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Electoral Gender Quotas and Diversity
-A study of the Binominal Parity Vote in French Local Elections

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**Abstract**

This study has looked at how the diversity of representatives’ backgrounds changed after the introduction of the Binominal parity vote in the French local elections. The aim was to contribute to our understanding of the impact of gender quotas in other dimensions than gender. Another aim was to explore the workings of the Binominal parity vote, which has a unique design and obligates candidates to run as pairs, constituting of one man and one woman.

The diversity of each local council in 2011 and 2015 was measured with the Herfindahl-Hirschman Index (HHI). By looking at the changes in HHI, the study has shown that the diversity of representatives and candidates has increased in terms of age and profession, but decreased in terms of party representation. The exact workings of the mechanisms behind the changes have not been established, but some preliminary conclusions have been made. The relationship between the gender quota’s effectiveness and the change in diversity is strong, but statistically insignificant. Societal gender differences cannot be the sole driver of the changes, as the diversity increased among both women and men. If the increased district magnitude from one to two contributed to the increase in diversity, it was not through the strategic matching of representatives, as they are shown to be almost randomly matched.

*Key words: Gender quotas; diversity; age; professional background; party representation; the binominal parity vote; French local elections*
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1.0 Introduction

Electoral systems provide the backbone of representative democracies and are central to how the preferences of voters are translated into political outcomes. This is why the study of electoral systems have always been at the heart of political science. One of many ways in which electoral systems shape political outcomes is through who enters into political office. What is commonly called “the electoral reform of our life time”, namely gender quotas, targets this particular aspect of the electoral system and has been the key force behind the dramatic increase in women’s representation over the last decades (Dahlerup and Freidenvall: 2005). Today, 130 countries world-wide have implemented some type of gender quota (IDEA, 2017).

The first generation of gender quota studies focused on the effectiveness of different quota designs in raising women’s representation (See Krook: 2009). The second generation of quota studies has focused on the impact of quotas on other outcomes, such as the impact on women’s substantive and symbolic representation, but also on broader aspects of women’s descriptive representation. This includes looking at factors such as the qualifications and backgrounds of candidates (Baltrunaite et al., 2014; Besley et al., 2016; Beer and Ai Camp, 2015; Franceschet and Piscopo, 2012; Josefsson, 2014; O’Brien, 2012; Sater, 2012; Weeks and Baldez, 2015), women’s access to leadership positions (O’Brien and Rickne, 2016), ethnic minority representation (Folke, Freidenvall and Rickne:2015; Hughes, 2011), legislative behaviour (Franceschet, 2011; Murray, 2010; 2012b; Opello, 2008) and symbolic effects (Zetterberg, 2012).

This study will contribute to the second generation of quota studies by examining how an entirely new quota design impacted on descriptive representation in other dimensions than gender. Just like quota designs can have different effects on women’s descriptive representation (i.e. effectiveness) they can also have different impacts on other dimensions than gender, for example age, ethnicity or socioeconomic background. This has both important academic relevance as well as important policy implications. It is vital to not only know about a quota’s effectiveness in its intended outcome, but also to better understand the wider and often unintended consequences of it.
The implementation of gender quotas is commonly preceded by heated debates regarding their potential consequences. Women’s groups and quota advocates often voice a hope that gender quotas will contribute to a diversification of the group of elected representatives (Franceschet, Krook and Piscopo, 2012). For instance by causing a disruption in traditional recruitment patterns and fostering new norms and practices. This could facilitate the election of not only women but also of other previously under-represented groups such as ethnic minorities or blue-collar workers. Others maintain that gender quotas will not generate change in any other dimension than gender, as the control over candidate selection is still left in the hands of the party elite (See Baldez, 2006). They argue that a quota might force an adaption of the selection processes to the quota regime, but will not cause any profound change. There are also those who claim that a gender quota can lead to a decrease in diversity, as it promotes majority women at the expense of minority men (See Hughes, 2011).

This study will do an empirical analysis of the three claims, by applying a framework of feminist institutionalism where a gender quota is seen as an external chock. The aim is to see whether the introduction of a gender quota changed the diversity of representatives in other dimensions than gender. This will be done through a case study of a unique gender quota that was recently implemented in the French local elections (Élections départementales\textsuperscript{1}). The diversity of the representatives’ backgrounds in terms of age, profession and party representation will be captured by the Herfindahl-Hirschman Index. By comparing the estimates of diversity before and after the reform, I will be able to conclude whether the elected chambers have become more diverse or not following the reform. It will also give an opportunity to explore potential mechanisms.

The new French gender quota was designed in such a way that it reduced the number of constituencies roughly by half and increased the district magnitude by two. Parties are henceforth obligated to nominate not only one candidate per district, but two—a man and a woman. This resulted in a change of the entire electoral system, from a two-round majority plurality vote to something that is called a two-round Binominal parity vote. Voters now need to choose not only one candidate to represent them in the local council, but a pair of

\textsuperscript{1} Previously called Élections cantonales
candidates that compete together on the same ballot ticket. Voters cannot split their vote and elect individuals from different pairs, but need to choose between the constellations put forward by the parties. The pair with the largest share of the votes is elected to the local council. France has thereby created an electoral system that automatically ensures a perfect gender balance. This led to a dramatic increase in the share of women, they went from 14 percent women in 2011 to 50 percent in 2015 (Martin, 2015).

The Binominal parity vote is unique in its design, both in a national and in an international perspective. Quotas in majoritarian systems usually only specify the share of female candidates, rather than that of elected women (an exception is the election of local council heads in India, where a third of the positions are reserved for women, see Chattopadhyay and Duflo, 2004). It exists various quota designs for the candidate level, from presenting all-women-shortlists, to “twinning” constituencies into pairs based on geography, winnability, etcetera and then nominate a man in one of the constituencies and a woman in the other (See Childs and Krook, 2012; Krook, 2009: 142). Most of these procedures are however introduced by parties, not by law, and they are often perceived as complicated, inefficient, or discriminatory against men.

