants are skilled and perceived as net contributors to the welfare state. However, it is difficult to decide which model is at work in my case.

Examining how immigrants raise concerns over welfare benefits in the case of Hamburg, Germany, Otto & Steinhardt (2014) divide immigrants into several groups in analysis and find positive significant impact only for a group of refugees who are largely dependent on welfare benefits. Therefore, they conclude that welfare consideration is the important channel behind their results. This finding is particularly relevant to the case of this paper, since asylum seekers and refugees are largely dependent on public welfare benefits in Norway.

### **3.2 Non-economic concerns**

A significant body of study, which recently investigates the impact of immigration on the success of right-wing parties in Europe, takes the potential roles of non-economic factors in the success of right-wing parties. These studies largely find that non-economic factors play the important roles for political preferences (Otto & Steinhardt 2014, Barone et al. 2016, Davis & Doele 2017, Sørensen 2016, Halla et al. 2017). Mayda (2006) stresses that the key non-economic factors are security concerns, cultural concerns and concerns on national identity, whereas some existing literature (i.e. Halla et al. 2017 and Otto & Steinhardt 2014) take critically compositional amenities (the impact of immigrants on the quality of local schools, workplaces and neighborhoods) as non-economic factors in explaining natives attitudes toward immigration. Therefore, I take a review on all these factors by following these existing studies mentioned above.

#### **3.2.1 Security concerns**

Mayda (2006) argues that security concerns are related to a belief or perception that immigrants are more likely to be involved in criminal activity compared to the natives. This argument is relevant to the case of Norway where the proportion of people who involved in criminal activity is higher among immigrants and Norwegian-born to immigrants parents compared to the rest of population according to a recent analysis report which was carried

out through Statistics Norway (ssb.no, 2017). The analysis data covers the period 1992 to 2015 and this project report was a task given by the political star of Progress party, Sylvi Listhaug, who was minister of immigration and integration at that time (NRK, 2017). As mentioned in section 2.6, this asserting is indeed related to a usual claim in the political message from the Progress party. In accordance with this report, natives will supposedly perceive immigrants and asylum seekers as the threat to national security and oppose these people due to their worry about security.

As looking at the previous findings, Barone et al. (2016) also examine the perceptions by natives that immigration cause more crimes, and they find statistical insignificant impact for this factor. As for my case, I also expect that security concerns are the important factor for explaining natives attitudes towards immigrants and asylum seekers since this issue is badly highlighted by anti-immigration party in recent election campaigns. To investigate if this channel is at work, I need accessible information on the crime rate committed by asylum seekers, as well as differentiating between different groups of asylum seekers according to their country background. Unfortunately, my data set does not contain such kinds of informations, so that I cannot explicitly examine how natives' voting behavior is associated with their security concerns over asylum seekers.

### **3.2.2 Cultural concerns and national identity**

In regard to cultural considerations, O'Rourke & Sinnott (2006) point out that «natives may derive utility from living in a society with a well-defined sense of national identity and well-understood and accepted social norms» (p.844). The extraordinary inflow of foreigners may therefore cause the worry for national culture and identity, driven by a suspicion that the set of norms and traditions that characterize the hosting country's society will be weakened by this excessive inflow of foreigners (Mayda 2006), which leads to negative attitudes towards immigrants.

In line with the value theory, Davidov et al. (2014) also argue that conformity-tradition values leads to negative attitudes towards immigrants, whereas universalism values have a positive impact on attitudes towards immigration. This is because values of conformity-tradition «express the motivation to maintain the beliefs, customs, and practices of one's culture and

family and to avoid violation of conventional expectation and norms» (p.267), while universalism values express individuals' difference and encourage «to understand, tolerate, and protect the welfare of all people» (p.267).

As in the case of national-culture worry and conformity-tradition, natives will thus oppose a large inflow of immigrants and asylum seekers on the belief that these newcomers undermine the set of values, norms and traditions that characterize the receiving country's culture and identity because immigrants from different ethnic origins and cultures are likely to introduce unfamiliar values, new practices and beliefs into the receiving country (Davidov et al. 2014).

By using data on the European Social Survey that consists of 22 European countries and analyzing natives' concerns over economic and cultural impact of immigration, Davis & Doele (2015) conclude that cultural concerns over immigration play significantly a larger role than economic concerns in a shift to right-wing parties in Europe. Sørensen (2016) also analyzes whether non-western immigrants raise concerns over national culture by using additional data (survey questions) on National Election Studies. He concludes that cultural considerations play the important role for negative attitudes towards immigration, while labor market competition and concerns on welfare benefits are less related to immigration attitudes. Similarly, Berone et al (2016) also find in the case of Italy that cultural considerations play an important role in natives' voting behaviour.

Thus, I expect that natives perceive asylum seekers as a threat to national culture and identity. For this reason, a large inflow of asylum seekers produce negative attitudes towards asylum seekers that will induce the voting shift in favor of anti-immigration party. Again, I have no additional information which exploits natives' concerns over national culture due to asylum seekers, so that I cannot explore whether this channel is at work in this analysis.

### **3.2.3 Compositional amenities**

Card et al. (2012) stress that «a distinctive feature of immigration is that it changes the composition of the receiving country's population, imposing potential externalities on the existing population» (p. 79). Consistent with this assertion, Halla et al. (2017) argue that the concerns about compositional amenities are related to concerns over the impact of immigration on local communities by affecting the quality of the local schools,

neighbourhoods and workplaces. Some existing literature strongly focused on these factors in determining individual attitudes toward immigration and find that concerns over compositional amenities play an important role in shaping natives' attitudes toward immigration and natives' voting behaviour (see Otto & Steinhardt 2014, Card et al. 2012, Halla et al. 2017).

By using several proxies for compositional amenities, Halla et al. (2017) take the potential roles of compositional concerns in the success of the far right party when investigating the relationship between immigration and electoral support for the far right party in Austria. They find that there is a positive impact of immigration on the election outcomes of far right party and conclude that concerns about compositional amenities are likely the important factors for their results. As for the case in Hamburg, Otto & Stainhardt(2014) use share of foreign children in local communities to examine whether compositional amenities play a role for the success of anti-immigration parties and find that these factors also are likely to be one of the main drivers for their results, in which they find that there is a positive correlation between immigration and the success of anti-immigration parties in Hamburg, Germany.

In the case of Norway, asylum seeking children have a right to access to educational provision after three months from arrival in Norway. Then, they can go to local kindergartens and schools. Besides, after having their asylum interview some of asylum seekers even get temporary work permit while waiting for their case from UDI (Skjeggstad, 2016). Therefore, I expect that the concerns that asylum seekers or refugees impose negative externalities can be the driving forces behind the success of the Progress Party. As discussed earlier, I need indicating variables for the impact of asylum seekers on local communities in order to investigate whether this channel is at work, i.e. share of asylum seeking children in local population. However, my data does not contains such information so that I cannot explicitly explore the effect on compositional amenities.

