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The Norwegian Municipality Reform & The Quality of Politicians

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Abstract

This master thesis investigates how the local government reform affected the quality of local politicians in Norway. Quality is measured by education level and ability score measured by a regression on income, where we rely on pre political income as our main source of income statistics. Excellent data on individual candidates and on aggregate municipal level lets us exploit the time varying and cross-sectional components of the datasets. A descriptive analysis is done on multiple variables to elaborate on the effects on the local government reform in broader terms, while a more qualitative analysis is conducted to find the relationship of how the local government reform has affected the quality of politicians in both directly affected and unaffected municipalities. In addition, we provide an illustrative example of one larger amalgamation to show the local government reform effects on a municipal level. To estimate the effects of the local government reform on quality, we employ a standard difference-in-differences regression analysis in addition to a Mincer earning regression. First, we find that local politicians are positively selected based on years of schooling and Mincer score. Second, our empirical models suggest that the local government reform have a positive effect on the quality of elected politicians measured by years of schooling and little to no effect when measured by their ability score. The results suggests that the local government reform had no or very limited effect on the quality of local politicians elected to council in Norway.

1. Introduction

1.1 Introduction to Topic

Democracy has an important role to play in Norway and the local representative democracy makes up the core of the Norwegian people's government. For almost 200 years, the local inhabitants have had the opportunity to elect their own bodies in the municipalities – the municipal councils. Municipalities and county municipalities have a long tradition behind them as local democratic institutions. There are certain expectations that are set for them as a democratic and service body. The democratic role of municipalities has become more important, as the municipalities have been given responsibility for large parts of the public funded welfare services, while having the opportunity to make independent decisions and changes in their own municipality. For the municipal council, it is of great importance to have an independent role with local politician participation. Municipal organization is a building block in the democracy because local democracy provides greater opportunities and increased interest for political participation. Decentralization can stimulate political debate and participation by giving the citizens an arena where they can define, debate, and solve problems that they face in their own local environment.

The municipal council is elected by the local inhabitants in their own respective municipality. One must gain enough votes to be able to attend the municipal council, which will represent the people for the next four years. Who are these people that are selected into local politics and how do we know if they are qualified for the job? Dal Bò's paper from 2017, examines if a democracy attracts competent leaders, while attaining a broad representation. Results found that *“politicians are on average significantly smarter and better leaders than the population they represent”* (Dal Bó, Finan, Folke, Persson, & Rickne, 2017, p. 1877). Previous economic models suggest that free-riding incentives and lower opportunity costs give the less competent an advantage at entering political life (Caselli & Morelli, 2004).

Over the last decades, municipality amalgamation reforms have been on the political agenda in several European countries. In some places, amalgamations have resulted in national reforms that have substantially reduced the number of local governments (Baldersheim & Rose, 2010).

In 2005, Finland implemented a nationally initiated reform based on voluntary local initiatives. When Denmark initiated their municipal reform in 2007, 238 municipalities were merged into 65, while 33 remained unchanged. Greece reduced the number of municipalities from 1033 to 325, when they initiated their territorial reform in 2011 (Askim, Klausen, Vabo, & Bjurstrøm, 2015, pp. 1-7).

In Norway, in March 2014 an expert committee presented the sub-report “*Criteria for good municipal structure*” (Kriterier for god kommunestruktur, 2014). In the report, the committee stated multiple criteria that the municipalities should meet in order to take care of current tasks, as well as principles and criteria for a robust municipal division that provides a uniform and clear administration in the municipality. The expert committee came up with the following recommendations for a good municipal structure:

1. The municipality should have at least 15.000 – 20.000 inhabitants to ensure good problem solving.
2. The municipal structure should, to a greater extent, approach functional social development areas.
3. The state should reduce detailed management, and schemes for political participation should be further developed to ensure good and effective democratic arenas.

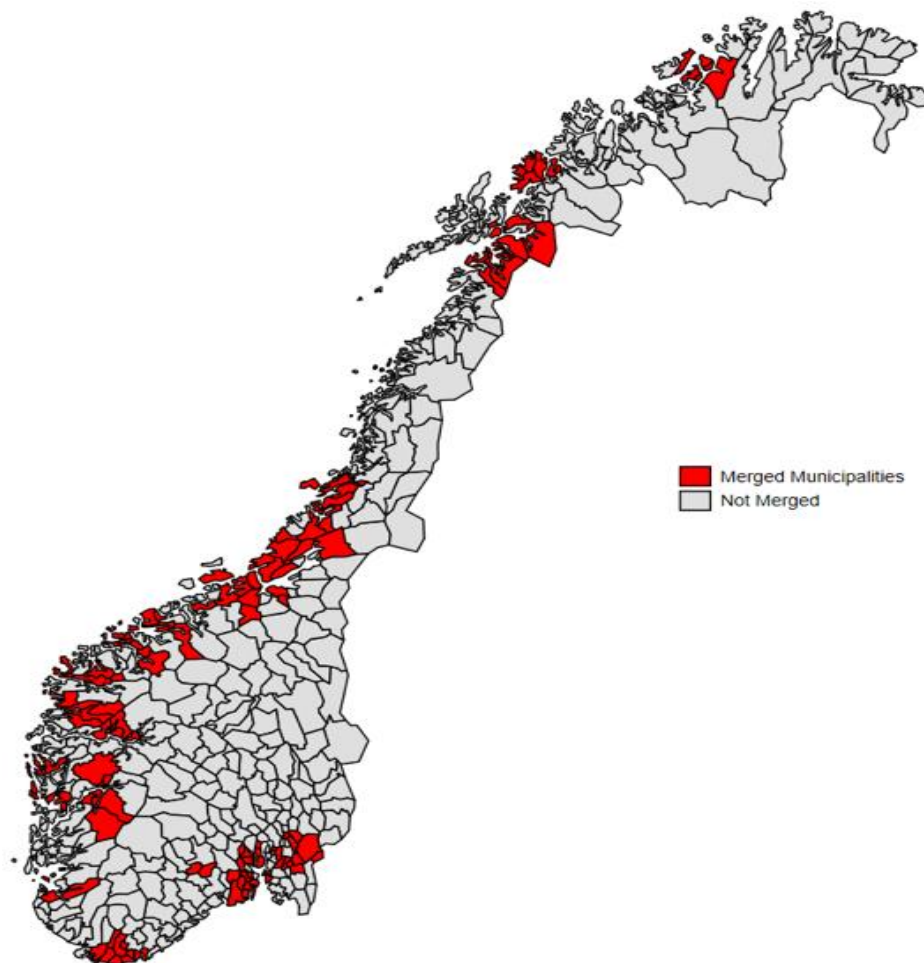
A broad majority in the Parliament supported the government’s description of the need for a reform and the main elements of a reform process. Also, it was decided that the regional level would be a part of the reform. A central part of the reform is to transfer tasks to the municipal level. The new municipalities and counties are to take over all the responsibilities and rights from the old units in accordance with Norwegian law and custom.

In June 2014, the Norwegian government initiated a “local government reform” (Regjeringen, 2020). The Norwegian government created the following goals when initiating the local government reform:

- Good, equal services for inhabitants, now and in the future.
- Comprehensive and coordinated community development, in both larger and smaller municipalities.
- Sustainable and financially solid municipalities.
- Strengthen local democracy and give the municipalities more power.

The Norwegian government has implemented a municipal and regional reform that has led to the establishment of a number of new municipalities and counties. The government proposed a new municipal structure to the Parliament in April 2017 for both municipalities and counties. The Parliament voted for this in June 2017, the result was that 119 municipalities merged into 47 new municipalities. As of 1 January 2020, the results of the reform are a reduction from 428 municipalities to 356, and from 19 to 11 counties.

Figure 1.1 Local Government reform in Norway



The reform is illustrated above in *figure 1*. We have constructed an illustration of the municipality reform and the Norwegian municipality structure as of 2020 where the merged municipalities are highlighted in red.

1.2 Our topic and research question

In this paper we examine if the quality of politicians is affected by the local government reform, by studying past elections and specifically the 2015 and 2019 elections where the number of municipalities were drastically reduced. By using a difference-in-difference approach comparing the changes in quality of the politicians between affected and unaffected municipalities.

We have access to a wide range of administrative and economic data on candidates covering local elections in Norway during the 1971 to 2019 period. This data includes several variables on each candidate such as, years of schooling, age, gender, salary and much more. It also captures the candidate's electoral success at different governmental tiers. It is important to note that the election in 2019 gave voters in a merged municipality a new set of options when registering their votes, as the municipality reform had been institutionalized. Hence, the voters would have to select their new local candidates based on the fact that the municipality reform had already taken place. The unique individual dataset enables us to analyze local politician information in past elections and specifically look at how the reform affected the elections, which we seek to exploit. As mentioned above, the Norwegian municipality reform reduced 428 municipalities to 356 municipalities in total. The local municipality reform is the largest change to local democracy in Norway since the 1960's. We want to investigate how and if this reform changed the quality of local politicians. With this in mind we want to answer the following research question:

“What is the effect of the Norwegian local government reform on the quality of the local politicians?”

As the municipality reform takes place, the number of seats in council will be reduced compared to the combined number of seats in council prior to the reform. This incentivizes a higher competition in the new municipal council as there are more politicians competing for fewer council seats. In theory, this change in the number of seats in council will impact the quality of those elected as there is a higher number of candidates to choose from. Barfort et al. identified that there is a positive effect of amalgamations on candidate quality in Denmark (Barfort, Harmon, Lassen, & Serritzlez, 2015, p. 79). However, a politician is selected based on multiple factors that can go beyond the participant's education level. A recent paper by Fiva et. al (2021) use detailed data on Norwegian candidates in recent parliamentary elections, where the results find that higher quality candidates running for election are positively selected and that the quality increases with list rank (Cox, Fiva, Smith, & Sørensen, 2021).

One may argue that increased competition will have an effect on the politicians own perception of being selected into council and create a higher personal demand for being selected, as the social status of being selected could be perceived as higher within bigger municipalities with more responsibilities. Barfort et al. identified that the changes in scope and size of local jurisdictions affected who wanted to be a candidate, and who was successfully elected to municipal councils (Barfort, Harmon, Lassen, & Serritzlez, 2015, p. 79).

2. Institutional Setting & Data

2.1 History of Municipality Reforms

The Presidency Acts (formanskapsloven) of 1837 mark the beginning of the Norwegian municipal division and local self-government we know today (Regjeringen, 2017). The Presidency Acts meant that the democratic principles from the Constitution were also applied to local government. Historically the number of municipalities has varied between 392 in 1838, which was the previous lowest number of municipalities recorded, to 744 in 1930, which is the highest number of municipalities Norway has had.

In the 1950s, new communication patterns were of great importance when the work of finding a more appropriate division of the municipalities in Norway. The Schei committee went through all the municipalities and proposed several hundred mergers, most of them were approved by the Parliament. The changes in the municipal structure in the wake of the Schei committee took place between 1958 and 1967. The work of the Schei committee resulted in a reduction in the number of municipalities from 744 in 1957 to 454 in 1967 (Regjeringen, Regjeringen.no, 2017). The reduction was distributed very differently in both counties and parts of the country. The changes were not always in accordance with the principled guidelines that the Parliament had adopted for the district division and the divisions for the cities.

From 1967 to 2014 there have been relatively small changes in the number of municipalities in Norway. The table below shows “major” changes in numbers of municipalities in Norway from 1838 to 2020.

Table 2.1 Previous Municipal reforms

Year	Number of municipalities
1838	392
1930	747
1957	744
1967	454
1974	443
1978	454
1994	435
2014	428
2020	356

2.2 Forced or Voluntary

When, in 1995, the Parliament decided that no municipalities should be merged by force, there were only a few voluntary municipal mergers (Regjeringen, Regjeringen.no, 2017). The Norwegian authorities did not state any specific goal for the desired outcome of the local government reform, in the form of a minimum size of municipalities or the number of municipalities they wanted to be left with. The criteria for the local government reform would be used at a local, regional, and central level as a basis for assessing municipal mergers and a new municipal structure. In total, the criteria would take care of the municipalities four functions:

Service provider

The municipality has an important role as a producer of welfare services, and the state sets requirements for the municipal services. A key national goal is for services to be equal.

Exerciser of authority

The municipalities exercise authority in a number of areas in accordance with law. The municipalities can make decisions about the allocation of services, collect taxes and fees, give permits, distribute, and provide grants. The exercise of authority may be directed to individuals, companies, or organizations.