Quotas that require candidates to run as pairs are also very rare. The most similar case can be found in Italian municipal elections, where voters have been given the option to cast two candidate preference votes instead of one, on the condition that they vote for candidates of different genders (Baltrunaite et al., 2017). This has resulted in an average increase of elected women with 22 percent in the municipalities were the quota applies (Baltrunaite et al., 2017). The Italian municipal elections are however not majoritarian, but proportional, and the quota does not really pair candidates together.

The unique design of the Binominal parity vote makes it an interesting case for gender quota studies. Since it ensures an exact gender balance, its effectiveness becomes a non-issue. It instead provides a great opportunity to study it from the perspective of the second generation of quota studies, i.e. what effects it has on other political outcomes than women’s descriptive representation, without us having to account for impartial implementation.
Previous research on what type of candidates that are elected with a gender quota have mainly attempted to answer the question of whether quotas promote the election of unqualified women at the expense of more meritorious men (See for example Baltrunaite et al., 2014; Besley et al., 2016; Franceschet and Piscopo, 2012; Murray, 2010; O’Brien, 2012; Weeks and Baldez, 2015). Such an approach is complicated by the fact that the definitions of merits often are ambiguous and gendered (See Murray, 2010; 2015). This study will shift the focus slightly. Rather than establish what type of representatives that was elected before and after the quota, I will examine whether there is a larger variety in the background of representatives after the reform. The precise research question is as follows: How did the diversity of representatives’ backgrounds change following the introduction of the Binominal parity vote?

This is the first gender quota study that has as its primary focus to look at changes in the diversity of representatives’ backgrounds, rather than to establish changes in what kind of backgrounds representatives have. This approach can contribute to our understanding of whether gender quotas lead to more descriptively representative elected bodies in other dimensions than gender, or if the election of more women is connected to a homogenification of the representatives.

This will also be the first study that evaluates the descriptive effects of the Binominal parity vote from the perspective of gender quotas. Previous studies of the reform have first and foremost looked at it as an electoral reform. Le Breton et al. (2017) have evaluated the changed divergence between expressed votes and the share of council seats held by parties. Olivier (2015) has looked at changes in council members’ backgrounds within the département of Meurthe-et-Moselle. By mapping eventual changes in the descriptive representation of the local councils, this study hopes to lay the ground for future research regarding substantial outcomes. Furthermore, a better understanding of the composition of the local councils is not only important at a local level, but on a national level as well. A seat in the local council is considered to be an important stepping stone towards becoming a deputy in the National Assembly (Murray, 2010: 104). The local councils today thus contribute to the pool of future deputies.
1.1 Outline

The thesis is structured as follows; a first theory segment will connect gender quotas with theories of change within feminist institutionalism. The next four sections will provide theoretical and empirical evidence in favour of the diversification-, the status quo- the homogenification and the disproportionality-hypothesis respectively. Then follows a review of the Binominal parity vote, before a discussion about data selection and operationalisations. The results section will first try to establish whether there has been any change in the diversity of representatives’ backgrounds, before moving on to explore potential mechanisms. The thesis ends with a discussion of the results and a conclusion.

2.0 Theory

Studies about gender quotas’ effectiveness can at a first glance appear inconclusive, not to say contradictory. The same type of quota can have very different outcomes depending on what country it has been implemented in (See Krook, 2009). There may also be huge variations within a country, as when France first introduced gender quotas and saw a rise in the number of female representatives at the municipal level from 25.7% to 47.5%\(^2\), while the change at the national level remained humble, from 10.9% to 12.3% (See Bird, 2003; Murray, 2004).

To explain these variances, the research field of gender quotas has during the past decade (together with the field of political science at large) taken an institutionalist turn (See Krook, 2010; Mackay, Kenny and Chappell: 2010). It is argued that no quota can be studied without taking its larger institutional context into account, from the electoral system and the wider societal norms it is operating in, to the internal rules and selection processes of parties. The institutions that determine who can run as a political candidate can be both formal, such as laws about eligibility, and informal, such as informal selection criteria’s among party recruiters (See Helmke and Levitsky, 2004).

Institutions are the rules of the game that define actors’ room of manoeuvre and participate in shaping power relations. Feminists have accused researchers within the field of new institutionalism of overlooking how these institutions and power relations are gendered

\(^2\) In the municipalities where the quota applied.
(Mackay, Kenny and Chappell: 2010; Kenny, 2013; Kenny and Mackay, 2009). An example is Norris and Loveduski’s (1995) classical study about the British labour party’s recruitment of MP:s and their model about supply and demand. Even if the authors acknowledged that the demand-side’s neutrally phrased criteria in practise could be more favourable for men, they looked at this as a separate phenomenon among many others. The model therefore risks to overlook how gendered norms have already at the outset skewed the entire model, from determining who has access to necessary resources to run for office, to shaping beliefs about how a successful politician should be (Kenny, 2013: 19).

Gendered institutions are understood to be a major contributor to women’s underrepresentation, not only by delimiting their resources in society at large, but by constantly creating an uneven playing field for women when they try to run for office. Mona Lena Krook (2009) organizes the different rules and norms that shape the selection of representatives into three categories of political institutions: systemic, practical, and normative.

Systematic institutions are the formal features of the electoral system, such as whether the country has a proportional representation (PR) or a first-past-the-post system (FPTP), open or closed lists, or a high or low district magnitude. Practical institutions concern the formal and informal practises of the political elite, most notably within parties. This includes both laws about who can run for office and informal selection criteria such as previous political experience, educational background, union membership or speaking abilities, but also other procedural factors as how decentralized the selection process is, or whether candidates are chosen via membership votes or by selection committees. Normative institutions are more about the ideas of who a candidate should be, but also of politics and representation in general. Is the politics of ideas more paramount than the politics of presence? Is there a focus on equal opportunity or equal results? These normative concepts can be advocated formally by laws and constitutions, but also informally in speeches (See Krook, 2009).