## **Chapter 4: Data sources, main variables, and descriptive statistics**

This thesis focuses on the relationship between the number of asylum seekers who were hosted in Norway over the 1997-2016 period and the voting outcomes of Progress Party and relies on a register data on number of asylum seekers who live in reception centers in several municipalities and the municipal-level data on the local and national election outcomes for the Progress Party over the 1997-2015 period. In this section, I present the data sources, descriptive statistics and main variables that are included in my regression models.

### **4.1 Data sources**

I derive my data from two sources: NSDs kommunedatabase (Norwegian Centre for Research Data) and a register data on asylum seekers who stay at reception centers in Norway. NSDs kommunedatabase consists of various kinds of register data on municipal-level variables and provides data to researchers and students in Norway and abroad. Thus, data on election outcomes for Progress Party and other municipal-level variables are taken from NSDs kommunedatabase, which provides for each municipality detailed information on votes for all parties in Norway and municipality characteristics such as resident population with different education level, the elderly people, foreign-born share, unemployment rate and so on.

The data on number of asylum seekers is taken from one dataset which contains a register data for number of asylum seekers covering the period 1997 to 2016 and population size in each municipality. With focusing on the voting outcomes of Progress Party and asylum seekers, I pool the data on the local and national elections that took place over the period 1997 to 2015 in order to construct a panel data and merge this panel data with the dataset on asylum seekers. In order to identify the share of asylum seekers in each municipality over all these election years, I create the variable for the share of asylum seekers by using population size in each municipality, meaning that population of asylum seekers in every 8th month in every other year (a month before each election took place) is divided by the population size in each municipality. Likewise, I construct variable for the vote share of Progress Party calculated by total votes in each election year.

Asylum seekers are not hosted in all Norwegian municipalities and some municipalities had no asylum seekers in the election years (1997-2015), which means that there is no time variation for share of asylum seekers in some municipalities that is indeed required for my empirical strategy (fixed effects model). Thus, I need to drop those municipalities in which there was no asylum seekers in these years (1997-2015) because I cannot identify the effect of variable that does not vary over time within municipality. After merging all data on interesting variables, I maintain only the observations that are matched. Accordingly, a substantial number of observations are dropped from my final dataset. Overall, after matching all data I obtain a panel dataset with 186 municipalities and 10 elections (years) which covers 1842 observations (see Table 1).

#### **4.2 Main variables**

My dependent variable is the Progress Party ( $PP_{it}$ ) which measures the share of valid votes for Progress Party in local and national elections. Information on voting outcomes of Progress Party is taken from NDSs kommunedatabase as mentioned in section 4.1 and available for the election years from 1973 to 2017. Since I want to relate the election results of the Progress Party to the register data on asylum seekers (which only covers for the period 1997-2016), the election results of this party in this analysis covers only for the years 1997-2015. Fig.2 also shows the development of the vote share for this party calculated in the mean value. I expect that focusing on the voting outcomes of Progress Party will identify natives' voting behavior which would be related to their attitudes towards asylum seekers or refugees.

The key explanatory variable in this analysis is the share of asylum seekers in municipality population ( $AsyShare_{it}$ ). As mentioned in section 2.5, it has been changed over time as the result of migration flows and the change of political climax in Norway. Based on the evidence from the existing literature on natives' attitudes towards immigrants, I expect that the increase in a municipality's share of asylum seekers will have a positive effect on the election outcomes of the Progress Party.

By using fixed effect model (municipality and year fixed effects), I have adjusted for every potential effect that is constant within each municipality, or is constant across all municipalities within each year. However, any effect that varies on both of these dimensions



remains unadjusted. Hence, to capture changes in composition effects on the vote share of Progress Party and control for observable economic and social differences across municipalities, I include controls for municipality population, share of population aged 67 years and higher (*PenShare*), share of unemployed (*Unemployed*), share of children (*ChildShare*) which is taken from population at pre-school age, share of children at primary school age (*PupilShare*), share of total women in each municipality (*TotalWomen*), share of residents with primary education (*EduPrimary*), upper secondary education (*EduSecondary*) and higher education (*EduTertiary*), share of immigrants(*ImmShare*) which refers to the first and second-generation immigrants, foreign-born share(*ForbornShare*) and number of cases with financial assistance from welfare state (*NCFassistance*) which is used as a proxy for economic situation in municipalities.

Considering on which variables should be included in the model is challenging since it is hard for me to control all variables that affect the electoral outcomes of Progress Party. Thus, by my own evaluation and following the existing literature I choose to include these variables (that vary on both municipality and time dimensions) in my model as control variables. All data on these control variables are obtained from municipality database. I then construct the shares of these variables to each municipality's population. The advantage of using this municipality database is that all interesting variables for this analysis are available for all election years (1997-2015).

Regarding the share of unemployed, municipality database contains the annual average unemployment rate for women and men. I then construct a measure of unemployment rate by putting together these two variables to be one variable as the unemployment rate. In the same way, I construct a measure of higher education by generating one variable in which I combine college/university education (short period) and college/university education (long period)) to be one variable as tertiary education.

### **4.3 Descriptive statistics**

Following Statistics Norway, asylum seekers are not registered as residents in municipality population before they are granted a residence permit, and thus not included in statistics. Therefore, from my primary data sources I have no information for the origin countries of

these asylum seekers because my dataset contains only the number of asylum seekers who stay at reception facilities in various municipalities. However, according to UDIs statistics on foreigner the top ten countries of origin among asylum seekers in the years 2007 to 2015, were Somalia, Afghanistan, Iraq, Eritrea, Ethiopia, Iran, Sudan, Nigeria, Russland and Syria. In any case, this section provides descriptive statistics for the main variables based on my dataset.

In Table 1, I summarize the share of asylum seekers in municipalities and the vote share for the Progress Party in the local and national elections (1997-2015), including municipal-level variables that I use to control for observable municipal heterogeneity. It is also interesting to note that there is fairly large variation across municipalities in regard to population size of asylum seekers and the resident population as well. As can be seen in Table 1, the mean share of Progress Party votes and asylum seekers are 14.25% and 1,03% respectively, and these shares are measured as the percentage of population size in each municipality.

As mentioned in section 4.2, other interesting variables are constructed from municipality characteristics as control variables and the main reason for having a set of municipality covariates is to control for the observable differences across municipalities. For instance, I include population to capture population dynamics in each municipality. Besides, different people groups might have different political preference according to the political messages from various parties. As for an additional example, voters (residents) might have different political preference in accordance with their education level (i.e., higher education and lower education) and labor market status (i.e., unemployed, retirees, parents with children at pre-school age, parents with children at primary school age, students and others). As such their preference will be reflected in their vote to some political parties. Hence, I use a set of municipality characteristics as control variables to capture changes in composition of the voters (population composition) and observable differences across municipalities. Table 1 reports summary statistics which is obtained after merging all data on asylum seekers, the electoral outcomes for Progress Party and other municipal-level variables.