Community developer

The municipalities' role as community developers is about long-term land use and development patterns, infrastructure development, city and center development, business development, environment development and public health in the broadest sense.

Democratic arena

The democratic role of municipalities has become more important as the welfare system has increasingly been centered around the municipality, as responsible for important parts of public services. The municipalities in Norway are strongly linked to democratic values and a democratic tradition.

The local government reform is based on the principle of voluntariness in the municipal structure. This represents a significant management challenge for the authorities. On the one hand, the authorities have ambitions for significant changes in the municipal structure. On the other hand, the authorities are basically dependent on benevolent decisions in a large number of municipalities to realize

the ambitions. This is one area where resistance has traditionally been strong. The municipality reform meant that the process and direction choices should partly be in local hands and also that the real decision-making authority should be anchored locally. In practice, volunteering often meant that the real power was anchored in the citizens through referendums. During a vote in the Parliament in June 2017 (Skulberg, 2020), 11 coercive decisions were made on merging municipalities. One of the coercive decisions was reversed in the autumn of the same year.

An important thing to notice is that municipalities that are willing to merge, will receive financial support and access to tools for good local processes.

Municipalities that merge will be paid a one-off subsidy. The subsidy is partial compensation for costs directly related to a merger and is calculated according to a standardized model based on the number of inhabitants, and the number of municipalities included in the merger as shown in the *table 2.2* below.

Table 2.2 Municipal subsidy of mergers

Number of municipalities in the merger	0 - 14 999 inhabitants	15 - 29 999 inhabitants	30 - 49 999 inhabitants	Over 50 000 inhabitants
2 municipalities	25 mill	35 mill	40 mill	50 mill
	NOK	NOK	NOK	NOK
3 municipalities	35 mill	45 mill	50 mill	60 mill
	NOK	NOK	NOK	NOK
4 municipalities	45 mill	55 mill	60 mill	70 mill
	NOK	NOK	NOK	NOK
5 municipalities	55 mill	65 mill	70 mill	80 mill
	NOK	NOK	NOK	NOK

Municipalities that merge will receive a subsidy when the new municipality formally enters into force. The subsidy provides full compensation for loss of basic subsidies and net decrease in district subsidies as a result of the merger. It is calculated on the basis of the income system in the year the merger takes effect. The new municipality receives a full subsidy for 15 years after the merger, it is then reduced over a five-year period. (Regjeringen , 2019)

In addition, municipalities wishing to explore mergers will receive financial support. The Ministry will provide support to municipalities that are considering merging. The model established for this is simple and predictable, if two

municipalities want to study merging together, they will receive financial support of NOK 200.000. If more than two municipalities want to study the merger, then an extra NOK 50. 000 is given per municipality. Also, municipalities that want to prepare information and conduct public hearings on mergers will also receive financial support of up to NOK 100.000 per municipality.

2.3 Voluntary Municipality Amalgamations

In many cases, it is more expensive to run smaller rather than large municipalities, which is one reason why the national government wants a municipality reform. In order to handle specialized tasks effectively, the municipalities must have a certain population base. Analysis indicates that costs can be reduced if municipalities with less than 5000 inhabitants are merged. Liberated resources from less administration and better operation of technical services can provide more and better services. In the private sector, such efficiency opportunities lead to mergers. There are small municipalities that can reap economies of scale by merging. Therefore, local politicians in these municipalities should be most interested in a merger together with the neighboring municipality. Municipality politicians have been asked if they want to merge their own municipality with one or more neighboring municipalities. It turns out that it is local politicians in higher populated municipalities who are most eager to unite. In other words, the opposite of what one would expect.

Why is this the case? Fiva et al (2014) describes this problematic entanglement by using the following example. A situation for two equally large neighboring municipalities, A and B. An amalgamation will give the owners (= inhabitants) an annual efficiency gain of 4.000 NOK per inhabitant. The gain can be used to improve the welfare offer for everyone. Assume also that municipality A has a current income stream from taxes and government transfers which is 10.000 NOK higher (per inhabitant) than municipality B. Meaning that municipality A is richer than municipality B. If the inhabitants have property rights to income and capital, then this should not stop a merger between them. But this is exactly where the problem lies, in the municipal sector, it is illegal to agree on an exchange ratio between assets. The population in municipality A, cannot merge with the neighbor and at the same time demand to be allowed to keep their own income or savings. According to the Local Government Act, the municipal council of a merged municipality must take over the taxes for the two original municipalities,

transfers, and debt obligations. In the event of a merger, municipality A must therefore share 10.000 NOK per inhabitant with its equal neighbor, which gives a loss of 5.000 NOK per inhabitant in municipal A. In addition, 4.000 NOK comes in a shape of an efficiency gain, but it is not high enough to compensate for the loss of income by sharing with the neighbor. Therefore, for municipality A, it is best to continue as an independent municipality and rich municipalities will not merge with (relatively) poorer neighboring municipalities. (Fiva, Hagen, & Sørensen, 2014, pp. 101-103)

2.4 Debate on the Municipal Reform

Do we need small municipalities in Norway? Nils Aarsæther, former professor at the University at Tromsø (UiT), has, over a period of 40 years done research on small municipalities. Surveys, under the auspices of the government (Difi), shows that people in smaller municipalities are more satisfied with the services provided than people in larger municipalities (Aarsæther, 2019).

Which factors should be considered when deciding whether to have small or large municipalities? Specific considerations are allocation efficiency, economies of scale and the extent of externalities.

Allocation efficiency

We assume that it is the municipalities own task to maximize the population welfare. Smaller municipalities can then, given geographical variations in preference, better reflect citizens preferences for public services. When the number of inhabitants increases the individual's influence on the municipality service designs decrease. If the preferences are equal over one larger area, however, there will be no difference between small and large municipalities. Even so, one must weigh this against the savings achieved by being many who can share the responsibility for financing the task. It is profitable to cooperate with more than one municipality when sharing expenses due to the fact that more funds can be released for other purposes. Consequently, there is a trade-off between the welfare gain associated with a small municipalities potential to provide services that are more in line with the individual's needs, and the cost savings of problem solving (Fiva, Hagen, & Sørensen, 2014, p. 93).

Economies of scale

Economies of scale mean that the cost per unit is reduced as a result of increased production volume. The economies of scale will depend on the different type of tasks. Tasks such as water supply, sewage treatment and waste disposal will usually be services with economies of scale. Large units will be required to achieve a sufficient population base for the highly specialized wards that one has in the hospitals. Size can also be a prerequisite to recruit sufficient expertise: smaller units will not be able to offer the career opportunities and the environment that employees will need to encourage them to stay. In other services, such as home-based care, there are little or no economies of scale. In Norway, clear economies of scale have been demonstrated in municipal administration and several technical services. Economies of scale makes it possible to free up resources for other prioritized purposes (Fiva, Hagen, & Sørensen, 2014, pp. 95-96).

Externalities

Another factor that must be considered when municipal size and the number of levels of governance are to be assessed, is the extent of externalities. External effects, or externalities, means the usefulness or the disadvantage of a measure that affects the population in municipalities other than the municipality in which the measure is established (Fiva, Hagen, & Sørensen, 2014). All external effects of a service should be within municipal boundaries. In this way, a municipal decision will consider all who are affected, both negatively (for example by higher taxes) and positively (such as better services). Environmental protection, business development and planning are all tasks with significant external effects. Local setting of environmental standards can lead to municipalities ignoring the negative externalities that their own decisions entail for the population in other municipalities. A municipality can, without increasing costs, increase employment through the activities of neighboring municipalities. Municipalities can also outcompete each other's business commitments. Decision planning is a type of activity that often requires one to see a coherent living and working area as a whole. If one can merge the whole geographical area where solutions can be coordinated, merging neighboring municipalities could be favorable (Fiva, Hagen, & Sørensen, 2014, pp. 96-97).

2.5 Local Government Structure and Political System

Norway is a unitary state with three levels of government: national government, regional government (counties/regions) and local governments (municipalities). As mentioned above, when the local government reform was initiated in 2014 and finalized in 2020, the number of municipalities was reduced from 428 to 356 and the number of regions was reduced from 19 to 11.

In Norway, the municipal council is the highest political organ in each municipality. Under the election law, the second Monday in September has been set as election day. Every fourth year the council is elected, and the candidates are elected based on individual votes. The number of members in each council depends on the population size in the municipality. For instance, where there are less than 5000 inhabitants, the minimum representatives have to be 11. For municipalities with more than 100.000 inhabitants the minimum is 43 representatives. There is no upper limit for how many representatives each council can have (Hansen, 2019).

The Local Government Act opens up access to replace the chairmanship (formanskap) model with a parliamentary management system, by replacing the chairmanship with a city council or municipal council. This model means that the party or party coalition that has permanent majority in the municipal council alone shall, form a city council, similar to the scheme that applies to government formation in the Storting. Under both the chairmanship model and the city council model, each municipality shall elect a mayor and deputy mayor who will lead the negotiations in the chairmanship and the municipal council. The mayor is also elected for a period of four years after the municipal election.

Traditionally, the municipal council has had the authority to decide which tasks the municipality is to take care of, as long as these tasks are not assigned to other public authorities through Norwegian law. In practice, the state, has through special legislation, given the municipalities responsibility for many tasks, especially within the welfare area. This applies to, among other things, primary and lower secondary education, care for the elderly, municipal health services and social benefits. The municipal council has the right to grant and impose taxes in the municipality. For several of these areas of responsibility, the individual municipality can establish its own committees or committees that can function as

a preparatory body for matters to the municipal council, or which can also have a delegated responsibility for making final decisions with a limited scope. (Hansen, 2019)

To be able to vote, you must be a Norwegian citizen, to have reached the age of 18 by the end of the year when the election is taking place and be registered as a resident in Norway. The same goes for citizens in other Nordic countries, but they must be a registered resident in Norway no later than 30th of June in the year the election is taking place. In order for other foreign national citizens to vote, they need to have been registered as a resident in Norway for the last three consecutive years before the election day (Berg, 2020).

The Norwegian electoral system is based on the principles of direct elections and proportional representation in multi-member constituencies (Regjeringen, 2017) Direct elections mean that the voters, vote directly for representatives of the constituency by giving their vote to an electoral list. Proportional elections mean that the representatives are distributed according to the mutual relationship between the number of votes that accrue to the individual electoral lists. There are nine main political parties that were represented in the Storting in the period 2017-2021, as well as several local parties at a lower level (Berg, Sterri, & Garvik, 2021). The most important dividing line or dimension in Norwegian politics is the so-called left–right dimension, where the parties are distributed according to how concerned they are with economic equalization and with public planning and control.

Since 2003, the local council party seats are distributed using the modified Sainte – Laguë method. The electoral system is an open list, each citizen affects the election outcome by voting for a selected party and gives their personal votes for particular candidates. Each party has the option of giving certain candidates a pre-advantage, by being listed at the top of the ballot paper in boldface, but the maximum number of pre-advantages given depends on the council size. It is up to the local party organizations to decide how many and which candidates to give such a pre-advantage to (Fiva & Røhr, 2018). Pre-advantage status is frequently a decisive matter for the within-party allocation of seats. In the sample of Fiva and Røhr (2018), a candidate who holds a pre-advantage, has an 85% chance to win a seat in the local council.

In the 2011 election, the turnout was 64,6 percent in the municipal council elections and 59,2 percent for county council elections. Electoral participation in parliamentary elections is generally higher than in the local elections. Since the 1993 election, turnout in parliamentary elections has been in excess of 75 percent. Surveys show that voters view local elections as less important than the parliamentary elections, and this applies in particular to the county council elections (Andersen, Fiva, Natvik 2014); (Fiva, Hagen, & Sørensen, 2014, pp. 118-119).

2.6 Description of Data

The data collection we will apply in our thesis is mostly previously constructed datasets on Norwegian municipalities. Our main dataset is the Local Candidate Dataset (LCD) (Fiva, Sørensen, & Vøllø, 2020). The dataset contains detailed information about each candidate's background characteristics such as gender, age and electoral success at different governmental tiers. For our analysis, we will investigate the past five elections where our emphasis will be on the most recent elections in 2011, 2015 and 2019. As the amalgamation was decided in 2014, we analyze the results from the pre-amalgamation in 2011 (428 municipalities), during the amalgamation in 2015 and post the amalgamation in 2019 (356 municipalities).