Krook (2009) stresses how it is the interaction between the different types of institutions that shapes women’s access to political offices. Even if PR-systems have been found to generally be friendlier to women’s representation than FPTP-systems, they do not guarantee a high share of women representatives, but need to be accompanied by friendly practical
and normative institutions as well (Krook, 2009: 44-45). Quotas can in this context be viewed as an “external chock” that aim to change institutions rapidly, rather than waiting for an incremental change (See Dahlerup and Freidenvall, 2005).

Institutions are characterised by their stability, but this does not mean that they are forever the same. They can for example change slowly through everyday interactions that recode their previous purposes (See Mackay, Kenny and Chappell, 2010: 277). Quotas do however represent another type of change. They aim to compensate for previous gendered outcomes of institutions, or even to regender them. For example by formalising certain aspects of the selection process and give less room of manoeuvre for informal institutions.

In order for a quota to be effective, it first of all needs to target the set of institutions that has the most predominant role in the selection process. According to Krook, the three main groups of quota design (reserved seats, party quotas and legal quotas) each target a specific type of institution. Reserved seats typically stipulates a minimum number of women elected, rather than a minimum percentage (Krook, 2009: 7). This quota design mainly targets systematics institutions by altering the formal selection mechanisms, for example by creating a separate electoral role or district for women, or by distributing extra “women’s seats” to parties in proportion to their electoral performance.

Party quotas are voluntarily adopted by a party who promises to nominate a certain percentage of women on their list, or in the different districts. It therefore targets the practical institutions within parties, formal as well as informal (Krook, 2009: 7). Legislative quotas can often have a design that is similar to party quotas. Given their legal status however, they are often accompanied by some type of sanction for non-compliance in a way that party quotas are not (Krook, 2009: 8). According to Krook, they target normative institutions, by challenging previous understandings of representations and equal opportunities, demanding that sex or gender shall be a social category worthy of representation.

The Binominal parity vote is a legal quota that has changed the electoral system and can therefore be said to have altered both systematic and normative institutions. It is not directly targeted at practical institutions, but has formalized the selection criteria with regards to gender in such a way that parties cannot elude it. In terms of effectiveness it was
a success. The question remains however whether the quota’s formalisation and amendments of some institutions have been enough of an external chock to completely recode the institutions that guide the selection processes. If it has, it could have led to a disruption that has opened up for a diversification of local representatives in other dimensions than gender.

The next segments will review the arguments in favour of three different hypothesis regarding potential changes in the diversity of representatives’ backgrounds, the Diversification-hypothesis, the Status quo-hypothesis and the Homogenification-hypothesis. A fourth Disproportionality-hypothesis will discuss plausible changes in party representation.

2.1 Arguments in favour of the Diversification-hypothesis

This section will review three arguments supporting the hypothesis that the Binominal parity vote will lead to a greater diversity among the local representatives. Two are related to the introduction of a gender quota: i) diversification due to a normative assessment of selection criteria, and; ii) diversification due to gendered norms in society at large. The third argument is connected to the increased district magnitude from one to two: iii) diversification due to the possibility of “balancing” candidates.

2.1.1 Diversification due to normative assessment of selection criteria

When a legal gender quota is introduced, it highlights gender as a category worthy of representation. This can spur a normative debate about who can be a representative, and what merits and qualifications he or she should have. Gender scholars often point out how definitions of merit and criteria of recruitment often are implicitly gendered, even if they at a first glance might look neutrally phrased (See Franceschet and Piscopo, 2012; Josefsson, 2014; Murray, 2015; O’Brien, 2012).

For instance, to become a deputy in the French National Assembly, it is considered a great merit to previously have served in a local council. As long as women were heavily underrepresented there, they had a large disadvantage vis-à-vis the men, even if the selection criteria itself might have looked gender neutral (Murray, 2010: 104). It has also been highlighted how personal characteristics such as speaking ability and charisma often are gendered (Murray, 2015). Bjarnegård and Kenny point out that gendered criteria do not
necessarily promote all male candidatures. In their study about party recruitment in Thailand and Scotland, they find that the recruitment process often favours the “local man”. This creates a dichotomy where anyone who does not conform to the ideal of the “local man” is portrayed as an outsider to the constituency and will have greater difficulties to win a nomination, be it a woman or a man (Bjarnegård and Kenny, 2016). This creates a lack of diversity within the group of men as well.

If a gender quota leads to a wider questioning of the gendered selection criteria and the gendered ideal of how a representative should be, it should hence open up for more women to be elected. A thorough reassessment should not only put gender under scrutiny, but also other power relations. It could for example question the signification of “local” for the ideal-type the “local man”. In that case, opportunities could be opened up for other underrepresented groups, leading to an increase in diversity among the local representatives.

2.1.2 Diversification due to gendered norms in society at large

A gender quota could lead to a diversification of representatives’ backgrounds for the simple reason that society at large is gendered and that men and women’s life circumstances differ. If more women are elected, that would automatically mean that more people with a different background than previous representatives are elected. Studies trying to establish whether “quota-women” have the same qualifications and merits as the previously elected men often find that the main differences between male and female parliamentarians are differences that can be found in the society at large, whether it is differences in income (Bird, 2003), level of education (Baltrunaite et al., 2014) or the choice of educational specialisation (Franceschet and Piscopo, 2012). The election of women could therefore lead to a diversification in the background of representatives in other dimensions then gender, due to the simple fact that women and men have different backgrounds and experiences in general.

2.1.3 Diversification due to the possibility of “balancing” the candidates

The unique aspect of the Binominal parity vote is not the gender quota per se, but that it also obligates candidates to run for office in pairs. When parties due to this structural change now have to present two candidates instead of one, they might take the opportunity
to put forward a “balanced” combination of candidates in order to appeal to as many voter groups as possible. If they balance the candidates with regards to for example age, profession, ethnicity and political experience, it would result in a greater diversity.