**Table 1**  
**Descriptive Statistics**

Variable	Obs	Mean	Std.Dev.	Min	Max
PP vote share	1842	14.248	8.008	0	49.314
AsylShare	1842	1.025	1.804	0	18.144
PenShare	1842	15.036	3.127	7.072	23.928
ChildShare	1842	4.767	.933	2.358	7.683
PupilShare	1842	13.122	1.508	8.286	19.377
TotalWomen	1842	49.789	.93	45.662	52.203
EduPrimary	1842	26.922	5.159	12.571	44.393
EduSecondary	1842	35.778	3.341	24.172	46.454
EduTertiary	1842	15.832	5.21	6.49	40.473
Unemployed	1842	1.377	.535	.287	3.943
Population	1842	18.516	48.075	.998	647.676
ImgShare	1842	6.229	4.055	.596	31.913
ForbornShare	1842	6.601	3.606	.667	26.586
NCFassistance	1842	2.85	1	.576	7.937

Notes: The statistics on municipal characteristics are taken from municipal-level data. Except from population variable, all variables are measured as percentage of the population size in each municipality which is taken from another research data. Population is in thousands.

In another way, Fig. 2 displays the development of voter support for Progress Party and the change in number of asylum seekers in all election years (1997-2015), as well as the foreign-born share which are showed in the mean value over all municipalities in each election year and measured as percentage of the size of resident population in each municipality. As can be seen in Fig. 2, the voter support for Progress Party is noticeably higher in parliamentary elections compared to local elections. When looking at all these election years (1997-2015), the mean value of electoral outcomes for Progress Party is highest in the 2009 national election, whereas the lowest mean was obtained in the 2015 local election.

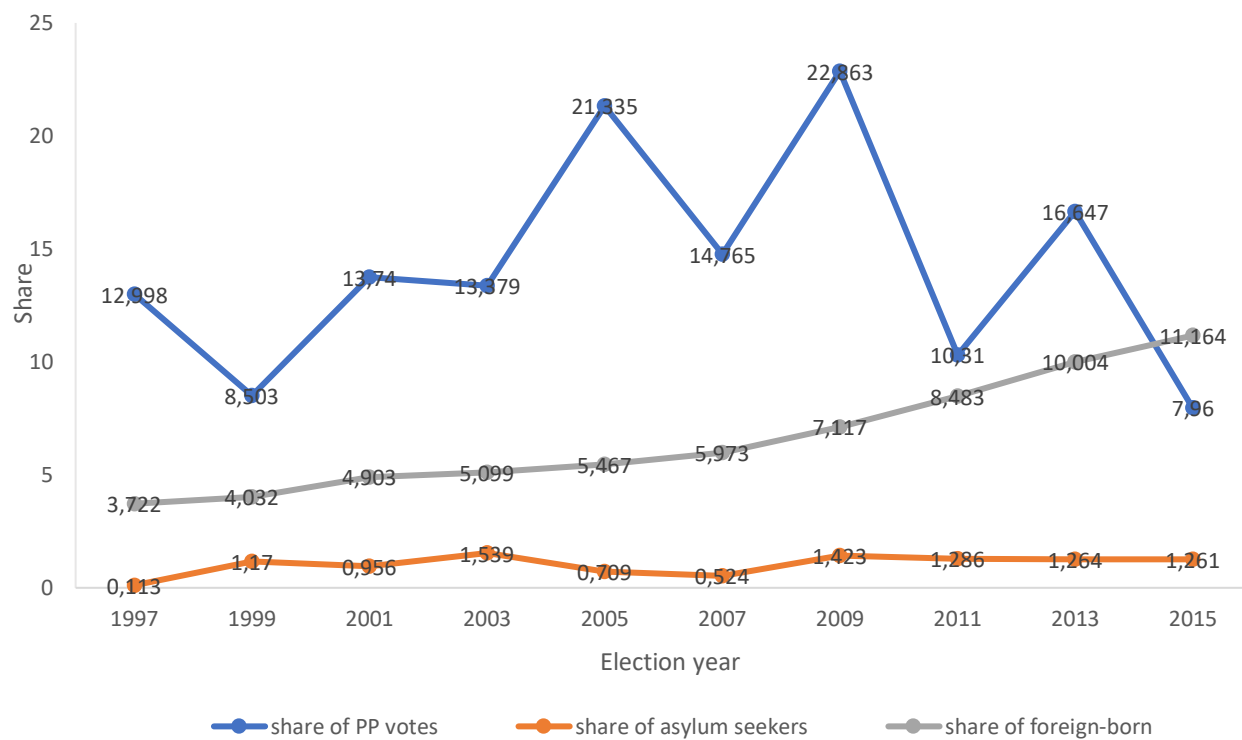


Fig. 2. Development of voter support for the Progress Party, number of asylum seekers and foreign-born share.

## Chapter 5: Empirical Strategy

My main empirical strategy is based on panel data regression model with municipality fixed effects that allow me to eliminate the unobserved time-constant heterogeneity between municipalities. However, I also want to make use of pooled-OLS model in order to identify the most relevant variables of municipality characteristics that affect the election outcomes of the Progress Party. In this chapter, I present all of my strategies for this paper, including the potential challenges with these empirical strategies. First, I present the problem of endogeneity and robust estimating that is used to control for heteroscedasticity and serial correlation. Then, I provide pooled OLS model and fixed effects model.

### 5.1 The problem of endogeneity

When working with causal analysis in the absence of randomized and experimental data, we try to obtain the empirical designs that will produce the coefficients that capture the causal relationship and the estimates will be consistent. In this kind of analysis, the main threat to consistency is endogeneity (Antonakis et al. 2014). Generally, we say that endogeneity problem occurs when at least one of the regressors is correlated with the error term, then the exogeneity assumption is violated (i.e.,  $E(u|x) \neq 0$ ). In other words, endogeneity problem arises because of three reasons; 1) there is measurement errors in some of regressors, 2) there is omitted variable that is correlated with some regressors, 3) reverse causality that arises when dependent variable and at least one of the independent variables are simultaneously determined (Verbeek, 2017).

Wooldridge (2016) defines measurement error «as the difference between the observed value and the actual value» (p.288). In other words, it can be defined as the difference between the reported value and the actual value. Wooldridge (2016) further states that measurement error in explanatory variables is considered to be more important problem than measurement error in dependent variables. These measurement errors naturally arise due to inaccurate recording or record error from the survey process. As becoming part of the error term in regression model, the measurement error then creates an endogeneity bias. In the case of this paper, data on my dependent variable and explanatory variables do not seem to

have a problem with measurement error, so that I disregard the challenges of measurement error in this paper.

The issue of omitted variable is possibly the problem in my model since there are many other factors that can affect the vote share of Progress Party. For example, concerns over the issues of tolls and tax cuts are probably the important factors that affect the voting outcomes of Progress Party. However, these kinds of variables are difficult to be measured and I have no information on these, so that I cannot control for this kind of omitted variables. Then, the omitted variable, which is correlated with some of my regressors will result in correlation between regressors and error term causing an endogeneity bias. By using the fixed effects model, omitted time-constant variables can be controlled. In other words, individual specific effect/unobserved heterogeneity is cancelled out. Nonetheless, the effect of omitted time-variant variables still remains challenging if the model is not dealt with the valid instruments.