We have access to administrative data linked to LCD. This is for use by the Department of Economics at BI and is combined with confidential information from Statistics Norway (SSB). Combining the LCD with data from Statistics Norway we want to measure how the reduction in municipalities has affected the quality and election of politicians through education and a regression on income. We will explain this regression in further detail in section 3.

In our dataset, we have made an adjustment regarding the individual data for the 6-digit education code. This code states the level and area of study for each candidate. The first digit represents the level of schooling, that each candidate has reached (Barrabés & Østli, 2016). By using this digit, we compute the years of schooling that each candidate has completed, making it possible for us to create the average years of schooling among the running and elected candidates.

In our upcoming analysis we want to separate between running and elected candidates in our dataset. We believe it is important to highlight what types of candidates the municipalities have to choose from, and whether the candidates of the highest quality are being selected into council. Running candidates are the local politicians who are running for election in each respective election year. While elected candidates are the local politicians that have been elected to council in each respective election year. It is important to note that the running candidate selection includes all candidates running for election, meaning both the candidates that are elected to council and those who are not elected.

Furthermore, we want to separate between merged and non-merged municipalities to show how the local government reform has affected the quality of the politicians. The results of the local government reform are shown in the 2019 election which makes the separation between merged and non-merged municipalities less relevant for the previous election years. However, to make a comparison for the municipalities that have been directly affected by the local government reform (merged municipalities) we will include the previous municipality structure for the election prior to 2019. The separation between merged and non-merged municipalities will be further discussed in section 4.

3. Methods

3.1 Politicians Quality Measurements

In our thesis, we focus on quality as a measurement of competence. Measuring quality of politicians is a challenging task as the data does not have a unique variable for describing quality.

Years of Schooling

The common approach to proxy competence in studies is based on years of formal education and or, salaries in private sector jobs (Baltrunaite, Bello, Casarico, & Paola, 2013) (De Paola & Scoppa, 2011). We define highly educated civilians as people with an education from a college, university or higher. Besley et al. (2011) have done a study that correlates between the education level of politicians and their performance, as the perceived high-skilled candidates are viewed as more competent than unskilled candidates (Pedersen, Dahlgaard, & Citi, 2019).

As mentioned earlier in the introduction, Dal Bó, Finan, Folke, Persson and Rickne (2017), examines in their article if a democracy attracts competent leaders, while attaining a broad representation. The article investigates patterns of selection among Swedish municipal politicians and national legislators. By using a wide range of information on ability traits and social background for the national and municipal politicians and the Swedish population, they find that *“politicians are on average significantly smarter and better leaders than the population they represent”* (Dal Bó, Finan, Folke, Persson, & Rickne, 2017, p. 1877). Another result is that positive selection suggest that individual competence is key for selection. Politicians are positively selected in ability measures and so increasing the quality of the representatives. Since we are examining Norwegian politicians, this article from our neighbors is of high interest as we have many similarities with Sweden.

Dahlgaard and Pedersen are currently working on a paper showing that Danish politicians are positively selected on both their levels of education and by their income scores compared to the population and that there is no trade-off between representation and selection on competence. Meaning that increasing the competition and ability among politicians does not decrease representation.

This is robust to the reform in 2007 that decreased the number of politicians, when Denmark went from 271 municipalities to 98 municipalities.

Dahlgaard et. al. (2020) uses a varied dataset covering the entire Danish population, including Danish candidates for local and national elections from 1990 to 2013. In this paper they are relying on the article by Dal Bó et al. (2017) on operationalization of competence. Their findings show that Danish politicians are also better educated and have a higher earning ability compared to the population. (Dahlgaard & Pedersen, 2020).

Mincer earning regression

Even though education is a valid measurement for competence, using education does not come without its issues, as highly competent individuals may choose not to move to higher education. To make an additional measurement, we will apply a *Mincer earning regression* to measure ability by estimating the income residual from a regression on income (Gulzar, 2020). The procedure allows for estimating individual effect of ability in the (non-political) labor market. (Besley, Folke, Persson, & Rickne, 2017) elaborates on how the spillovers of ability from the private labor market transfers to local politics. We run the model in the following form:

$$y_{i,m,t} = f(\text{age}_{i,t}, \text{years of schooling}_{i,t}, \text{gender}_i) + a_{m,t} + \varepsilon_{i,m,t}$$

Where $y_{i,m,t}$ is the disposable income for person i in municipality m in year t . The independent variable includes age, years of schooling (education) and gender. The variable $a_{m,t}$ is included to capture the income differences across municipalities, while $\varepsilon_{i,m,t}$ represents the earning score of each individual by computing the residual for each year in question and averaging it across a number of years. The method by Mincer has an expectation that more competent individuals will have a positive residual if the labor market does not account for the variables in the regression. The Mincer score is calculated from the difference between the income residual for each candidate and the income residual mean for the year in question. It is then divided by the standard deviation income residual for each candidate. Dal Bó et al. (2017) have previously applied the same method by using a Mincer regression to showcase a correlation between how earning scores correlate to leadership ability and political success.

Difference-in-differences

To address our research question, we will use a standard difference-in-difference model. Treated municipalities, those that are merged, are compared with control municipalities, which are unaffected by the local government reform. We want to carry out the analysis for two subgroups. The treatment group is the municipalities that are merged, and the control group is the municipalities that remain unchanged. The DiD-design main analysis focuses on the past three elections: namely 2011, where there was no reform on the table; 2015, where municipalities got notice of the reform taking place in the future; and 2019, where municipalities knew which were to be merged and with whom, even if the actual implementation would not take place until 2020. We estimate the following equation:

$$Y_{i,m,t} = \eta T_{i,m,t} + \gamma t_{i,m} + \delta_{DiD} T_{i,m,t} t_{i,m} + a_{m,t} + \varepsilon_{i,m,t}$$

Where $Y_{i,m,t}$ is the outcome variable of interest for politician i in municipality m in time-period t , $T_{i,m,t}$ is the treatment being in a merged municipality, $t_{i,m}$ is post-reform indicator, $a_{m,t}$ are potential controls and $\varepsilon_{i,m,t}$ is an error term, allowing for clustering at the (post-reform) municipal level. δ_{DiD} is the quantity of interest as it measures the treatment effect of the reform. We use robust clustered errors to account for the repeated measures (Bertrand, Duflo, & Mullainathan, 2004).

3.2 Summary of Key Variables

We characterize effects of changes on these measures of competence as well as on a range of other variables affecting the individual choice of running for municipal council. These include age, gender, whether the candidates represent one of the main political parties (Ap, FrP, H, KrF, Sp, SV, V, MDG and R), if the candidates are in a merged municipality, higher education (equal to 17 YoS or higher), years of schooling, pre political income, the natural logarithm of income and the Mincer earning score. The statistics shows every individual that ran for local elections in Norway between 2011 and 2019.

Table 3.2.1 Summary statistics, key variables

Variables	N	Mean	Std. Dev.	Min	Max
Age	165610	49,55	15,11	18	98
Female	165610	0,42	0,49	0	1
Main political parties	165610	0,82	0,39	0	1
Merged municipality	165610	0,23	0,41	0	1
High education	165610	0,45	0,50	0	1
Years of schooling	165610	14,57	2,91	7	20
Pre political income	154777	449986,1	313031,5	0	8949673
Log income	154777	12,64	1,22	0	16,01
Mincer earning score	131953	0,066	0,94	-2,09	24,31
N	165610				

Note: The summary statistics include all individual running candidates for the elections in 2011, 2015 and 2019.

3.2.1 Gender and Age Distribution

In Norway, the legislation provides rules on gender distribution in a number of different types of boards, both public and private. Such requirements are set for, among others, the board members of private public limited companies, large cooperatives, state-owned enterprises, health trusts, intermunicipal companies, and joint stock companies in which municipalities or county municipalities own more than two thirds of the shares (Ik Dahl, 2020). Gender quotas on boards, a form of quotas where rules are given on the gender distribution in boards to ensure a more even distribution between men and woman. The Gender Equality and Discrimination Act § 28, e (Lovdata, 2017), states that each gender should be represented by at least 40 per cent for large boards with ten or more members.

A paper written by Muriel Niederle and Lise Vesterlund examine whether men and women of the same ability differ in their selection into competitive environments. In their research they find that despite there being no gender difference in performance, men are more likely to enter a competitive environment. Even though women and men are equally successful in the competitive environment, when given a choice, women tend to not enter the competition at the same rate as their male counterparts (Niederle & Vesterlund, 2007). However, after the local elections in 2019, the percentage of female mayors has increased from 28 to 35 percent. Still, there are some gaps that need to be filled. The female representation in municipal councils varies from 65 percent in Bindal and Nissedal municipality to 13 percent in Kvænangen municipality. Of a total of 356 mayors, 230 positions are filled by men and 126 by women (Regjeringen, Kvinnerekord i lokalpolitikken, 2020).

From *figure 3.2*, we see that the female gender representation for running candidates for the municipal council and those who were elected to the municipal councils, show a positive development over recent local elections. As according to the Discrimination act, the municipal councils have, for the first time been represented, on average, by at least 40 percent of women.

From *figure 3.3*, we observe that the average age distribution for both running and elected candidates has increased during the period 2003 to 2019. The average age of the Norwegian population in election years between 2003-2019, has increased from 38,28 – 40,28 years (Kommuneprofilen, 2020). Following from the graph,

the age difference between the population and running/elected candidates indicates that voters and parties prefer older and more experienced candidates.

Figure 3.2 Female representation for mayors, running and elected candidates

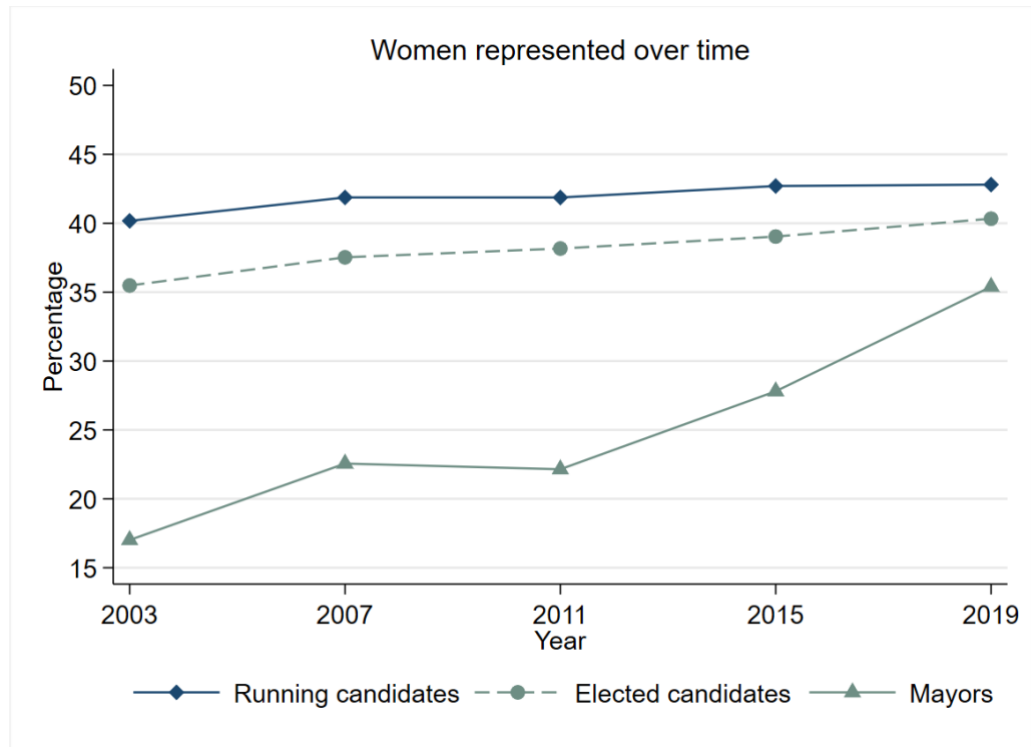
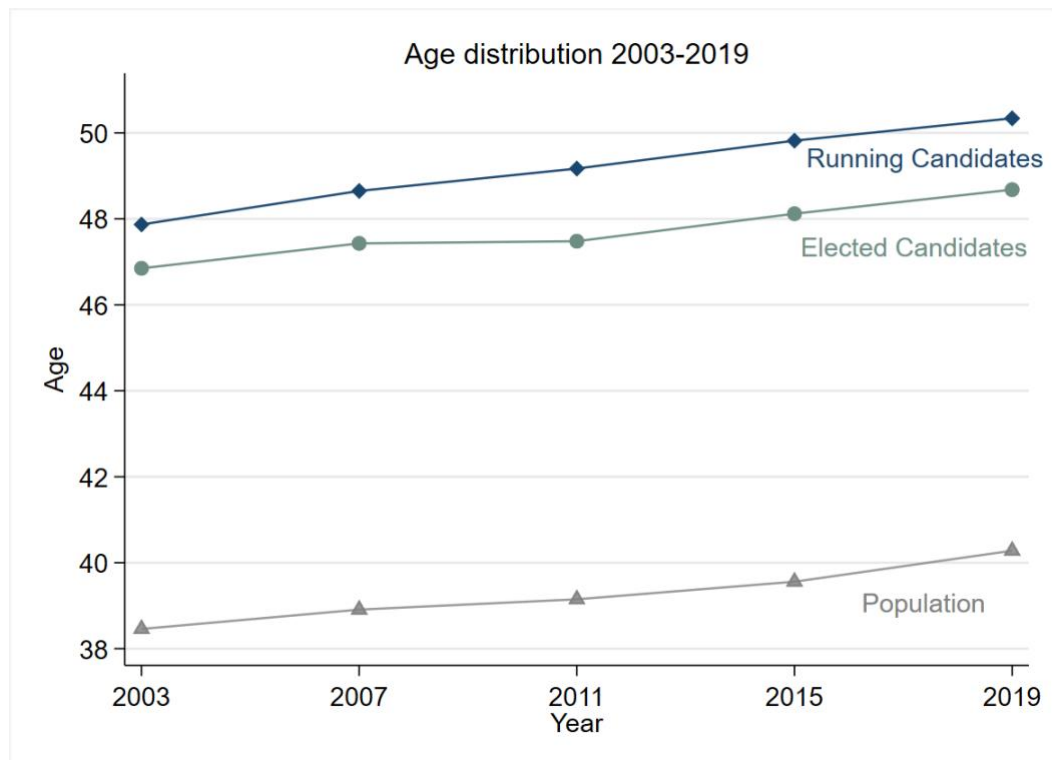