Women’s representation tends to be higher in PR-systems, especially if the district magnitude is high, and one possible explanation to this is that parties in those systems have better opportunities, or feel more pressured, to “balance” their lists by including more female candidates (Krook, 2009: 44-45; Kittilsson, 2006: 5). When several seats are up for election, women and other under-represented groups can more easily be included on the list without it having to be “at the expense” of an incumbent, or an “in-group” man, who might feel entitled to the candidature. Parties are often reluctant to sidestep incumbents, both because experienced politicians are believed to be well known to the electorate and therefore a safe choice, but also out of fear that a neglected incumbent shall run as an independent candidate, thereby risking to split the vote (See Murray, 2008; 2013).

One explanation to the Scottish labour party’s success in nominating a high share of female candidates in the first election to the Scottish parliament, despite it being a FPTP-system, was that they did not have any incumbents to take into consideration (Bjarnegård and Kenny, 2016: 10). This is also one of the reasons why quotas in PR-systems, such as zipper-quotas, generally are perceived as more legitimate than for example “all women shortlists” in FPTP-systems, as the latter is understood to be discriminatory against men by preventing them to stand for election (Childs and Krook, 2012). The Binominal parity vote gives parties the possibility to nominate both an incumbent candidate and a newcomer. They might seize the opportunity to match a newcomer candidate with the incumbent in such a way that they can appeal to as many voter groups as possible.

Parties might not willingly engage in the act of balancing, but could do it under duress because they are afraid to otherwise loose votes. This can create a situation where a male party elite wants to keep their seats at the same time as they feel the need to create a balanced list. This could lead to a favourable atmosphere for minority women, as they contribute to diversification in several dimensions while only occupying one seat (Hughes, 2011). It is therefore possible that the increase in district magnitude could lead to an increased diversity among women but not among men.
Summary:

- *The Diversification-hypothesis: the Binominal parity vote will lead to an increase in the diversity of representatives’ backgrounds due to:
  - a change in the normative assessment of selection criteria
  - a greater presence of societal gender differences when more women are elected
  - the possibility of “balancing” candidates

2.2 Arguments in favour of the Status quo-hypothesis

This section will review two claims arguing that the Binominal parity vote will not lead to any change in the composition of local representatives, other than with regards to gender: i) no wider normative change will take place, and; ii) practical institutions are left largely untouched

2.2.1 No wider normative change will take place

Gender quotas can lead to a normative reassessment of what a fair representation, or a good merit is. A thorough reassessment should not only question the gendered aspects of the recruitment process, but also address other power relations such as discrimination due to ethnicity or age. It is however nothing that guarantees that such a profound normative shift will take place. On the contrary, studies have found that gender quotas alone have no impact on the representation of ethnic minorities (Folke, Freidenvall and Rickne 2015) or even that they can even have a negative impact if not accompanied by affirmative actions for other minorities (Hughes, 2011). This suggest that gender quotas on their own will not automatically promote the representation of other underrepresented groups.

In the French case this can be particularly true due to the country’s strong legacy of republican universalistic values. The first attempt to introduce legal gender quotas in the 80’s was struck down by the Constitutional Court (For more about the adoption of parity laws in France, see Bird, 2003; Lépinard, 2013; Opello, 2006). The court argued that the creation of social categories and affirmative action was non-compliable with the universalistic values of the French republic. Pro-quota advocates therefore started to argue that gender was not a socially constructed category as for example religion or ethnicity, but a fundamental characteristic that divided humanity into two equal halves.
Based on this they rejected all interconnections between women and other underrepresented groups. Thereby they did not only undercut the chances for these groups to push for a quota of their own, but they also implicitly denied existing differences within the groups of women and men (Lépinard, 2013). The argument was however successful, and the constitution was amended in 1999, followed by parity laws in 2000 that stressed the importance of favouring “the equal access of men and women to political office” (Murray, 2012a: 353; Krook 2009: 193-194).

The primary aim of the French parity laws was to not impact any other dimension than gender. Lépinard further notes that even if the French quota debate at the start was very normative, the subsequent diffusion of gender quotas into various levels and areas of the French society has had a much more pragmatic approach, were it is simply seen as the preferred policy tool when dealing with gender inequalities (2016). It is therefore possible that the introduction of a gender quota in the local elections did not initiate any wider normative change regarding who is suitable to be a politician.

2.2.2 Practical institutions are left largely untouched

In an earlier section it was argued that the Binominal parity vote partly has delimited the room of manoeuvre for practical institutions. It is however still the case that the gender quota is not directly targeted at practical institutions and has left them relatively untouched. This means that parties are not necessarily forced to change their recruitment processes due to the quota. Lisa Baldez (2006) points out that even if gender quotas might be efficient in raising women’s numerical representation, they rarely change who is in charge of the recruitment process. Studies have shown that people tend to recruit those who are similar to themselves, i.e. the male “insider-group” (See Bjarnegård, 2013). It is therefore unlikely that any major change will take place as long as the same recruiters can handpick their candidates (Baldez, 2006).

In a study about the effect of the gender quota in French municipal elections, Karen Bird (2003) finds that parties seem to have continued to recruit their candidates among the same group of people as before, the local notables. The only difference is that they now also turn to the wives and daughters of this group. Many other studies find that women elected with a
quota generally belong to the same elite as the men (Franschet and Piscopo, 2012; O’Brien, 2012; Sater, 2012).

Since the gender quota does not require the parties to dramatically change their recruitment patterns, i.e. the practical institutions, they can carry on like before as long as they make sure to include women among their ranks. It is therefore unlikely that there will be any change in the composition of representatives in any other dimension than gender.

Summary:

- **The Status quo-hypothesis: the Binominal parity vote will not lead to an increase in the diversity of local representatives’ backgrounds because:**
  - There will be no normative change in any other dimension than gender
  - Practical institutions, such as parties’ selection processes, are left largely untouched

2.3 Arguments in favour of the Homogenification-hypothesis

Increased diversity or remained status quo are not the only possible outcomes. There is also a risk that the diversity will decrease following the introduction of the Binominal party vote, for the reason elaborated below.