If reverse causality is present in my case, then we have a situation where the dependent variable also has an impact on one or more variables in explanatory variables at the same time as the explanatory variables, say  $X_i$ , have an impact on dependent variable, say  $Y_i$  (Verbeek, 2017). For instance, there is a situation where one municipality, in which there is a small number of representatives of Progress Party in municipal council, receives more asylum seekers compared to other municipalities. In this case, asylum seekers do not make Progress Party to be a small party in that municipality. Rather, little support for Progress Party in municipality is the reason why a large number of asylum seekers are received in municipality. If Progress Party won widespread support from local population (i.e., many representatives of the party to local council), then only a few number of asylum seekers would be received in that municipality (opposite outcome from the former case).

## **5.2 Robust estimating**

The reason why the robust estimators are used in panel data is the possibility that the idiosyncratic error can have either heteroscedasticity or serial correlation. It is also possible that both of them are present in the error term.

Heteroscedasticity (the violation of homoscedasticity) is present when the error term doesn't have a constant variance, it means that the size of the error term changes in response to a

change in the values of independent variables. In the presence of heteroscedasticity, we can face a variety of problems for OLS estimators such as; 1) OLS estimator may no longer be BLUE estimator, 2) OLS estimators may not be efficient, 3) the estimated standard error is biased. The most serious problem associated with heteroscedasticity is the biased standard error because this biased standard error will lead to inaccurate conclusions about the significance of our coefficients since the standard error is the key for carrying out the significance tests and calculating confidence intervals (Statistics Solutions, 2013).

Serial correlation (also called autocorrelation) occurs when the error term for one time period is correlated with the error term for a subsequent time period in the future (pure serial correlation). In other words, serial correlation arises when error terms in a time series data move from one time period to another future time period. Serial correlation does not affect unbiasedness or consistency of the estimated regression coefficients. However, just like the cases in heteroscedasticity it affects the efficiency of estimated coefficients through the biased standard error that is present due to serial correlation.

With regard to my case, I suspect that I can have a problem of serial correlation in my model. Besides, I cannot ignore the possibility of heteroscedasticity in my model. In so doing, I choose to make use of the robust standard errors by using robust-option in regression in order to control for both heteroscedasticity and serial correlation.

### **5.3 Pooled OLS estimators**

While FE exploits only the variation within units, the pooled OLS exploits all variation in the data, both variation within and between the units. For fixed effects, if some of my explanatory variables vary insufficient over time (very small variation), then the identification of the effect of those variables would be challenging and that will naturally result in insignificant coefficients. It doesn't mean that OLS works better than FE in respect to significant results. In fact, pooled OLS requires a stricter assumption in order that the estimators will be consistent. For instance, the OLS estimators will be consistent if assumption, say  $E(\alpha_i | X_{it}) = 0$ , is fulfilled, whereas the FE estimators are still consistent even if this assumption does not hold. On the other hand, it makes sense that pooled OLS helps us to identify the most relevant variables that should be included in the model since it exploits all variation in the data. Hence,

in this subsection I will introduce the pooled OLS before I go further to fixed effect model. I estimate the following pooled OLS regression model:

$$PP_{it} = \alpha_i + \beta_1 AsylShare_{it} + \beta_2 X_{it} + \delta_t + \mu_{it} \quad (1)$$

where:

- $i$  denotes the municipality and  $t = 1997, 1999, 2001, 2003, 2005, 2007, 2009, 2011, 2013, 2015$ .
- $PP_{it}$  is the vote share of the Progress Party in municipality  $i$  in election year  $t$ .
- $\alpha_i$  is an unobserved effect or municipality fixed effect that controls for any time-invariant unobserved variables and it represents all factors affecting the voting outcomes of Progress Party that do not change over time. In other words,  $\alpha_i$  captures all differences across municipalities that do not vary across time. It can also be seen as municipality-specific intercepts and each municipality has a different intercept term,  $\alpha_i$ .
- $AsylShare_{it}$  is my main explanatory variable that measures the share of asylum seekers in population of municipality  $i$  at time  $t$ .
- $X_{it}$  is a set of municipality-covariates like the size of municipality population, share of pensioners, share of kids, education levels and share of unemployed intended to capture the observable differences (time-varying) across municipalities.
- $\delta_t$  is year dummies aimed at controlling for a cyclical effect and potential time trend. More precisely, the inclusion of time effects captures the factors that vary over time that consequently impact at the same time both dependent variable and observable municipality characteristics (i.e., municipality trends in economy and relevant indicators correlated with trends in the inflow of asylum seekers and voter preferences).
- $\mu_{it}$  describes idiosyncratic elements of the error term. In other words, it represents unobserved factors that change over time (time-varying error) and affect  $PP_{it}$ .

Since pooled OLS is being used as a temporary model, I will no longer mention any assumptions for the properties of estimators in OLS model. Table 2 shows the OLS estimations without municipality fixed effect but including all control variables and year fixed effects.



**Table 2**  
**OLS estimates for asylum seekers and the vote share of PP**

Variables	(1) PP vote share
AsylShare	-0.292*** (0.084)
PenShare	-1.004*** (0.067)
ChildShare	-0.430** (0.217)
PupilShare	0.306 (0.186)
TotalWomen	1.932*** (0.180)
EduPrimary	0.426*** (0.136)
EduSecondary	0.342** (0.140)
EduTertiary	-0.112 (0.133)
Unemployed	1.883*** (0.361)
Population	0.007** (0.003)
ImgShare	-1.391*** (0.215)
ForbornShare	1.934*** (0.249)
NCFassistance	-0.865*** (0.165)
Constant	-97.121*** (14.414)
Municipality FE	No
Year FE	Yes
Observations	1,842
R-squared	0.532

Robust standard errors in parentheses. \*, \*\* and \*\*\* stand for statistical significance levels at 10%, 5% and 1%, respectively.

The OLS estimates in table 2 suggest a negative correlation between the share of asylum seekers and the vote share of PP (also highly significant). The OLS result is not in line with my expectation for the impact of asylum seekers on the electoral support for Progress Party. My estimates indicate that a one percentage point increase in the share of asylum seekers is associated with a decrease of 0.292 percentage point at Progress Party's vote share. I also expect that the share of pensioners will have a positive impact on the voting outcomes of Progress Party, but it has a negative effect. Likewise, share of immigrants and number of cases with financial assistance from welfare state have negative effects in contrast to my

expectation, while other control variables have positive effects. I cannot provide the clear reasons why some variables have negative effects whereas others have positive effects. However, as discussed in section 5.1, I can noticeably say that the OLS estimates can suffer from omitted variable bias, reverse causality or measurement error. The main reason for using this pooled OLS is to identify the most relevant variables related to the election outcomes of Progress Party. When looking at the estimated coefficients for control variables, we see that only PupilShare and EduTertiary are not statistically significant while all others are highly significant (but population is marginally significant). So, I decide to remove variables of PupilShare and EduTertiary from the model and regress again my dependent variable ( $PP_{it}$ ) on all of my explanatory variables (except for two dropped variables) when I make use of fixed effect model.