Figure 3.3 Average age distribution over time for elected and running candidates



3.2.2 Years of Schooling and Pre Political Income

The illustration in *figure 3.4* shows the average years of schooling in Norway for running and elected candidates between 2003 and 2019. It is important to note that both merged and non-merged municipalities are included in both selections. The average years of schooling for running candidates increases from 13,8 in 2003 to 14,79 in 2019, while the average years of schooling fluctuates between 14,0 in 2003 to 15,19 in 2019 for elected candidates. From the figure 3.4 we can see that there is an increasing trend in years of schooling for each election.

Pre political income provides the most accurate measurement for income from the private labor market and is in accordance with our data collection from SSB.

Figure 3.5 reports the average pre political income in Norway from 2003 to 2019 divided between running and elected candidates. For running candidates, the average pre political income starts off as approximately NOK 289.725 in 2003 and has a steady increase per election year where the highest average pre political income is reported in 2019 with the value of approximately NOK 507.696. For the elected candidates, we observe that the average pre political income is higher than the running candidates on average in each election year. Suggesting that elected politicians are positively selected by their pre political income. There is a similar trend between the two groups, where the lowest recorded average was in 2003 with the value of NOK 346.342 and the highest recorded average was in 2019 with the value of NOK 614.485.

Figure 3.4 Average years of schooling in Norway from 2003-2019 for running and elected candidates

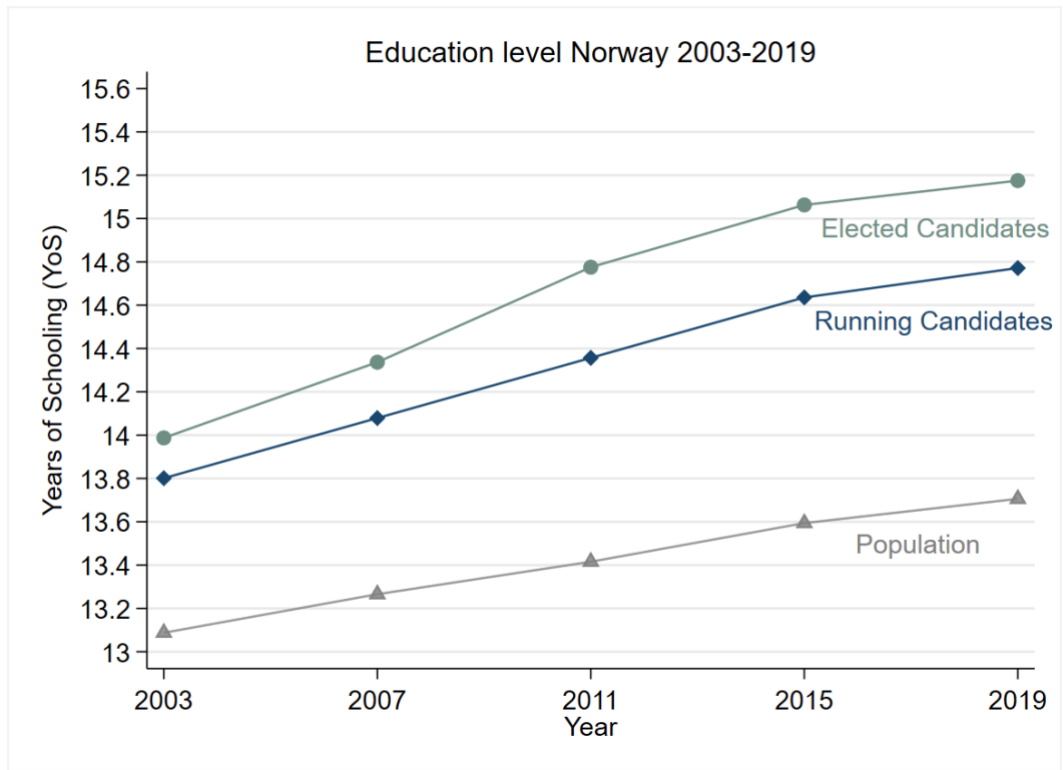
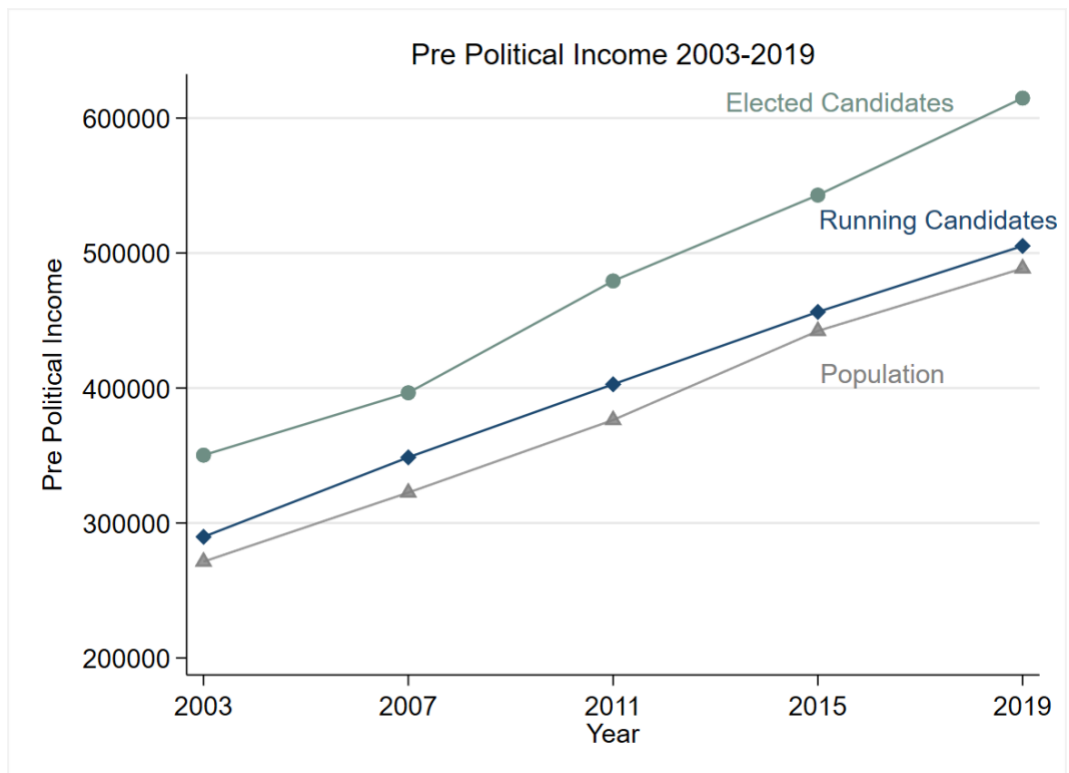


Figure 3.5 Average pre political income in Norway 2003-2019 for running and elected candidates



Note: The pre political income values are provided in real values of NOK, meaning the observations are not deflated.

4. Results

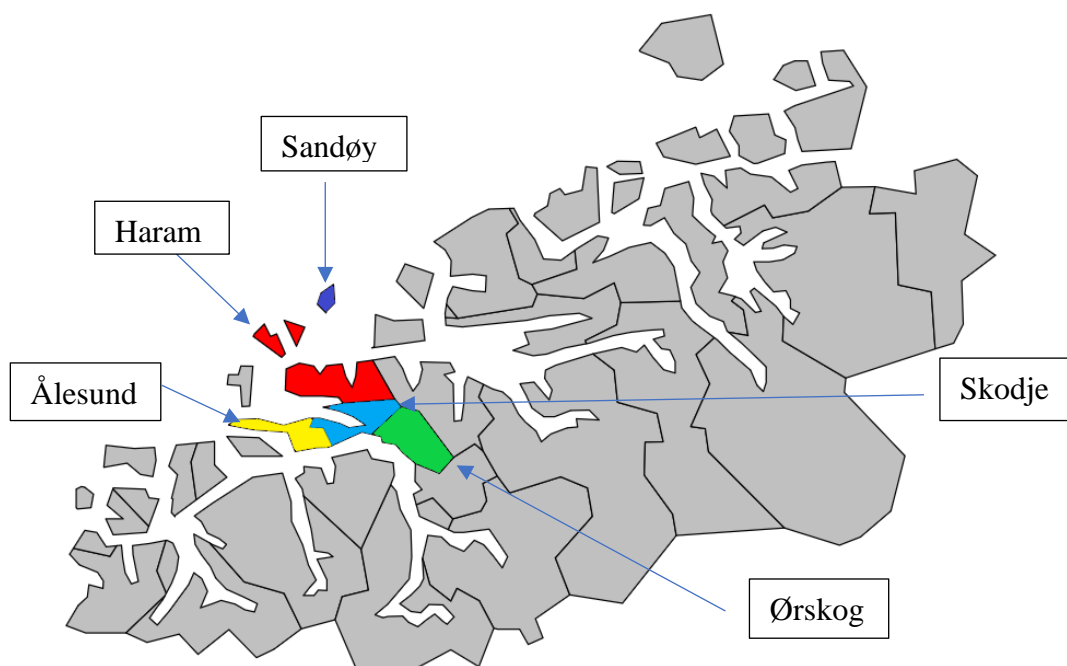
4.1 An Illustrative Example: Ålesund Municipality

On 1 January, the Municipalities of Haram, Sandøy, Skodje, Ørskog and Ålesund were merged into one new municipality. The new, consolidated municipality of Ålesund has 66.000 inhabitants. The politicians had in mind a broad, diverse representation. The result of the new municipality was a municipal council of 77 representations from 12 different political parties. This is Norway's largest municipal council.

By looking at one of the biggest mergers in the reform, we will have a great example to conduct our analysis on a small scale before we move onto the “bigger picture”. We will do an analysis of Ålesund municipality, to investigate our research question; that the quality of local politicians will change on the basis of the municipality reform. This will also allow us to investigate our hypothesis “*The quality of elected politicians will be higher post the local government reform*”.