2.3.1 Gender quotas favour majority women at the expense of minority men

One common fear related to gender quotas is that they will support the election of majority women, but not minority women, and that minority men will lose their seats while majority men will be unaffected. A gender quota would hence increase the representation of women, but lead to reduced representation of other under-represented groups. This was the reason why the Indian National Congress decided to not reserve any seats based on gender, as long as no sub-quotas for different castes were introduced, as they feared that a gender quota would otherwise only benefit upper caste Hindu-women (Krook and O’Brien, 2010: 267).

Melanie Hughes has shown that majority women benefit to a much higher degree than minority women from gender quotas, as well as indications that gender quotas are disadvantageous for minority men (2011). It might therefore be the case that the gender
quota introduced in the French local councils has contributed to a homogenification of the representatives, especially among the men.

Summary:

- The Homogenification-hypothesis: the Binominal parity vote will lead to a decrease in the diversity of local representatives’ backgrounds because:
  - Gender quotas favour majority women at the expense of minority men

2.4 Party representation and diversity

The main focus of this study is to look at changes in the diversity of representatives’ backgrounds. I will however also look at changes in party representation. As the binominal parity vote essentially is a reform of the electoral system, it is of interest to see how it influenced the ultimate outcome of an election: the representation of parties.

2.4.1 The Disproportionality-hypothesis

Disproportionality is the difference between the share of votes a party has received and the share of the council seats they have gained (Le Breton et al., 2015: 3; Lijphart, 1999: 157). It tends to decrease in majoritarian systems as the electoral district magnitude goes up (Lijphart, 1999: 150-153). Indirectly this affects the number of parties present in the elected chamber (Lijphart, 1999: 157). Think of an area where the majority of the population supports one party, but there are some support for other parties as well. If the area is divided into three electoral districts with a district magnitude of one, one of the smaller parties might be able to win in one of the districts. If the entire area is one electoral district with a district magnitude of three, the major party will win all seats and the disproportionality will consequently be greater.

In the case of the French local elections, the electoral districts were redrawn and merged so that they in 2015 were half as many as in 2011. The district magnitude had also increased from one to two. An increased disproportionality and a reduced number of elected parties could therefore be expected. A study by Le Breton et al. (2017) have also found this to be
the case. It is expected that the pattern will be the same in this study, with a negative impact on the diversity of parties.

A small reservation should however be made with regards to the diversity in party representation for women. The number of women elected in 2011 were generally very few, but parties performed very differently. Out of the 277 women elected, 145 represented the Socialist Party (PS). The party that had the second highest number of women elected was Union pour un Mouvement Populaire (UMP), with 45 women elected. Given this, we should expect the diversity in party representation to increase for women in 2015, as they will be better represented across the political spectrum and not just within some individual parties.

Summary:

- The Disproportionality-hypothesis: the Binominal parity vote will lead to a decrease in the diversity of party representation because:
  - The disproportionality rises when the district magnitude increases

3.0 Case, Data and Method

Four different hypotheses regarding the potential changes in diversity have been presented. The following section will explain the Binominal parity vote in greater detail, before moving on to discuss data, choice of method and operationalisations.

3.1 The Binominal Parity Vote

France currently has 101 départements, of which some are located in oversea territories. Their main areas of responsibility are social assistance and education, but they are also in charge of transportation, housing, local development and culture. In the government structure, they find themselves on the level in between the municipalities and the regions and are part of the ever ongoing debate of how to reform France’s government structure in order to make it more efficient and lean. In 2011 President Nicolas Sarkozy proposed that the départements’ conseils généraux should be merged with the regional councils, into conseils territoires, as a way to reduce the number of representatives and their supporting structures (Lépinard, 2016: 236). However, in 2013 President François Hollande withdraw
the project of unification of the two government structures, but went on with a reformation of the electoral districts (cantons) in the local elections. He expressed the wish that a reform would reduce the government expenditures, make the demographic distribution between the electoral districts more even and that it would increase the gender equality of the council (See Olivier, 2015).

The success of the former two objectives can be debated, but the last one was certainly achieved. The electoral districts were redrawn and merged so that their number were reduced by nearly a half, from 4035 to 2054. At the same time all parties were obligated to nominate a pair of candidates – one man and one woman. From 2015, each electoral district therefore elects a pair of representatives to the local council, which were renamed from conseil général to conseil départemental. Hence, perfect gender equality was achieved and the share of female representatives rose from 14 percent in 2011 to 50 percent in 2015 (Martin, 2015). The voters cannot vote for a man and a woman from different pairs, but have to choose one of the pairs that have presented themselves on the same ballot ticket. As the number of cantons had been reduced, the number of representatives stayed almost the same; 4108 instead of 4035. Another major difference to previous elections was that all council seats were up for election. Earlier, only half of the council had been renewed every third year, but from now on the entire council will be renewed every six years.

Apart from the above mentioned changes, the voting procedure remains the same. The representatives are elected in a two-round majority plurality vote and in order to win directly in the first round you need to obtain at least 50 percent of the expressed votes and 25 percent of the registered voters. If no pair manages to do so, the top two pairs, or all the pairs that obtained more than 12,5 percent of the expressed votes in the first round, proceeds to a second round of voting that is held one week afterwards. The second round of voting is organised as a first-past-the-post election, were the pair that wins a simple majority is elected to the local council.

To summarize, the Binominal parity vote brought about four major changes: i) reduction of the number of electoral districts by roughly half; ii) renewal of all council seats in every election; iii) increased district magnitude from one to two, and; iv) a strict 50 percent gender quota.
3.1.1 A natural experiment?

The decision to introduce the quota was taken on a national level, while the selection of candidates normally is performed at the local level. We could therefore see this quota as something externally imposed, making the Binominal parity vote a natural experiment. It will nevertheless be difficult to establish an exact causal relationship between the Binominal parity vote and the change in diversity of representatives’ backgrounds. First of all, the reform consists of four major changes (reduced number of electoral districts, renewal of all council seats, increased district magnitude and a gender quota), and it will be difficult to establish what effects that are connected with which parts of the overall reform.