#### 5.4 Presentation of fixed effects model

Now, I set up again a regression model with municipality fixed effects and apply within group fixed effects to eliminate the unobserved effect (Wooldridge, 2016),  $\alpha_i$ , by using the method of demeaned transformation, which means that I demean the dependent and independent variables within each municipality so that the unobserved effect is eliminated from the model. Accordingly, the identification of parameters is based on individual variation within municipalities since the fixed effect estimators exploit only the variation within each municipality as mentioned earlier. Then, I estimate now the following model of demeaned transformation (Verbeek, 2017);

$$y_{it} - \bar{y}_i = \beta_1(x_{it} - \bar{x}_i) + (\mu_{it} - \bar{\mu}_i) \dots\dots\dots (2)$$

From equation 2,  $y_{it}$  denotes the election outcomes of Progress Party in municipality  $i$  in time  $t$ , say  $PP_{it}$ , and  $\bar{y}_i$  denotes municipality specific average (mean), say  $\overline{PP}_i$ . In this way, the model is transformed into deviation from the municipality specific average and we get rid of  $\alpha_i$  that also refers to as the omitted time-invariant differences between municipalities (individual heterogeneity). So, I have now adjusted unobserved heterogeneity between municipalities in my model. Furthermore, some assumptions must be fulfilled to obtain the unbiased estimators (Wooldridge, 2016). On this account, the most restrictive assumptions for my model are presented here as following Wooldridge (2016), p-458;

- (i) The model is a linear regression model, where  $\beta$  represents parameters that will be estimated and  $\alpha_i$  is municipality fixed effects or the unobserved effects.
- (ii) The sample in my analysis is a random sample from the cross section.
- (iii) Each explanatory variable changes over time and there is no perfect linear relationship among the explanatory variables.
- (iv) Conditional on all explanatory variables ( $X_i$ ) and unobserved effects ( $\alpha_i$ ), the idiosyncratic errors ( $\mu_{it}$ ) are independent and identically distributed. In other words,  $\mu_{it} \sim IID (0, \sigma_u^2)$ .
- (v)  $E(\mu_{it}|X_i, \alpha_i) = 0$ , which means that the expected value of error term ( $\mu_{it}$ ) is zero given any values of explanatory variables and unobserved time-constant variable in all time periods. This is called a strict exogeneity assumption and the most important assumption for the properties of estimators in FE model.
- (vi)  $Var(\mu_{it}|X_i, \alpha_i) = \sigma_u^2$  for all  $t$ , which means that the variances of idiosyncratic error is constant, conditional on the explanatory variables and the unobserved effect.
- (vii)  $Cov(\mu_{it}, \mu_{is}|X_i, \alpha_i) = 0$  for all  $t \neq s$ , which also means that the idiosyncratic errors are uncorrelated, conditional on the explanatory variables and the unobserved effect. It implies that the idiosyncratic error term is assumed to be serially uncorrelated within and across municipalities.

Under these assumptions, I estimate the transformed model. In other words, I regress the individual-demeaned of  $PP_{it}$  on individual-demeaned of the explanatory variables. In doing so, applying fixed effects model allow me to disregard «heterogeneity bias» which is usually appeared in the pooled OLS estimation due to omitting time-constant variables (Wooldridge, 2016). It can also be said that by applying fixed effect model I adjust the problem of «heterogeneity bias» which occurs due to the correlation of an unobserved effect and the explanatory variables (i.e.,  $E(\alpha_i|X_i \neq 0)$ ).

As discussed earlier, I note that including year effects in the model is potentially important since it captures all influence of aggregate trends (macroeconomic variables). I then allow the intercept to change across periods by including time dummies for all years except for the base year (1997) in my regression model. This is important when for example we suspect that the

population may have different distributions in different time periods and that is simply carried out by including time dummies in the regression model (Wooldridge, 2016) p. 403.

One challenge for working with the model is that I obtain a dataset with unbalanced panel after merging all data. According to Wooldridge(2016), it usually occurs when the number of observations in the time dimension varies across time, i.e. I have a data on the local election outcomes for some municipalities for 10 years while some for 6 years as if some individuals (municipalities) leave the sample(attrition). More explicitly, I get an unbalanced panel due to merging municipalities. In recent years, two or more municipalities are combined into a single municipality in Norway, so that observations of some municipalities as for the early elections years are no longer existed in the later part of election years. This missing data for some key variables for certain years causes the unbalanced panel. In this case, OLS estimators will be biased if the reason individuals leave the sample(attrition) is correlated with the idiosyncratic error term (Wooldridge, 2016). Fortunately, fixed effect model allows this attrition to be correlated with the unobserved fixed effect,  $\alpha_i$ . Hence, I disregard the problem caused by the unbalanced panel in this analysis.

Another somewhat weakness with fixed effect model is that it requires sufficient within municipality variation in the explanatory variable as stated section 5.3. If the within variation is small, the standard errors for the estimated coefficients will be large that will lead the estimators to be inaccurately estimated. When looking at FE estimation in Table 3, the standard errors are not large and it seems that there is no trouble with this issue in my analysis.

## 5.5 Fixed effects estimates

I have already described above the model that is my favored specification in this analysis. Now, I will present the estimates of this favored specification (FE model) for the relation between the number of asylum seekers and voting outcomes of Progress Party with including control variables in model but dropping two variables that are statistically insignificant in pooled OLS (see Table 2). Table 3 displays baseline model estimates with municipality fixed effects, including pooled OLS in column (1).

**Table 3**  
**Asylum seekers and voting for Progress Party**

	(1)	(2)
	OLS	FE
	PP vote share	PP vote share
AsylShare	-0.276*** (0.083)	0.006 (0.090)
PenShare	-1.114*** (0.054)	0.367*** (0.129)
ChildShare	-0.339 (0.211)	0.310 (0.209)
TotalWomen	1.867*** (0.177)	0.179 (0.286)
EduPrimary	0.516*** (0.047)	-0.035 (0.134)
EduSecondary	0.433*** (0.059)	0.330** (0.128)
Unemployed	1.840*** (0.362)	0.402 (0.376)
Population	0.004 (0.003)	-0.033** (0.016)
ImgShare	-1.432*** (0.216)	-0.271 (0.510)
ForbornShare	1.971*** (0.250)	0.314 (0.550)
NCFassistance	-0.939*** (0.164)	-0.095 (0.200)
Constant	-95.647*** (9.997)	-13.471 (15.453)
Municipality FE	No	Yes
Year FE	Yes	Yes
Observations	1,842	1,842
R-squared	0.530	0.648
Number of kommune		186

Robust standard errors in parentheses. \*, \*\* and \*\*\* stand for statistical significance levels at 10%, 5% and 1%, respectively.

Column 1 and 2 in Table 3 report OLS estimates and FE estimates derived using variables which are statistically significant in Tables 2. I also note that the estimated coefficients from column 1 are slightly different from estimated Party coefficients in Table 2, remaining highly significant for the impact of *AsylShare* and other control variables except for *ChildShare* and *Population*. The OLS results in Table 3 are obtained from regression where I regress again my dependent variable on my explanatory variables after removing two control variables (*PulpiShare* and *EduTertiary*) from my model. In addition, *ChildShare* and *Population* are still added in FE model although they are not statistically significant when running OLS regression for the second time.