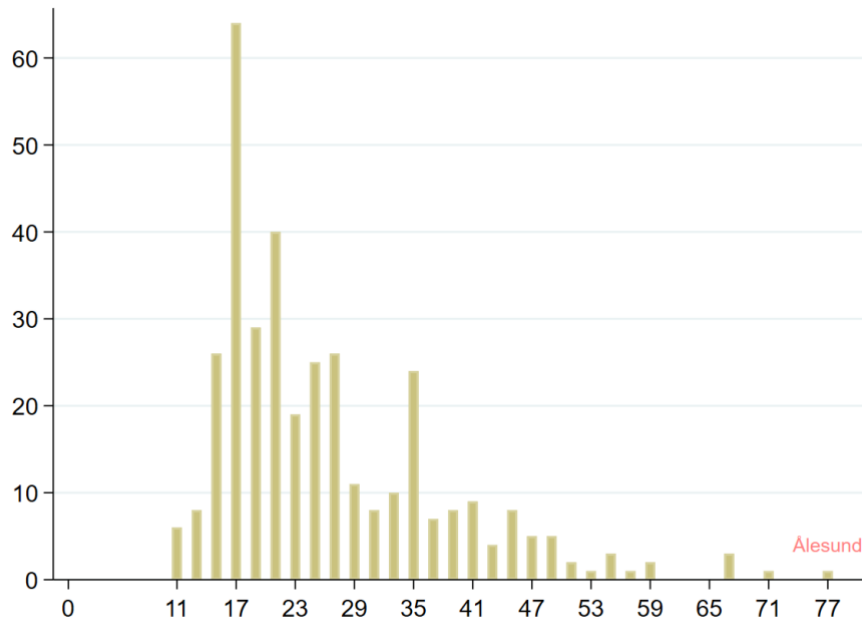
The graphical illustration of the reform of Ålesund is shown in *Figure 4.1.1* where the color markings illustrate the new municipality of Ålesund that consists of Haram (27), Sandøy (19), Skodje (21), Ørskog (17) and Ålesund (49) pre-reform, with the number of municipal council members in brackets.

Figure 4.1.1 Ålesund municipality based on the pre-reform map structure



Looking at other municipal councils across the country, the regular numbers of members are 17 and the median is 25 members (Fiva, Hagen, & Sørensen, 2014). Before the amalgamation, all the “old” municipalities had a significant lower number of members in their respective municipal councils in the period 2015-2019. The figure below shows the distribution for the number of members in the municipal councils for the period 2019-2023.

Figure 4.1.2 Municipal council members in Norway 2019-2023.



The x-axis is number of council member in the municipality council and the y-axis measures the frequency of municipalities. Note: Ålesund is the only municipal council with 77 council members and is marked in red.

With 77 members in the municipal council, there have been some challenges and criticisms. Geir Vinsand from NIVI Analyse AS says that it is an illusion to think that a municipal council with 77 politicians will contribute to more local democracy (NRK, 2020). The important thing for the municipality is to have management ability and ability to make decisions. The municipal council meetings in Ålesund have developed into marathon meetings, were the longest lasted half a day (NRK, 2020). The mayor of Ålesund, Eva Vinje Aurdal, wants to limit the amount of speaking time and reduce the number of members in the municipal council. Looking at the new municipalities that merged following the local government reform, the vast majority of them now have somewhere between 40 and 55 politicians in the municipal council. The mayor in Sandefjord municipality, Bjørn Ole Gleditsch, says he sees no other reason why there should

be more than 45 members (NRK, 2020), as they have in Sandefjord municipality and that there would not be “more” democracy with over 70 members in the municipal council, because a big municipal council will only lead to many passive politicians.

Ålesund municipality, along with Indre Østfold municipality (with 44 729 inhabitants), are the two municipalities with the greatest number of old municipalities that have been merged into a new municipality due to the local government reform, with five former municipalities each. Indre Østfold municipality has 45 politicians in their municipal council compared to Ålesund’s 77 council members. The mayor, Saxe Frøshaug, has stated that the number of council members is sufficient at 45, and he is happy that the municipal council did not get bigger. However, by looking at the council members to population ratio, the two municipalities are approximately the same. Frøshaug elaborates on the challenges by having more council members, where it is more complicated to reach an agreement and he believes it is important to find a balance between the main committees and the municipal council (NRK, 2020).

4.1.1 Individual Data for Ålesund

Table 4.1.1 is calibrated to represent the pre/post-reform statistics of individual data on local politicians participating for election in Ålesund municipality. The table displays descriptive statistics on individual candidates running for election between for 2015 and 2019. The selection consists of statistics from all the pre-reform municipalities Ålesund, Haram, Sandøy, Skodje and Ørskog.

Table 4.1.1 Ålesund pre/post reform

Variables	2015 (pre-reform)			2019 (post-reform)		
	N	Mean	Std. Dev	N	Mean	Std. Dev
Years of schooling running	639	14,77	2,78	485	14,92	2,84
Years of schooling elected	133	15,34	2,66	77	15,52	2,70
Age running	639	49,27	14,53	485	49,73	16,47
Age elected	133	48,49	13,43	77	49,08	15,45
Share of women running	639	0,38	0,49	485	0,40	0,49
Share of women elected	133	0,38	0,49	77	0,47	0,50
Mincer score running	639	0,09	0,93	485	0,04	0,95
Mincer score elected	133	0,24	0,87	77	0,27	0,97
N	639			485		

The table above shows descriptive statistics on individual candidates, running for election in 2015 and/or 2019, and reports the average years of schooling, mincer score and the average age of the candidates. It also shows the female representation running for election, in addition to the female representation elected candidates.

Firstly, when looking at the pre-reform results, we see that the average years of schooling for those participating is 14,77, corresponding to a post-secondary rather than higher education level. When comparing the results to the post-reform election, we see that the average years of schooling of running candidates has increased by a small margin of 0,15. The increase in education level can be explained by multiple reasons as we will discuss this further into our paper. Even though, the increase showcases an increase in the quality of the elected candidates that is higher than the representative mean of the population. This margin could be due to an uprising trend in education, as the average years of schooling in the municipal population is increasing each election. The elected candidates in both the pre and post reform have, on average, a higher level of education than the candidates running for election. Looking at the difference in education for elected candidates, we see that average years of schooling has increased by 0,18 when comparing pre and post reform. The Mincer score for running candidates has decreased post reform, however, the Mincer score for elected candidates has increased. In theory, this indicates that Ålesund municipality choose on average their optimal candidates when measured by the Mincer score.

Furthermore, we note that the age distribution ranges from 18-84 while the average age of the candidates is around 49 years old. The variable for age differential did not have any substantial impact following the local government reform.

When we look at the number of women, we can see that the proportion represented in the pre-reform is lower than that elected by a small margin, however the requirements of a 40% representation for each gender is not followed. The variable for female representation is the variable with the greatest change when we compare pre and post the reform. In contrast to the pre reform, the population mean shows the selection being more gender equal as the overall candidates running for election has an average of 40% women and the share of

elected candidates consists of 47% in the post reform selection. Hence, the gender requirements set by the government are met post the local government reform in Ålesund.

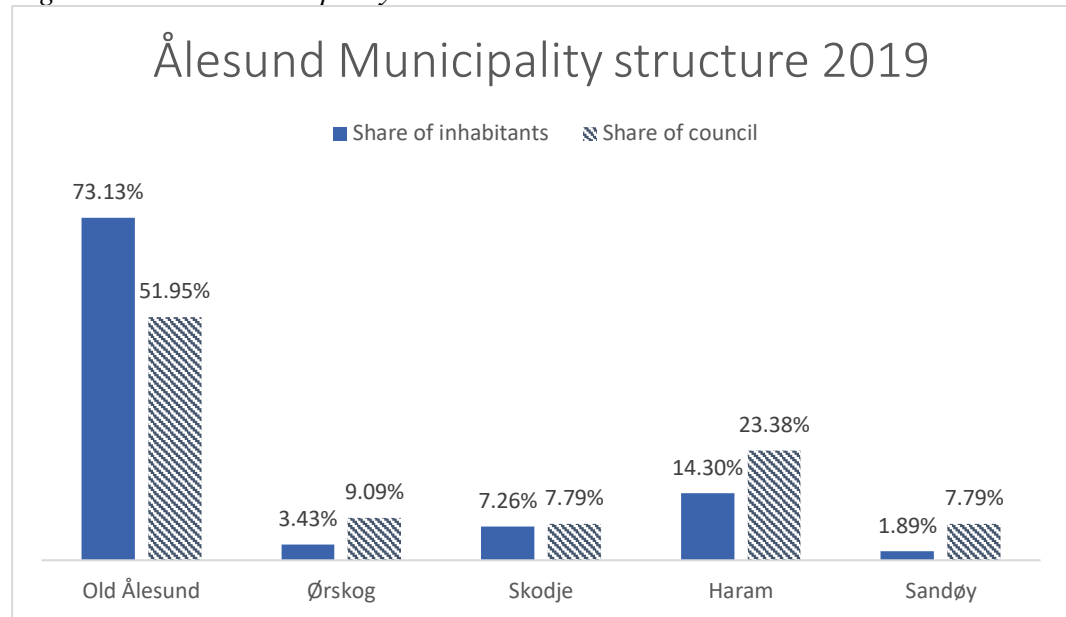
Table 4.1.2 contains information about how many politicians that were elected in the 2019 election (post-reform) with regard to how many inhabitants each former municipality consisted of.

Table 4.1.2 The 2019 election in Ålesund

Municipality	Total elected	Total share	Inhabitants	Share of inhabitants
Ålesund	40	51,95%	47998	73,13%
Ørskog	7	9,09%	2250	3,43%
Skodje	6	7,79%	4764	7,26%
Haram	18	23,38%	9383	14,30%
Sandøy	6	7,79%	1238	1,89%
Total	77	100,00%	65633	100,00%

When looking at the results of the 2019 election, we see that the former municipality of Ålesund still has the highest percentage of participants from the former structure with approximately 52%. However, when we compare elected candidates per number of inhabitants, we see that the former municipality of Ålesund has an incentive to account for a higher percentage of the new municipal council. One may argue that the municipal council should represent an equal share of representatives per number of inhabitants in their respective municipality.

Figure 4.1.3 The municipality structure in “New Ålesund”



From the illustration above, we showcase the same relationship as in *table 4.1.2*. Where the solid blue columns represent the percentage share of inhabitants, while the shaded columns represent the share of council members in the new merged municipality of Ålesund. From *figure 4.1.3* and *table 4.1.2*, we can come to a few conclusions for Ålesund. Firstly, the former municipality of Ålesund has the largest share of inhabitants and share of council member. However, we argue that it is underrepresented in the new municipality council as the share of council members (52%) should be significantly higher due to the fact that they represent a higher number of inhabitants (73%). Secondly, we see that Haram on the other hand is overrepresented in the new municipal council (23%), even though they represent a smaller proportion of inhabitants (14%). This is also the case for both Sandøy and Ørskog as they are both overrepresented in council. Furthermore, we see that Skodje is the municipality that represents the most equal share of both members in council (8%) in comparison to their share of inhabitants (7%).

To get a better view of how the local government reform has affected the quality of local politicians in Ålesund we have created a table that separates previously elected candidates (incumbent), candidates that have been elected at least once prior to the 2019 election, and newly elected candidates who have not been elected to council prior to the local government reform. *Table 6* also shows which

previous municipality each elected candidate originally came from prior to the local government reform.

Table 4.1.3 Ålesund 2019 election, incumbent and new elected candidates

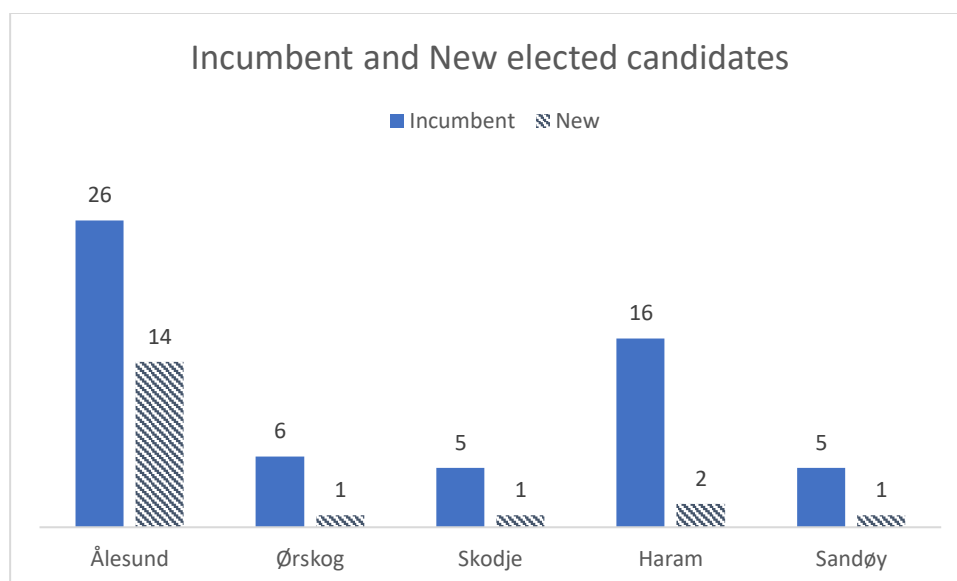
Municipality	Incumbent*	Share of incumbent	New**	Share of new
Ålesund	26	44,83%	14	73,68%
Ørskog	6	10,34%	1	5,26%
Skodje	5	8,62%	1	5,26%
Haram	16	27,59%	2	10,53%
Sandøy	5	8,62%	1	5,26%
Total	58	100,00%	19	100,00%

* Variable for incumbency, elected candidates that have previously been elected to council at least once prior to the 2019 election.