Secondly, even if we put the four sub-reforms to the side and focus on the Binominal parity vote in its entirety, there are still obstacles remaining. As only half of the council seats were renewed in the elections 2011, I effectively lack information for half of each council. Even if the “missing” electoral districts are spread out geographically within each department, there is still a possibility that the council seats that were up for election in 2011 are different from those that were renewed in 2008. As long as I cannot control for that, I need to be careful when interpreting the size of the causal relationship. Furthermore, I only have observations for one point in time before the reform, and one point in time after the reform. It is therefore not possible to control for overall time trends that could have affected the background of representatives, as for instance the increased support for the National front.

The primary aim of this paper is therefore not to establish the exact size of causal links between specific parts of the reform and changes in diversity, but rather to describe and compare differences in diversity before and after the reform. The results will still be interesting in and of themselves as it is a unique type of gender quota that has not been studied before.

3.2 Data and operationalisations

The analysis is based on data collected by the French Ministry of the Interior for each candidate in the local elections of 2011 and 2015. The number of candidates in 2011 were 10 247, out of which 1 994 were elected as representatives. The corresponding numbers for 2015 are 18 194 candidates and 4 108 representatives. The data contains information about
the candidates’ profession, date of birth, party affiliation and experience of certain political offices, as well as the voting results in the first and the second round.

The available proxies for representatives’ backgrounds are thus profession, date of birth and experience of certain political offices. The information regarding the candidates’ political experience do however not contain any information about seats held in municipal councils. I consequently only have information about candidates’ experience of “higher” political offices, i.e. a seat in the senate, a regional council or the National Assembly. Out of the 28 411 candidates, only about 300 have such an experience. Political experience is therefore excluded from the analysis. When evaluating the level of diversity within the local councils, I will therefore focus on three variables: age, profession and party representation.

3.2.1 Age

Previous studies about the background of French politicians have found that there is a clear overrepresentations of the ages 50-59 (Murray, 2010; Sineau and Tiberj, 2007). Mariette Sineau and Vincent Tiberj (2007) even speak of a “blockage of generations” in the National Assembly, as the demand for previous political experience in combination with a high incumbency rate make it very difficult for younger generations to receive a fair representation. A similar study has not been done regarding local representatives. The mean age of representatives elected in 2011 was however 56 years, suggesting a similar pattern in the local councils. By looking at the variable age, I hope to observe whether the Binominal parity vote has led to a changed diversity in age, which could give indications whether more or fewer generations have a fair representation.

Age is measured as the number of years the candidate has lived on the election day of the first voting round. To get a better understanding of the diversity in the representation of different generations rather than between individual year cohorts, I have created four age categories based on the categorisation made by Sineau and Tiberj (2007): 18-39, 40-49, 50-59 and 60+.
3.2.2 Profession

Profession is a common variable in studies about gender quotas’ descriptive impact (See Bird, 2003; Murray, 2010; O’Brien, 2012; Sineau and Tiberj, 2007; Weeks and Baldez, 2015). It can capture socioeconomic status as well how different sectors of the economy is represented (i.e. public and private sector). Even if it is a bit rudimentary as the sole proxy for an individual’s socioeconomic background, it can still give valuable insights about changes in representatives’ backgrounds on an aggregated scale.

All candidates have stated their profession to the Ministry of Interior, choosing from a list of 65 professions (See Appendix A). It is possible that candidates try to present themselves favourably, a communist candidate might for example present him or herself as a worker, and a professional politician might mark the profession they held prior to entering politics in order to be perceived as more relatable (Murray, 2010; Sineau and Tiberj, 2007). These caveats in reliability should not be essentially different between 2011 and 2015. Therefore it should not cause any problems for my study as I am more interested in changes in diversity rather than the exact figures for each year.

Some of the professions are very similar, for example doctor and surgeon. Shifts in the representation of individual professions could therefore risk to be misguiding –how much more diverse is the council with an equal share of the two occupations in comparison to the council with a greater share of doctors? To make my estimate less vulnerable to this, I have divided the professions into 10 categories (See Appendix B).

Figure 1 – List of professional categories

1. Farmer
2. Artisan
3. Cadre (Civil servant / Manager / University graduate)
4. Intermediate profession
5. Employee/Worker
6. Retired
7. Liberal profession
8. Teacher
9. Not participating in the labour force (including house-wives)
10. Other (including students)

The categories are inspired by the classification provided by Insee (The French National Institute of Statistics and Economic Studies), which is based on a combination of profession, hierarchical position and status (salaried employee or otherwise). I have further followed the
example of Durovic, Squarcioni and Tiberj (forthcoming) and created individual categories for teachers and liberal professions -occupations that tend to be overrepresented among French politicians (See also Murray, 2010; Sineau and Tiberj, 2007). By looking at changes between professional categories rather than individual professions, I hope to capture an eventual diversification in the representation of professional sectors and career paths. The primary focus is not to map how many of the representatives that belong to each category in each year, but to study the difference between the two elections. The most important thing is therefore that the categories are stable.

3.2.3 Party representation

The operationalisation of party representation is based on the party labels that the Ministry of Interior have used for the pairs. Coalition building is very common in French local elections and when candidates represent different parties, they are sometimes labelled as “union of the left” (UG) and “union of the right” (UD). Less formalized cooperation is sometimes labelled as “various political orientation to the left” (DVG) and “various political orientation to the right” (DVD). Candidates running as DVG or DVD were present both in 2011 and 2015, but the formalized coalitions of UG and UD were only formed prior to the elections in 2015. To look at changes in representation for individual parties can therefore be misleading. I will however not look at the representation of individual parties but on changes in diversity for all the parties present. Coalition building and a subsequent decrease in the diversity of party representation could then be interpreted as an effect of the Binominal parity vote.