I try to run regression with adding the quadratic terms for these two variables (see Table 7 in Appendix A), and both of them are highly significant. I, therefore, decide to include them in fixed effect regression with intending to reduce the problem of omitted variables in the model.

Column (2) in Table 3 documents the results from the model that I mainly focus in this analysis (municipality fixed effects model). The estimates in column (2) show that there is a positive effect of asylum seekers on the voting outcomes for Progress Party, but not statistical significance. The magnitude of the estimated effect is very small: a one percentage point increase in number of asylum seekers increases the vote share of Progress Party by 0.06 percentage point. Nevertheless, the estimated coefficient is not significant, which implies that I cannot provide the evidence that number of asylum seekers is positively correlated with Progress Party's vote share. In other words, the insignificant results show that asylum seekers do not have any impact on the vote share for Progress Party.

In respect to control variables, FE estimates in column (2) indicate that the impact of the share of pensioners on the share of preferences for Progress Party remains highly significant and the size of the estimated effect is not small (0.367), and this result is in line with the findings of Otto & Steinhardt for Hamburg who also find relatively large and positive correlation between the share of the elderly and the voting for extreme right-wing parties. The share of population with secondary education and municipality population also are significant at 5% level. However, there is a negative relationship between the size of municipality population and the voting for Progress Party, which suggests that an increase in municipality population is associated with a decrease in electoral outcome for Progress Party.

When looking at the differences between OLS estimates and FE estimates in Table 3, we see that they have the opposite signs for the effect of asylum seekers. I cannot provide a convincing argument as to why they have the opposite signs for the effect of asylum seekers in this analysis. Nonetheless, it can be argued as discussed earlier in section 5.3 that OLS model exploits all variation in data (both within and between municipalities), while FE model exploits only variation within municipalities. Besides, there are probably omitted time-constant differences between municipalities that will lead OLS estimates to be biased (heterogeneity bias). So, I conclude that FE model gives more reliable estimates of the relation between asylum seekers and the voting for Progress Party.

## Chapter 6: Robustness checks, critique, and discussion

This chapter presents the sensitivity checks for the empirical results with FE model, followed by discussion and critique of the findings, use of data, and methodology in this analysis.

### 6.1 Robustness checks

I carry out several robustness checks for my baseline estimates. First, I provide alternative estimates of the effects of asylum seekers by using the cumulative share of asylum seekers rather than number of asylum seekers which is taken from every 8<sup>th</sup> month in every other year (see section 4.1). This approach takes into account that the share of asylum seekers, which is used in my baseline specification, might not capture the effects of total number of asylum seekers including all who have been residing at reception centers from the previous years. I present both OLS and FE results in Table 4 and the estimates are very similar to those provided in Table 3. The effect of asylum seekers increases slightly (0.043) and still insignificant while remaining significant results for share of pensioners, municipality population and share of residents with secondary education level (see Table 8 from Appendix A). So, I conclude that my baseline specification captures the effect of asylum seekers quite well.

**Table 4**  
**Asylum seekers and voting for Progress Party. Robustness.**

	(1)	(2)
	OLS	FE
	PP vote share	PP vote share
Cumulative share of asylum seekers	-0.082*** (0.019)	0.043 (0.026)
Municipality FE	No	Yes
Year FE	Yes	Yes
Control variables	Yes	Yes
Observations	1,842	1,842
R-squared	0.531	0.649
Number of kommune		186

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Second, I also present the results of another alternative estimates by running regressions separately for local and national elections (column 1 and 2 in Table 5), which takes into account that there might be the case with local elections with respect to reflection of local

circumstances. To be specific, the political concerns (platforms) of Progress Party would be the same for all municipalities in national elections, whereas such issues might differ between municipalities in local elections because of local circumstances. Column 1 and 2 from Table 5 show that the impact of asylum seekers on Progress Party's vote share is not changed much when I run separate regressions for municipality and parliamentary elections. In both regressions, the estimated coefficients are still positive and insignificant as in my base specification, showing that the results from my main model are not affected if I run regressions separately for local and national elections. Interestingly, the share of pensioners is still significant in both local and national elections (but marginally) and its effect is larger in local elections than in national elections, which might reflect political platforms in local circumstances (see Table 9 in Appendix A). Of course, it is elderly care and education that account for the highest expenditure at municipal level and elderly care remains amongst the top priorities of Progress Party as discussed in chapter 2.

Third, I also consider the impact of asylum seekers and unemployment in explaining voter support for the Progress Party. This examination is motivated by the findings on the recent study of the relationship between non-western/western immigrants and the success of Progress Party, where Sørensen (2016) reports that western immigrants increase the voter support for Progress Party when unemployment rate is high. Similarly, I also consider the combined effect of asylum seekers and number of cases with welfare assistance in explaining the electoral outcomes of Progress Party. More specifically, I examine whether the share of unemployed and share of number of cases with welfare assistance are moderating variables that affect the causal relationship of share of asylum seekers and the vote share of Progress Party. Column (3) and (4) in Table 5 show that my main finding is not affected if I include the interaction terms in the model, in which the baseline coefficients are equal to 0.260 and 0.291 respectively, and not statistically significant. Interestingly, the interaction terms are negative and equal to -0.193 and -0.091, suggesting that the impact of asylum seekers on the vote share of Progress Party decreases as unemployment rate and number of cases with welfare assistance increase. However, the coefficients are not statistically significant, implying that unemployment and welfare assistance do not say anything as the combined effect with the share of asylum seekers in explaining the voter support for Progress Party. In other words, there is no evidence that the share of unemployed and number of cases with welfare



assistance are moderating variables that affect the causal relationship of share of asylum seekers and the vote share of Progress Party.

**Table 5**  
**Asylum seekers and voting for Progress Party.**  
**Robustness.**

	(1)	(2)	(3)	(4)
	National elections PP vote share	Local elections PP vote share	All elections PP vote share	All elections PP vote share
AsylShare	0.098 (0.080)	0.124 (0.166)	0.260 (0.190)	0.291 (0.261)
AsylShare*Unemployed			-0.193 (0.129)	
AsylShare*NCFassistance				-0.091 (0.069)
Municipality FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Control variables	Yes	Yes	Yes	Yes
Observations	921	921	1,842	1,842
R-squared	0.828	0.390	0.648	0.648
Number of kommune	186	186	186	186

Robust standard errors in parentheses. \*, \*\* and \*\*\* stand for statistical significance levels at 10%, 5% and 1%, respectively.

Fourth, I present another form of regression which takes into account that there might be different outcomes if I exclude Oslo from my model since Oslo is a municipality which has the power of county and has large populations of immigrants and refugee. This approach is carried out as following Dustmann et al. (2016) who studied the relationship between allocated refugees across Danish municipalities and the vote share for anti-immigration parties in Denmark. One of their robustness checks is conducted by excluding two municipalities (Frederiksberg and Copenhagen) from their model that constitute the capital and have a large number of immigrant population. Column (1) i Table 6 shows that the exclusion of Oslo does not change the baseline estimates, and I even obtain the same level of effect for asylum seekers on Progress Party's vote share.