** Elected candidates that have not been elected prior to the 2019 election.

Figure 4.1.4. shows the same statistics as in table 4.1.3. but in a form of a graph. We can see that the majority of the elected candidates have at least one period of experience prior to the local government reform where 58 out of 77 were incumbents (75%), while new politicians account for approximately 25% of the new municipal council. Looking at the results we see that the former municipality of Ålesund accounts for the highest selection of both incumbent and newly elected candidates.

Figure 4.1.4 Ålesund 2019 election, new and incumbent elected candidates



4.1.2 Years of Schooling

In section 4.1.1 we documented a small positive increase in quality difference between the candidates running for election and the candidates that are elected in both pre- and post-reform from *table 4.1.1*. *Figure 4.1.5* illustrates the same difference in years of schooling, where it shows the distribution of years of schooling by each election year for candidates running for election in Ålesund. *Figure 4.1.6* illustrates the same relationship but shows the distribution for candidates elected to council in each respective year in Ålesund. The figures shows that the quality of politicians, both the running and elected candidates, has improved, as the years of schooling increases each year.

In 2011, which is represented by the blue shaded line, the average years of schooling centers around 13 years for both running and elected candidates. In the 2015 election, Ålesund experienced a similar exchange ratio between years of schooling for running and elected candidates as in 2011. In contrast to the 2011 and 2015 elections (pre-reform), the 2019 election experienced a positive change in quality where the distribution is averaging about the same frequency between 13 and 17-18 years of schooling for the candidates running for election. While the elected candidates for 2019 (post-reform) experienced a shift from upper secondary education to higher education as the highest frequency is averaging at 18 years of schooling. This illustration clearly shows a positive quality difference; the average years of schooling in municipal councils is considerably higher post the reform in Ålesund.

Figure 4.1.5. YoS distribution pre/post reform in Ålesund for running candidates

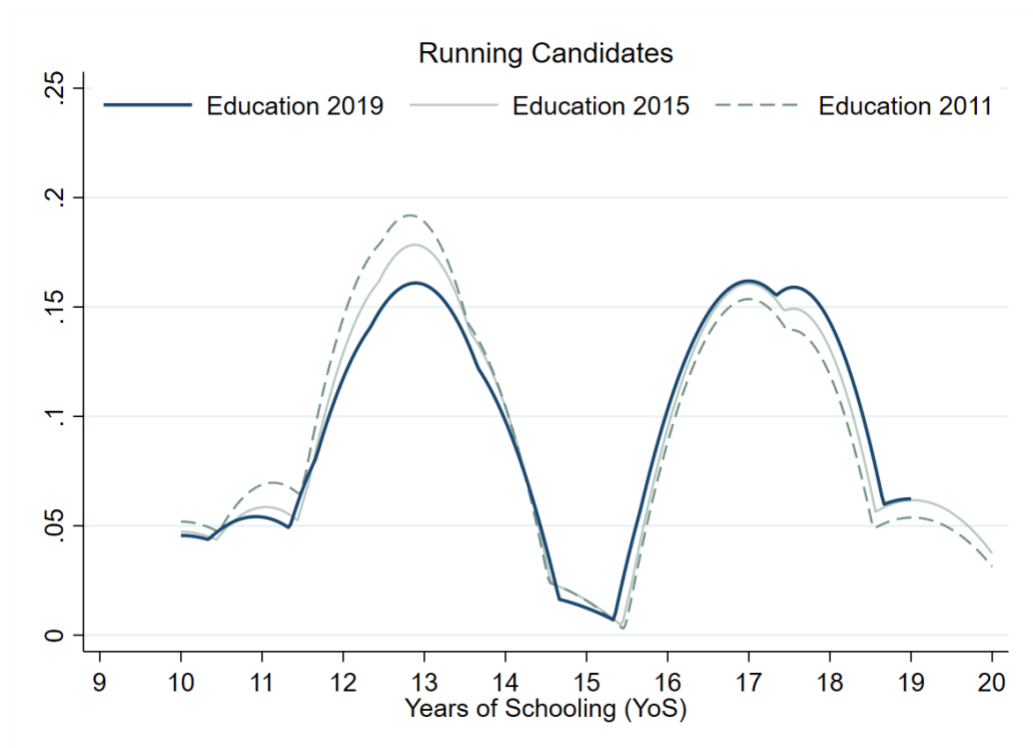
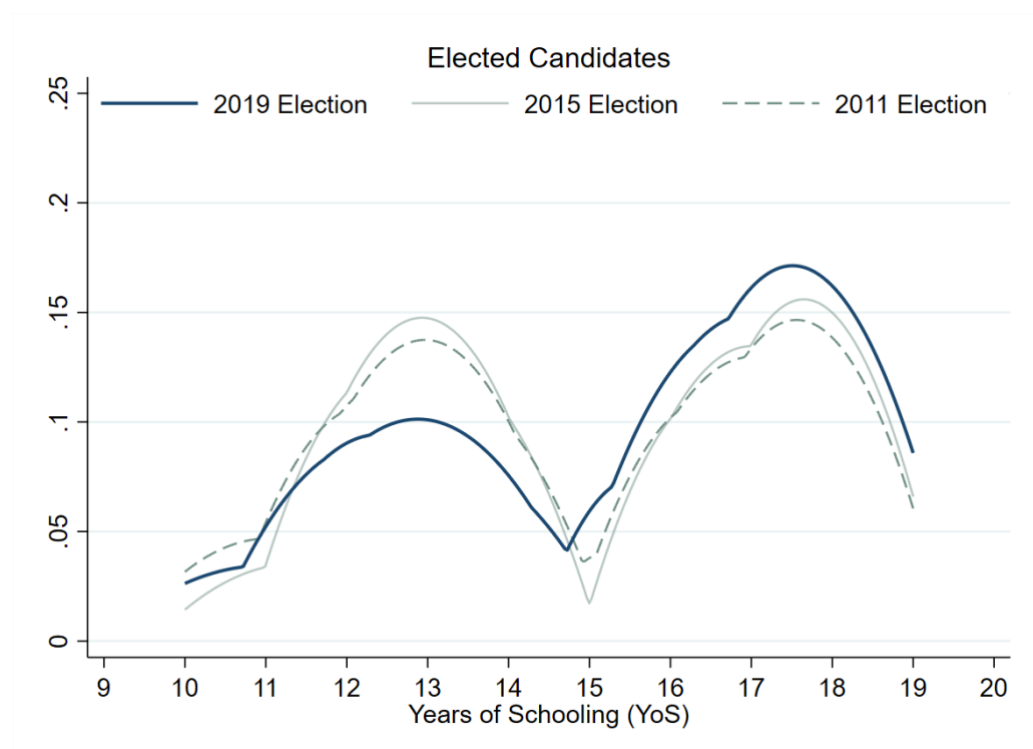


Figure 4.1.6. YoS distribution pre/post reform in Ålesund for elected candidates



Note: Both figures illustrate the distribution of years of schooling of the candidates running for election and candidates elected to council between 2011-2019. The distribution for the elections in 2011 and 2015 consists of the same municipalities as the new structure in Ålesund from 2019, being Ørskog, Skodje, Haram, Sandøy and old Ålesund.

4.2 Mincer Earning Regression

In this section we apply a *Mincer earning regression* to measure ability by estimating the income residual from a regression on income. We run the model in the following form:

$$y_{i,m,t} = f(\text{age}_{i,t}, \text{years of schooling}_{i,t}, \text{gender}_i) + a_{m,t} + \varepsilon_{i,m,t}$$

where the notation is the same as in *section 3.1*. For our disposable income we use pre political income in each respective election year. The variables for age, gender, and years of schooling (education) are the same as previously used where each candidate is divided between running and elected.

The Mincer earning score is based on the residual from our model. It is important to note that the Mincer score is standardized to have zero mean and standard deviation one for the population. After running the regression, we have the following summary statistics.

Table 4.2.1 Summary statistics on Mincer score for individual candidates running for election between 2003 and 2019.

Year	Running candidates			Elected candidates		
	N	Mean	Std. Dev	N	Mean	Std. Dev
2003	37524	0,0342	0,9270	6883	0,1359	0,9581
2007	42620	0,0325	0,8360	7941	0,2475	0,8780
2011	42857	0,0339	0,8961	8271	0,2941	0,9534
2015	47164	0,1271	0,9112	8585	0,4764	0,9226
2019	41932	0,0178	0,9267	7659	0,3283	0,9723

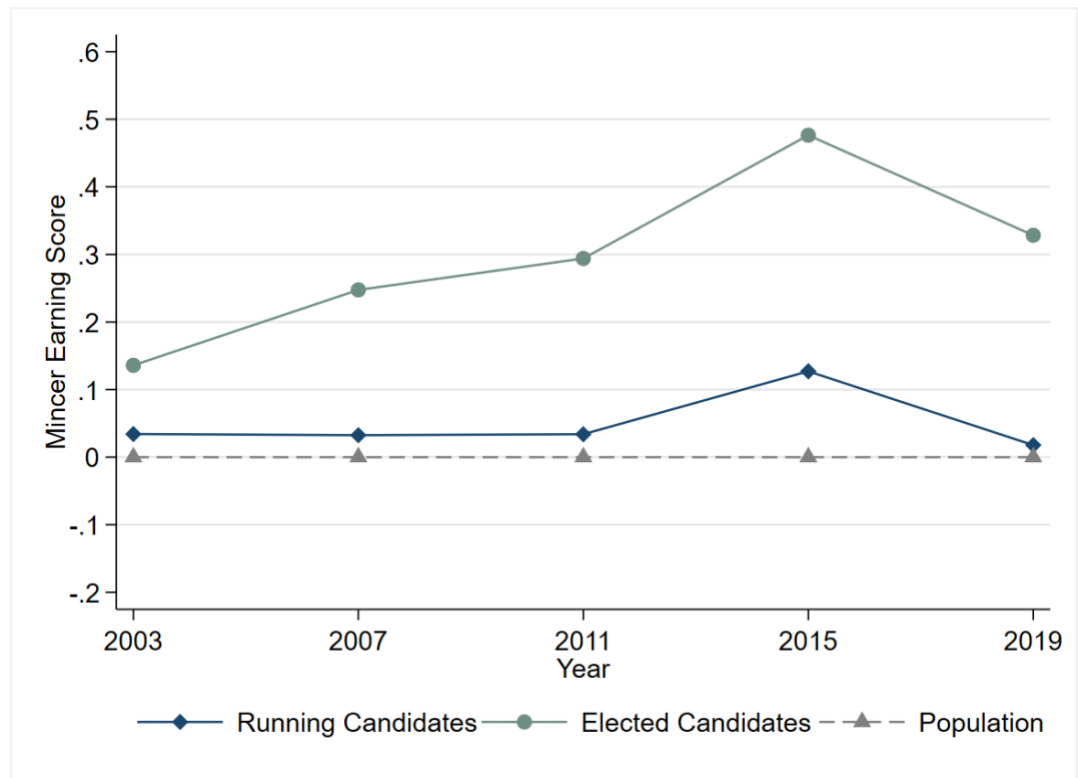
Note: Running candidates also include elected candidates for each respective election year. The Mincer scores are standardized to have zero mean and standard deviation one in the population.