A change in coalition building and in the composition of elected parties can of course be dependent on many factors other than the introduction of the Binominal parity vote. One important new factor in the 2015 elections were the increased support for the National Front (See Martin, 2015). For the first time they had a considerable chance to be elected in many districts. Many parties both to the left and the right therefore formed alliances to improve their chances of winning, which could have had a negative impact on diversity. The most interesting aspect to consider when looking at party representation is therefore to study whether the change in diversity differs between the local councils, depending on their earlier share of elected women. In that way, I can study whether the change in diversity of
party representation is related to the gender quota. It is also of interest to see if the change in party representation differ between men and women, as I expect it to do due to previous differences in women’s representation between parties.

3.3 To measure diversity

To study the change in diversity, I have used the Herfindahl-Hirschman Index (HHI) that measures the size of individual groups in relation to the total population. It has traditionally been used in Economics to measure the level of market competition among firms, but is also used within Political Science to study the diversity in party representation in elected assemblies. The formula used to calculate the index is:

\[ HHI = \sum_{i=1}^{N} s_i^2 \]

Where \( S \) stands for share of the total population and the index gives us a number between 0 and 1, were 1 would indicate a monopoly by one single group and 0 would mean that there are multiple small groups of equal size present. Since the observations are squared before they are summarized, the index gives more weight to larger groups. Look at these two scenarios as an example:

Scenario 1: Party A, 60 %, Party B 10 %, Party C 10 %, Party D 10 %, Party E 10 %.
Scenario 2: Party A 20 %, Party B 20 %, Party C 20 %, Party D 20 %, Party E 20 %.

In both scenarios we have five parties that together has 100 % of the seats, but it is evident that the political power is spread more evenly in the second scenario than in the first. This is captured in the HHI in the following manner:

Scenario 1: \( 0.6^2 + 0.1^2 + 0.1^2 + 0.1^2 + 0.1^2 = 0.40 \)
Scenario 2: \( 0.2^2 + 0.2^2 + 0.2^2 + 0.2^2 + 0.2^2 = 0.20 \)

As we can see, the second scenario receives a much lower score. When looking at market competition, a lower score indicate higher competition and a higher score suggest a low level of competition. This holds true also when I look at the diversity in candidates’ backgrounds. Consider different age groups for example. If the representatives have diverse backgrounds and are spread evenly across all age groups, as in scenario 2, this will result in a
low HHI-value. If they are concentrated in some few groups, it will however result in a higher HHI-value.

The HHI in itself might be difficult to interpret—what does it really mean to score 0.5? My primary interest is therefore to study the change in HHI-values between 2011 and 2015, to establish if there has been an increase or a decrease in diversity. Important to note is that HHI-value is a measure of the relationships between groups, not individuals (because every individual represents an equal share of the population). It is also important to have a clearly defined population, which in my case is the local councils. My level of analysis will therefore be the individual local council of each département.

France has 101 départements, but Paris has a special status and their representatives are not elected during the local elections. In 2015, the oversea territories of Guyenne and Martinique also received a new territorial status which meant that their local and regional councils were merged (Martin, 2015). They are therefore excluded from the analysis. This leaves 98 local councils that all will have an individual HHI-value for each variable. My number of observations are therefore the 98 local councils rather than the number of elected representatives. The average HHI-value for all local councils is my primary measure of the diversity in representatives’ backgrounds.

4.0 Results

The results section is divided into four parts. The first reviews descriptive statistics to see how the representatives’ backgrounds changed between 2011 and 2015, before the second section tries to establish whether there has been any changes in terms of diversity. The following segments try to develop a better understanding of the underlying mechanisms by looking at individual parts of the reform, beginning with the gender quota before moving on to the increased district magnitude.

4.1 Representatives’ and candidates’ backgrounds in 2011 and 2015

Before exploring how the composition of the local councils have changed in terms of diversity, I will try to acquire a better idea of who the representatives and the candidates were in 2011 and 2015 respectively.
### Table 1 – Descriptive statistics of candidates and elected representatives

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<td>2.82</td>
<td>4.09</td>
<td>1.94</td>
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<td>6.48</td>
<td>5.65</td>
<td>6.98</td>
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<td>Cadre</td>
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<td>18.16</td>
<td>23.22</td>
<td>17.85</td>
</tr>
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<td>Intermediate prof.</td>
<td>4.61</td>
<td>8.58</td>
<td>6.74</td>
<td>7.97</td>
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<td>14.29</td>
<td>9.37</td>
<td>17.76</td>
</tr>
<tr>
<td>Retired</td>
<td>31.49</td>
<td>24.68</td>
<td>22.30</td>
<td>23.51</td>
</tr>
<tr>
<td>Liberal profession</td>
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<td>6.42</td>
<td>9.25</td>
<td>5.62</td>
</tr>
<tr>
<td>Teacher</td>
<td>10.03</td>
<td>10.51</td>
<td>9.64</td>
<td>8.85</td>
</tr>
<tr>
<td>Not participating</td>
<td>3.71</td>
<td>3.27</td>
<td>4.82</td>
<td>5.03</td>
</tr>
<tr>
<td>Other</td>
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<td>4.79</td>
<td>4.92</td>
<td>4.49</td>
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<td><strong>Party</strong>*</td>
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<td></td>
</tr>
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<td>0.10</td>
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<td>FG</td>
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<td>-</td>
<td>1.90</td>
<td>12.54</td>
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<td>PG</td>
<td>0.25</td>
<td>3.11</td>
<td>-</td>
<td>0.21</td>
</tr>
<tr>
<td>UG</td>
<td>-</td>
<td>-</td>
<td>9.93</td>
<td>5.52</td>
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<td>PS</td>
<td>41.02</td>
<td>8.36</td>
<td>19.72</td>
<td>8.42</td>
</tr>
<tr>
<td>RDG</td>
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<td>0.34</td>
</tr>
<tr>
<td>DVG</td>
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<td>5.65</td>
<td>10.81</td>
</tr>
<tr>
<td>VEC</td>
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<td>ECO</td>
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<td>1.20</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>REG</td>
<td>0.15</td>
<td>1.56</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
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<td>2.69</td>
<td>0.34</td>
<td>0.68</td>
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<tr>
<td>UC</td>
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<td>-</td>
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<td>0.40</td>
</tr>
<tr>
<td>UDI</td>
<td>-</td>
<td>-</td>
<td>2.09</td>
<td>1.19</td>
</tr>
<tr>
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<td>-</td>
<td>-</td>
<td>33.50</td>
<td>6.99</td>
</tr>
<tr>
<td>M-NC</td>
<td>2.91</td>
<td>2.87</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>M</td>
<td>3.06</td>
<td>1.11</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>UMP</td>
<td>18.46</td>
<td>9.17</td>
<td>12.03</td>
<td>2.50</td>
</tr>
<tr>
<td>DLF</td>
<td>-</td>
<td>-</td>
<td>0.05</td>
<td>2.04</td>
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<tr>
<td>DVD</td>
<td>13.19</td>
<td>8.98</td>
<td>10.66</td>
<td>7.60</td>
</tr>
<tr>
<td>FN</td>
<td>0.10</td>
<td>17.44</td>
<td>1.51</td>
<td>26.66</td>
</tr>
<tr>
<td>EXD</td>
<td>0.05</td>
<td>0.91</td>
<td>-</td>
<td>0.26</td>
</tr>
<tr>
<td>DIV/AUT</td>
<td>1.50</td>
<td>2.92</td>
<td>0.83</td>
<td>4.13</td>
</tr>
<tr>
<td><strong>Nr of Obs.</strong></td>
<td>1,994</td>
<td>8,253</td>
<td>4,108</td>
<td>14,086</td>
</tr>
</tbody>
</table>