Lastly, I provide a weighted regression by population size in 1997 (the first year of 10 elections). Unweighted regressions give equal weight for small and large municipalities, whereas weighted regressions produce unequal weight for small and large municipalities. If the results from weighted regressions are considerably different from unweighted regressions, it means that there is a substantial difference between small and large

municipalities in regard to reaction to the increase in number of asylum seekers. Column (2) in Table 6 shows that my baseline estimates do not vary strongly when I weight my estimates by population size of municipalities.

**Table 6**  
**Asylum seekers and voting for PP. Robustness.**

	(1)	(2)
	FE	FE
	Excluding Oslo	Weighted regression
AsylShare	0.006 (0.090)	0.012 (0.125)
Control variables	Yes	Yes
Municipality FE	Yes	Yes
Year FE	Yes	Yes
Observations	1,832	1,842
R-squared	0.648	0.708
Number of kommune	185	186

Robust standard errors in parentheses. \*, \*\* and \*\*\* stand for statistical significance levels at 10%, 5% and 1%, respectively.

## 6.2 Critique and discussion

By studying the success of Progress Party in Norway and its political platforms, I expect that the impact of asylum seekers on the Progress Party support would be positive and statistically significant. In other words, my hypothesis ( $H_1$ ) in this analysis is that there will be a statistical significance for the effects of number of asylum seekers on the electoral outcomes of Progress Party. I get highly significant results only from a pooled OLS model with negative effect, but I fail to obtain significant results from fixed effect model which is my main strategy dealing with unobserved municipality heterogeneity. The results in FE model are not in line with my expectations and earlier findings on the relationship between immigrants and anti-immigration parties, where most of the studies find statistically significant results for the effects of immigrants on the voting outcomes for anti-immigration parties. Then, the insignificant results in my analysis raise many questions upon the validity of data and the reliability, methodology used and so on. On the other hand, my results are difficult to be compared with other findings because I do not find any studies that directly examine the impact of number of asylum seekers on vote share for anti-immigration parties, as far as I review on several studies on immigration and voting for right-wing parties.

As looking back over my identification strategy and dataset, I accept that there are a number of weaknesses to my dataset. First, after merging all data on interesting variables my dataset contains only 1842 observations, which appears to be not enough for 186 municipalities and 10 elections (years). It would be more likely to get statistically significant results with more observations. Second, I assume that my dataset, which is unbalanced, would not cause trouble for a fixed effect model, but this unbalanced dataset could be some sources for errors or insignificant results.

With respect to the case of reliability of unbiasedness, endogeneity issues can be remained in this analysis as discussed earlier in chapter 5. I adjust the unobserved time-constant variables by using municipality fixed effects. However, a fixed effect regression does not necessarily capture the causal effect of asylum seekers or immigrants on anti-immigration parties due to unobserved time-varying heterogeneity (Halla et al. 2017). Besides, measurement error and reverse causality also can be remained as challenging. Particularly, the register data for asylum seekers is taken from UDI's home page, and it might be difficult to register precisely all asylum seekers who enter the country in many different ways and some of them leave the country after a short period.

Endogeneity issues are usually dealt with an instrumental variable (IV) approach, relying on historical settlement patterns, which can be also called as historical immigrant settlement (Halla et al. 2017). This IV-approach is frequently used in immigration studies, i.e. Halla et al. 2017 for Austria, Dustmann et al. 2018 for Denmark, Berone et al. 2016 for Italy, and Otto & Steinhardt 2014 for Hamburg, Germany. As for the case in my thesis, I analyze the impact of asylum seekers on the voting outcomes of Progress Party, while other recent studies examine the impact of immigrants or allocated refugees on the vote share for anti-immigrant parties. In those studies, immigrants and refugees are residents without citizenship of receiving countries, but they are already settled down in municipalities, whereas my main explanatory variable refers to asylum seekers who stay at reception centers and wait for settlement in municipalities. This means that my variable of interest (number of asylum seekers) is somewhat different from other electoral studies in terms of settlement in municipalities, which leads to be challenging for making use of IV approach as in other recent studies of immigration and electoral outcomes.

Additionally, my thesis is closely related to Sørensen (2016) who investigated the relation between non-western immigrants and the success of Progress Party covering the period 1997-2011. He finds highly significant results for the impact of non-western immigrants on the vote share for Progress Party by running separate regressions for local and national elections. But, after testing with alternative model specifications he concluded that non-western immigrants have only modestly impact on the success of Progress Party. He also uses municipality database to exploit data on the size of non-western immigrants and voter support for political parties, including municipality characteristics. His empirical strategy is quite similar to my baseline specification except for including quadratic terms in his model. Therefore, the reasons why my results turn out differently than expected might be connected to inaccurate register data. Otherwise, my results would be reliable that the share of asylum seekers does not have an impact on the vote share of Progress Party.

With respect to possible factors that can affect electoral outcomes through asylum seeker, I have discussed a lot about my expectations in chapter 3 as theoretical background. To investigate the factors behind their findings, most of the recent studies use additional survey data. For instance, Sørensen (2016) uses a survey data (survey questions) from Norwegian Election Studies to examine whether concerns over national culture correlates positively with support for Progress Party. Similarly, Berone et al. (2016) also use interview data from 3000 voters which is taken from Italian National Election Studies to explore possible channels (factors) behind their findings. In such survey data, respondents are asked several questions related to their view on immigration. As for my case, I have two data sources which include a range of municipality characteristics, voting outcomes for all political parties in Norway and number of asylum seekers in municipalities. However, I do not have access to any other survey data related to natives' view on asylum seekers or immigrants in Norway. As a result, I cannot directly explore the possible factors that could be driving forces through asylum seekers for the support of Progress Party as doing in other electoral studies. On the other hand, I do not get significant results for the effect of asylum seekers on Progress Party's vote share, which lead to a conclusion that I do not need at all to explore the driving forces behind my results.

## Chapter 7. Conclusion

Taking into consideration on the European refugee crisis and the increased number of asylum seekers to Norway in last few years, this thesis has shed light on an important question of the immigration issue: does the number of asylum seekers affect the electoral outcomes of Progress Party? In other words, this thesis analyzes whether asylum seekers induce more support for Progress Party.

In order to carry out this objective, I make use of pooled-OLS and FE models. However, FE model is mainly focussed as preferred strategy, while OLS model is used for identifying the most relevant variables that should be controlled when running the regression. The results in FE model show that there is no evidence indicating that asylum seekers have a positive impact on the electoral outcomes of Progress Party. This finding is corroborated by the estimated results in robustness checks when making use of several alternative forms of estimates.

This thesis also emphasizes the importance of possible channels (economic and non-economic factors) that might explain why electoral outcomes could be affected by asylum seekers or immigrants. Nevertheless, this thesis cannot explore the validity of these possible factors behind my results due to data restrictions. This means that the only one I explicitly examine in this empirical analysis is the impact of number of asylum seekers on the voting outcomes of Progress Party. My results are not in line with recent evidences on the role of immigrants or refugees in explaining the political success of anti-immigration parties in Norway and several countries in Europe. Based on the results of this analysis and existing studies, I conclude that number of asylum seekers has no impact on the voting outcomes of Progress Party and only non-Western immigrants and allocated refugees in municipalities might appear to matter for voting behavior in favor of Progress Party.