From the table we see that the Mincer earning score mean for running candidates is fluctuating between 0,018 and 0,127, where the highest average Mincer earning score was achieved in 2015 and the lowest average Mincer earning score was recorded in 2019. However, if we compare the results to elected candidates, we see that the Mincer earning score is approximately 0,25 higher on average than the running candidates. This indicates that elected politicians are positively selected based on Mincer earning score, which in return substantiates the research from Besley et. al (2017) and Cox et. al (Cox, Fiva, Smith, & Sørensen, 2021), where ability from the private labor market transfers to local politics. The standard

deviation is on average 0,8994 for the running candidates. While for the elected candidates the standard deviation is on average approximately 0,937. After the election in 2019, we see that the average Mincer earning score has decreased slightly from the previous election in 2015.

To provide a better perspective of how the Mincer earning score has evolved over time we have created an illustration that shows the average Mincer earning score the past five elections divided between running candidates, elected candidates and the population average in the figure below.

Figure 4.2.1 Average Mincer earning score 2003-2019.



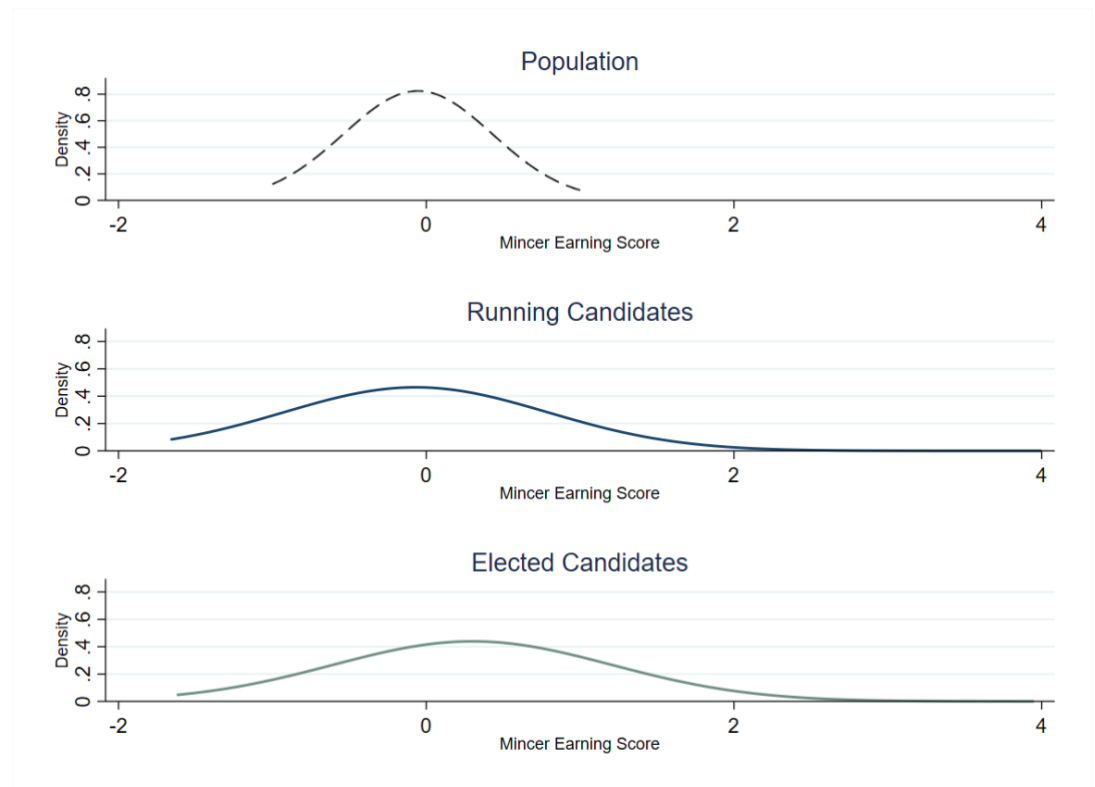
Note: The Mincer scores are standardized to have zero mean and standard deviation one for the population.

Looking at Figure 4.2.1, we observe that the average Mincer earning score is increasing each selection for elected candidates each election year except 2019. While the average Mincer earning score is stable for the running candidates and the population up until 2011, where the average for running candidates increases and the average for the population decreases. Another interesting finding is that the average Mincer earning score is decreasing from 2015 to 2019 for both running and elected candidates. This finding indicates that the local government

reform has caused the quality of local politicians to decrease on average when measured by the Mincer earning score.

To get a better overview of the difference between the samples in the Mincer earning score regression we have created a density distribution for the 2019 election, showing the Mincer earning score distribution for the population, running and elected candidates.

Figure 4.2.2 Mincer Earning Score density distribution 2019



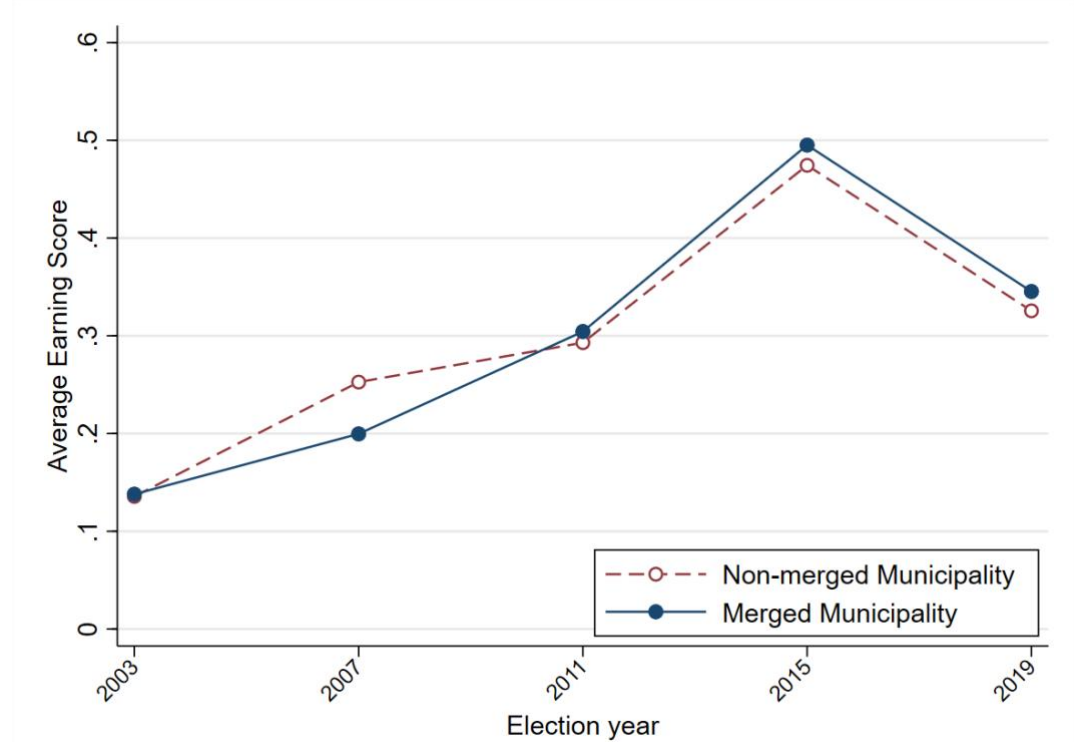
Note: The Mincer scores are standardized to have zero mean and standard deviation one for the population.

From the graph we see that the density shifts more to the right on the x-axis by each category, where the elected candidates have a higher density at the upper levels of Mincer earning score than the running candidates. The same relationship is recorded for the other elections.

In the following section we want to further investigate how the local government reform has affected the quality of politicians by separating the previous illustrations by merged and non-merged municipalities. It is important to note that

all the candidates in the following section are elected candidates, meaning those candidates that have been elected to council in each respective election year. The difference between merged and non-merged municipalities will provide us with information on how the local government reform have affected the merged municipalities in comparison to the non-merged municipalities. Another factor that is important to note is that the category for merged municipalities contains information from the previous municipality structure prior to the local government reform. We start off this part of the analysis by looking at the average Mincer earning score for each election year from 2003 to 2019.

Figure 4.2.3 Average Earning Score for Merged and Non-merged municipalities 2003-2019.



Note: the sample only contains elected candidates for each election year. The merged municipalities contain every previous municipality prior to the local government reform.

We see that on average, the non-merged municipalities have a higher Mincer earning score than the merged municipalities in 2007. While in 2003, 2011, 2015 and 2019, the merged municipalities have a higher average quality than the non-merged municipalities even though both groups follow similar trends. The most important finding in this figure is that both merged and non-merged municipalities decreased the average Mincer earning score post the local government reform in 2019. Does this decrease imply a lower overall quality of local politicians?

Not necessarily since the average mincer score in 2019 for both merged and non-merged municipalities is approximately the same as it was in 2011. However, the average Mincer earning score for both groups has decreased since the election in 2015 and deviated from the previous trend the past four elections. Hence, we argue that the quality of elected politicians has slightly decreased because of the local government reform when measured by the average Mincer earning score.

We want to summarize the results to emphasize how the local government reform has affected the quality of politicians in our Mincer regression model. The main finding is that the local government reform decreased the quality of local politicians in the 2019 election compared to the 2015 election. As shown in *table 4.2.1*, the quality of running candidates decreased on average in 2019, which in return caused the elected politicians also to decrease. We find reasons to believe that the local government reform had a negative impact on the ability of local politicians to engage in politics in 2019, as the municipalities had worse candidates to choose from than in the 2015 election when measured by the Mincer earning score. The quality of elected politicians in a merged municipality is higher on average than its non-merged counterpart, but only by a small margin. Even though the quality of elected politicians is higher in 2019 than it was prior to the news about the amalgamation in the 2011 election, we argue that the quality of elected politicians should have been slightly higher when comparing the results to the previous trend prior to the local government reform.

4.3 Difference-in-Difference

As mentioned earlier in this paper, we use a difference-in-difference model to address our research question. The treated municipalities, those that are merged, are compared with control municipalities, which are unaffected of the local government reform. In the figures below, the red markings (the non-merged municipalities), shows how the outcome would change over time without the treatment. While the blue markings display the change over time in the treatment group (merged municipalities). The model focuses on the three past elections as we view these elections years as the most relevant for our analysis. The red horizontal line marks the pre-reform with the 2011 and the 2015 election, and the post-reform with the 2019 election. As previously mentioned, the reform was initiated in 2014 and in 2017 the Parliament voted for the reform and the new structure. In 2019, municipalities were informed about which would be merged and with whom, even if the actual administrative implementation would not take place until 1 January 2020. Therefore, we consider the elections in 2011 and 2015 as the pre-reform elections and 2019 as the post-reform election. Our analysis focuses on comparisons of 2011 and 2015 denoted before the reform, versus 2019, denoted after the reform. We will also see if the parallel trends assumption holds, as this a critical assumption to ensure internal validity of DiD models.

Table 4.3.1 – running and elected candidates

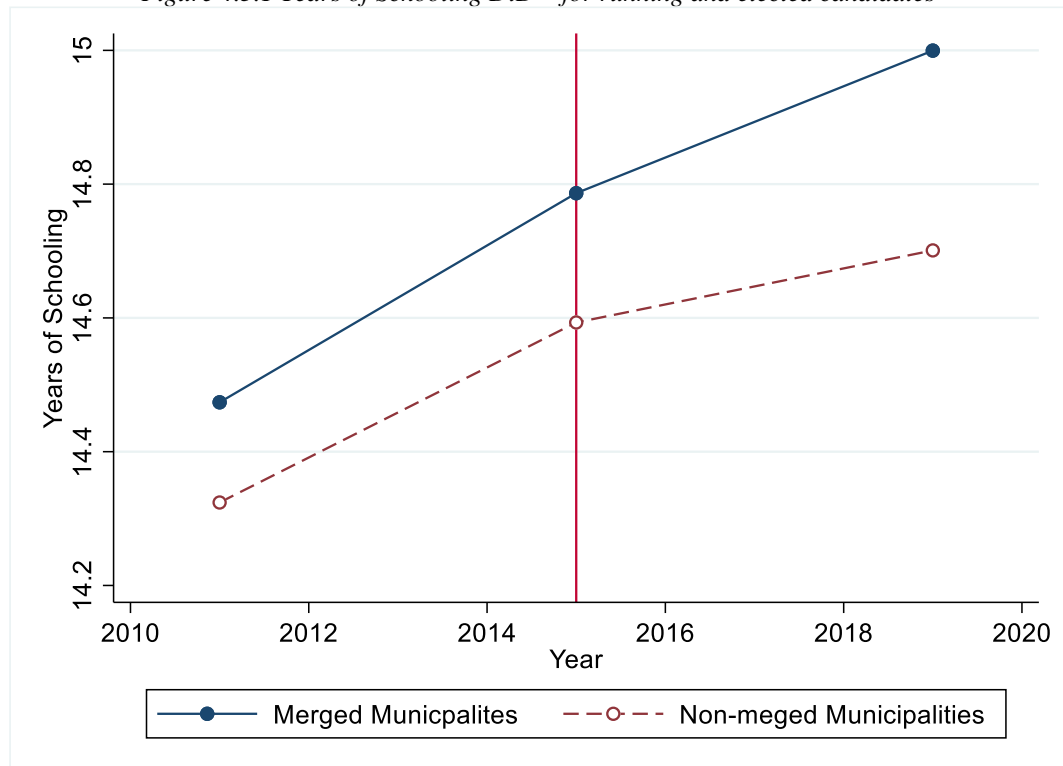
Variables	Time (Post)	Treatment	DiD estimate	N
Years of schooling	0,2341	0,1624	0,1362	165 610
	(0,0175)	(0,0208)	(0,0364)	165 610
Mincer score	-0,0630	0,0279	-0,0178	131 953
	(0,006)	(0,0104)	(0,0168)	131 953

**Table 4.4.1 presents DiD estimates (coefficients) for running and elected candidates, the rows show different outcome variables and the columns present regression coefficients. Standard errors are presented in parenthesis.*

From the table above we observe that the Mincer score coefficient corresponds with the results we found in section 4.2, where the reform had a positive effect for the treated municipalities by a small margin (0,0279). The difference-in-difference estimate for the Mincer score is negative but as the coefficient and the standard error is close to zero, we argue that the treatment had a small negative effect when

measured by the Mincer score. *Figure 4.3.1* shows the average years of schooling for both running and elected candidates. The difference for the treated group has increased for each selection from 0,1523 in 2011, 0,1724 in 2015 and 0,2986 in 2019. The difference is higher in the post-reform election comparing it to the pre-reform elections. This corresponds to *table 4.3.1* where the coefficient for years of schooling is positive (0,1362), with the treatment having a positive effect. Based on the figure we observe an increase in years of schooling for both groups and we argue that the trends appear to be parallel, and the parallel trends assumption holds. However, based on the regression output from the appendix *table A.1*, we find that years of schooling is statistically significant at 99% level for running and elected candidates. On the other hand, the Mincer score is insignificant at all levels.

Figure 4.3.1 Years of Schooling DiD – for running and elected candidates



In the section above, we compare the difference-in-difference (DiD) for the running and elected candidates. Using the same procedure, we will look closer at the elected candidates. Where the blue line is the treated group (merged municipalities), and the dashed red line is the control group (non-merged municipalities).

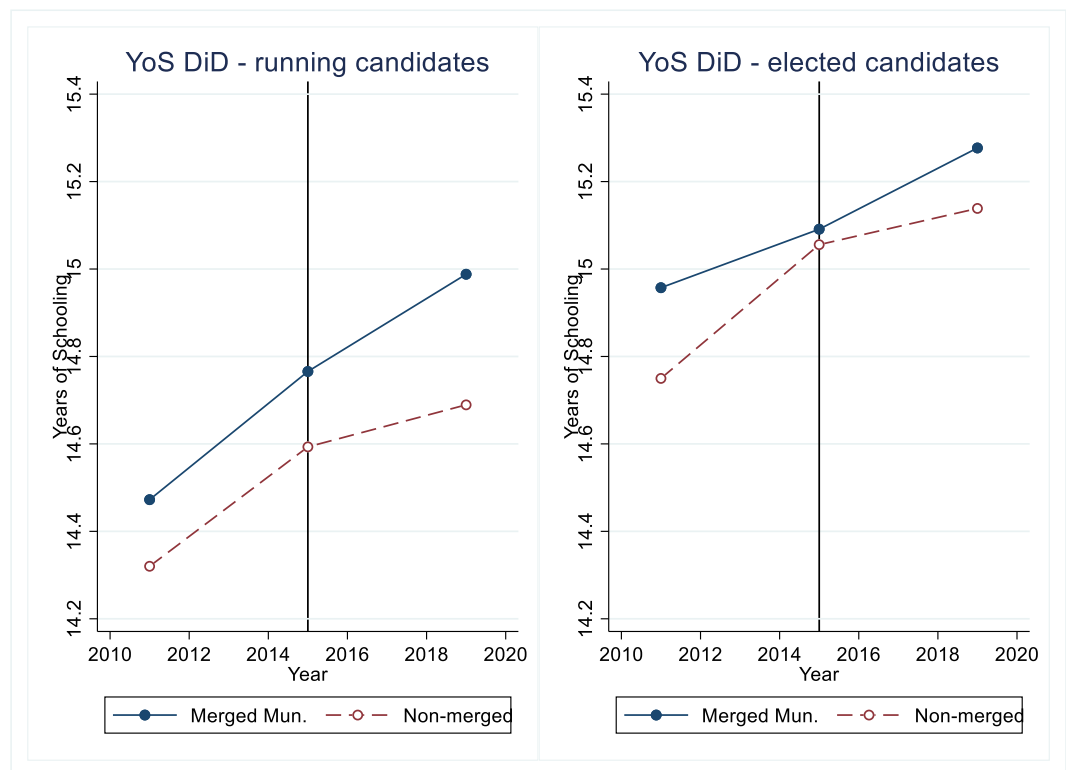
Table 4.3.2 - elected candidates

Variables	Time (Post)	Treatment	DiD estimate	N
Years of schooling	0,2365	0,1222	0,016	29 933
	(0,0394)	(0,0467)	(0,0863)	29 933
Mincer score	-0,0595	0,0217	0,0015	24 515
	(0,0148)	(0,0264)	(0,0423)	24 515

*Table 4.3.2 presents DiD estimates (coefficients) for the elected candidates, the rows show different outcome variables and the columns present regression coefficients. Standard errors are presented in parenthesis

From the table above, we see that the Mincer score estimates for elected candidates is close to equal as for the running candidates in table 4.3.1, and our previous statement of close to no effect still holds. Figure 4.3.2 shows us the average years of schooling. For the running and elected candidates, we observe a higher average for both the pre-reform elections and the post-reform election. Comparing the elected against the running candidates, there is an increase in years of schooling for both groups. Looking at the post-reform election in 2019, we see that there is an increase in the difference between the treated and the control group. This corresponds to table 4.3.2 for the elected candidates, where the coefficient is positive (0,0160), with the treatment having a positive effect.

Figure 4.3.1.1 Years of Schooling DiD – running vs. elected candidates



From the figures and tables in section 4.3, we observe that the average years of schooling for running and elected candidates increases. According to the parallel trends assumption, we observe that this holds for years of schooling. When looking at the figures and tables for the elected candidates we observe a positive effect for the treated group post-reform (merged municipalities) for years of schooling. Even though the result for the elected candidates shows a positive relationship, we cannot conclude on these results as they are statistically insignificant based on the regression output in appendix *table A.2*, for both years of schooling and the Mincer score.

When comparing the pre- and post-reform in our difference-in-difference analysis we observe that the treated group has a higher average than the control group for years of schooling. To see that the average years of schooling for elected candidates in merged municipalities had a positive increase, is of great importance regarding the development in quality of local politicians. This indicates that the treatment, being a reduction in number of municipalities, had a positive effect on the quality of local politicians measured by years of schooling in the difference-in-difference regression. Barfort et al. (2015) finds that competence of both candidates and election winners increased as a result of the reform, we argue that our results correspond with this.

5. Conclusion

In this thesis, we investigate municipality amalgamations and whether the local government reform has affected the quality of local politicians. Our main focus is on the quality of local politicians with regards to their education and earning score. To evaluate the quality of politicians, we look at their education level measured by years of schooling and Mincer earning score. As mentioned in section 3.1, the common approach to proxy competence in studies is based on years of formal education and or, wages in private sector jobs. (Baltrunaite, Bello, Casarico, & Paola, 2013) (De Paola & Scoppa, 2011). This way of measuring political quality is well documented and therefore we are confident on the validity. Our dataset is of high quality and the detailed data on individual candidates in local elections gives us a fantastic starting point to investigate our research question.

We start the analysis by looking at the average age, gender and pre political income and years of schooling for running and elected candidates, regardless of the local government reform. We find evidence that suggest a positive increase and an upgoing trend for each election based on our variables. In the next analysis, we use Ålesund municipality as an example for a new municipality that has been merged with several other municipalities because of the local government reform. Here we observe that there is an increasing trend for the quality of local politicians, as there is an increase in years of schooling for both running and elected candidates. The results show a positive quality difference, as the average years of schooling in municipal councils are higher post the reform in Ålesund.

To dig deeper in our analysis, we use a *Mincer earnings regression*, where we find that the overall quality for both merged and non-merged municipalities has decreased on average post the local government reform. However, we find evidence that elected politicians are positively selected based on Mincer earning score which supports the research from Besley et. al (2017) and Cox et. al (Cox, Fiva, Smith, & Sørensen, 2021). The merged municipalities are of higher quality than the non-merged counterpart, but only by a small margin. Despite the positive quality increase for merged municipality council members, we argue that

according to the Mincer earning regression the quality of local politicians has decreased.

Further, we use a *difference-in-difference* model to address our research question. First, we look at the running and elected candidates together before we take a closer look at the elected candidates. Here we observe that the treated group (merged municipalities) has a higher average than the control group (non-merged municipalities) for years of schooling in the post-reform election. By looking closer at the elected candidates, we observe a positive effect in the post-reform election for the same variables. We find evidence that indicates that the local government reform had a positive effect on the quality of local politicians.

Barfort concluded in his PhD thesis, that “*jurisdiction size matters for political selection, and that larger political entities attract more competent political leaders*” (Barfort, Harmon, Lassen, & Serritzlez, 2015, p. 79). Our results correspond with the same conclusion for both Norway in total and with our illustrative Ålesund example, as the merged municipalities have a higher quality on average post the local government reform.

In conclusion, the local government reform has caused the quality of local politicians to slightly increase when measured by years of schooling and slightly decrease when measured by Mincer earning score. Based on the two approaches, we find evidence to believe that the Norwegian local government reform had no or very limited effect on the quality of local politicians. We want to highlight that these changes are the short-run initial reactions to the local government reform and that the results might look different further into the future.

For further research it would be interesting to see the long-term effects of the local government reform. As there is no data on elections past the election in 2019, we are not able to fully understand the effects of the local government reform on the political picture in Norway. An amalgamation of this scale will have effects that are not visible in the short-term analysis, which in return could cause the quality of local politicians to increase in the long run. One could evaluate the engagement response in local politics from the local government reform by looking at the ratio between incumbent and new politicians on a country scale larger than our illustrative example with Ålesund. It would also enable the opportunity to estimate how the local government reform have affected the competition in local elections and evaluate whether the gender distribution has changed as a reaction to the reform.

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Appendix

Table A.1 Difference-in-Difference estimation for running and elected candidates

Variables	Coef.	Std.Err.	t	P>t	R-squared	Adj R-squared	N
Age	0,3263	0,1893	1,72	0,085	0,0009	0,0009	165610
Female	-0,0010	0,0061	-0,18	0,859	0,0000	0,0000	165610
YoS	0,1362	0,0364	3,74	0,000	0,0028	0,0028	165610
Pre-income	-4058,70	4055,298	-1,00	0,317	0,0165	0,0164	154777
Mincer score	-0,0178	0,0168	-1,06	0,290	0,0011	0,0010	131953

Table A.2 Difference-in-Difference estimation for elected candidates

Variables	Coef.	Std.Err.	t	P>t	R-squared	Adj R-squared	N
Age	0,3873	0,4023	0,96	0,336	0,0009	0,0008	29 933
Female	-0,0038	0,1508	-0,26	0,798	0,0002	0,0001	29 933
Yos	0,0160	0,0863	0,19	0,852	0,0019	0,0018	29 933
Pre-income	23264,72	10306,06	2,26	0,024	0,0181	0,0180	29 237
Mincer score	0,0015	0,0423	0,04	0,972	0,0008	0,0006	24 515