On the other hand, I think that the insignificant results leave the need for a follow-up analysis in this topic, and the future research should consider on using IV approach for dealing with possible endogeneity issues. In addition, future researchers should look at a different set of control variables as paying attention to possible factors (outside factors) that are not controlled and could cause insignificant results.

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## Appendix A

**Table 7**  
**OLS regression with quadratic terms for ChildShare and Population**

	(1)	(2)	(3)
	OLS	OLS	OLS
	PP vote share	PP vote share	PP vote share
AsylShare	-0.276*** (0.082)	-0.234*** (0.082)	-0.233*** (0.082)
PenShare	-1.097*** (0.054)	-1.106*** (0.053)	-1.088*** (0.054)
ChildShare	-3.727*** (1.339)	-0.260 (0.211)	-3.811*** (1.319)
TotalWomen	1.860*** (0.175)	1.678*** (0.177)	1.668*** (0.176)
EduPrimary	0.511*** (0.046)	0.569*** (0.048)	0.565*** (0.048)
EduSecondary	0.446*** (0.059)	0.497*** (0.061)	0.512*** (0.061)
Unemployed	1.847*** (0.361)	1.686*** (0.360)	1.690*** (0.359)
Population	0.005 (0.003)	0.042*** (0.008)	0.044*** (0.008)
ImgShare	-1.427*** (0.216)	-1.410*** (0.214)	-1.405*** (0.214)
ForbornShare	1.959*** (0.252)	1.942*** (0.248)	1.929*** (0.250)
NCFassistance	-0.918*** (0.165)	-0.917*** (0.162)	-0.894*** (0.163)
ChildShare <sup>2</sup>	0.348** (0.140)		0.365*** (0.137)
Population <sup>2</sup>		-0.000*** (0.000)	-0.000*** (0.000)
Constant	-88.134*** (10.088)	-90.806*** (9.840)	-82.843*** (9.963)
Municipality FE	No	No	No
Year FE	Yes	Yes	Yes
Observations	1,842	1,842	1,842
R-squared	0.532	0.536	0.538

Robust standard errors in parentheses. \*, \*\* and \*\*\* stand for statistical significance level at 10%, 5% and 1%, respectively. Quadratic terms for ChildShare and Population are included in column 1 and 2, respectively. All quadratic terms are introduced in column 3 at once.

**Table 8**  
**Regressions with cumulative share of asylum seekers including all control variables**

	(1)	(2)
	OLS	FE
	PP vote share	PP vote share
Cumulative share of asylum seekers	-0.082*** (0.019)	0.043 (0.026)
PenShare	-1.115*** (0.053)	0.377*** (0.129)
ChildShare	-0.391* (0.212)	0.364* (0.213)
TotalWomen	1.823*** (0.173)	0.191 (0.283)
EduPrimary	0.513*** (0.046)	-0.068 (0.138)
EduSecondary	0.444*** (0.059)	0.309** (0.124)
Unemployed	1.767*** (0.363)	0.434 (0.383)
Population	0.004 (0.003)	-0.029** (0.015)
ImgShare	-1.475*** (0.218)	-0.176 (0.514)
ForbornShare	2.026*** (0.252)	0.190 (0.553)
NCFassistance	-0.909*** (0.163)	-0.113 (0.201)
Constant	-93.599*** (9.851)	-12.564 (15.252)
Municipality FE	No	Yes
Year FE	Yes	Yes
Observations	1,842	1,842
R-squared	0.531	0.649
Number of kommune		186

Robust standard errors in parentheses. \*, \*\* and \*\*\* stand for significance levels at 10%, 5% and 1%, respectively. Population is in thousands.

**Table 9**  
**Asylum seekers and voting for Progress Party. Alternative model specifications for robustness checks.**

	(1)	(2)	(3)	(4)
	FE	FE	FE	FE
	National elections PP vote share	Local elections PP vote share	All elections PP vote share	All elections PP vote share
AsylShare	0.098 (0.080)	0.124 (0.166)	0.260 (0.190)	0.291 (0.261)
Unemployed	-0.113 (0.301)	0.951* (0.538)	0.584 (0.410)	0.394 (0.377)
PenShare	0.353** (0.166)	0.456** (0.201)	0.367*** (0.130)	0.365*** (0.128)
ChildShare	0.635*** (0.158)	-0.050 (0.307)	0.323 (0.208)	0.306 (0.210)
TotalWomen	0.182 (0.240)	-0.001 (0.430)	0.157 (0.280)	0.131 (0.275)
EduPrimary	0.002 (0.131)	-0.014 (0.195)	-0.035 (0.134)	-0.033 (0.133)
EduSecondary	0.571*** (0.102)	0.302 (0.199)	0.332*** (0.128)	0.323** (0.128)
Population	-0.033 (0.024)	-0.036* (0.019)	-0.032** (0.016)	-0.032** (0.016)
ImgShare	-0.561 (0.359)	-0.355 (0.707)	-0.284 (0.511)	-0.287 (0.512)
ForbornShare	0.831** (0.408)	0.171 (0.795)	0.317 (0.549)	0.329 (0.550)
NCFassistance	0.021 (0.173)	-0.157 (0.302)	-0.069 (0.201)	0.034 (0.238)
AsylShare*Unemployed			-0.193 (0.129)	
AsylShare*NCFassistance				-0.091 (0.069)
Constant	-25.009* (13.486)	-8.286 (21.875)	-12.861 (15.273)	-11.258 (14.948)
Municipality FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	921	921	1,842	1,842
R-squared	0.828	0.390	0.648	0.648
Number of kommune	186	186	186	186

Robust standard errors in parentheses. \*, \*\* and \*\*\* stand for significance levels at 10%, 5% and 1%, respectively. Population is in thousands.

**Table 10**  
**Asylum seekers and voting for Progress Party. Alternative model specifications.**

	(1)	(2)
	FE	FE
	Excluding Oslo PP vote share	Weighted regression PP vote share
AsylShare	0.006 (0.090)	0.012 (0.125)
PenShare	0.361*** (0.129)	0.707*** (0.238)
ChildShare	0.314 (0.209)	0.777** (0.362)
TotalWomen	0.156 (0.288)	1.019** (0.447)
EduPrimary	-0.051 (0.134)	0.127 (0.232)
EduSecondary	0.299** (0.131)	0.680*** (0.192)
Unemployed	0.386 (0.378)	0.147 (0.523)
Population	-0.073* (0.043)	0.010 (0.014)
ImgShare	-0.157 (0.509)	-0.895 (0.656)
ForbornShare	0.197 (0.549)	1.273 (0.806)
NCFassistance	-0.106 (0.200)	-0.122 (0.312)
Constant	-10.042 (15.826)	-79.640*** (28.704)
Municipality FE	Yes	Yes
Year FE	Yes	Yes
Observations	1,832	1,842
R-squared	0.648	0.708
Number of kommune	185	186

Robust standard errors in parentheses. \*, \*\* and \*\*\* stand for significant levels at 10%, 5% and 1%, respectively. Population is in thousands. Estimates are weighted by the population size of municipality in 1997.