*For complete list of party abbreviations, see Appendix C*
Table 1 (page 26) shows that the mean age has gone down between 2011 and 2015, for both representatives and candidates. This is not surprising as earlier studies of the French National Assembly and the municipal councils have shown that female politicians tend to be younger than their male counterparts (See Bird, 2003; Sineau and Tiberj, 2007). The mean age for men has however also gone down, from 56.7 years to 54.8 years for representatives, indicating that the change is not only driven by the election of more women.

The number of representatives who are retired has also gone down by more than nine percentage points. The share of employees and workers has in contrast more than doubled between 2011 and 2015, which seems to be closely connected to the upsurge of women as 15% of the women belong to this category, in comparison to only 3.8% of the men.

Turning to party representation, the numbers are somewhat difficult to interpret due to the volatile French party system and the practise of coalition building. We can nevertheless take note of two things. Firstly, that as the local elections take place in between the presidential elections, they are sometimes seen as large opinion polls for the presidency.

The PS performed historically well in 2011 when the president was Nicolas Sarkozy from UMP, but scored a catastrophic result in 2015 when they themselves had the presidency in form of François Hollande. There was thus a clear shift from the left to the right in terms of party representation between the two elections. This could affect the estimates of diversity if there is a huge difference in diversity between the right-wing parties and the left-wing parties. This study do not have sufficient information about earlier elections to be able to control for that. It is however clear that the left had more women elected than the right in both 2008 and 2011 (See Zimmerman, 2008). The effect of the quota on the dimension of gender was thus smaller than it would have been if the swing had gone from the right to the left.

Secondly, there are sometimes major discrepancies between a party’s share of the candidates and their share of the elected representatives, with the FN as a typical example. This is because state funding is partly based on the number of candidates that a party presents. Smaller parties therefore try to field as many as possible. The major parties on their part often make agreements with their sister parties about reserving a certain number districts for each of them. In that way they do not risk to split the votes between them. We
could therefore expect the candidates to be much more diverse than the elected representatives. It is probable that candidates from smaller parties without a chance to win have different backgrounds than the representatives of the major parties. Earlier studies about French elections, also show that established parties field their “diversity-candidates”, such as women, in districts that they are unlikely to win (See Murray, 2004).

From table 1 we can conclude that changes have occurred in what type of background the representatives have, but the question remains whether the local councils have become more diverse or not. This will be explored in the following section.

4.2 Changes in diversity

Three opposing hypotheses was presented earlier: the diversification-hypothesis that stipulates an increase in diversity among representatives, the status quo-hypothesis that does not foresee any changes in diversity, and the homogenification-hypothesis that claims there will be a decrease in diversity. There was also the disproportionality-hypothesis that says that the diversity will decrease for party representation.

To test the different hypotheses, I look at the change in HHI-values for each variable between the elections in 2011 and 2015, by running OLS-regressions were the dependent variable is the HHI-value and the independent variable is a dummy-variable for the election year. A positive change indicates a decrease in diversity, whereas a negative change signifies an increase. The constant represents the HHI-value for each variable in 2011 and the change in HHI shows the difference in HHI-values between 2011 and 2015. The HHI can only take values between 0 and 1 and we can therefore easily convert the change in HHI to percentage and percentage points. By adding the change in HHI to the constant, we get the HHI-value for 2015.
As Table 2 shows, there is an increase in the diversity of representatives with regards to age and profession between 2011 and 2015, but a decrease in the diversity of party representation. The changes are considerable, with a 7.0 percentage points increase in diversity for age, which corresponds to an increase of 18.4%. The corresponding numbers for professional categories are an increase in diversity with 6.1 percentage points, or 26.2%. The change in HHI-values for professional categories is smaller than for individual professions (33%), as expected. The direction of change is however the same and the difference in estimated size is not extreme, suggesting that the results are not substantially skewed by the categorization of professions. As expected, the relationship is the reverse for party representation, were the diversity decreased with 3.0 percentage point, or 8.9 percent.

If we look at the changes for candidates, we can see that the relationship for age and professional categories stays the same as for the elected representatives, only smaller. The change in percentage points for party representation might look small at first, but in percentage it is quite substantial at 17.8%. The HHI-values for the individual years are in general much lower among the candidates than among the representatives, as predicted. The lower HHI-values for candidates are likely to be a result of the presence of representatives from smaller parties that are unlikely to win a seat.

The HHI-values suggest that there has been a slight increase in diversity among candidates, but that the most substantial change has taken place among the group of elected representatives. The HHI-values of representatives in 2015 are also much closer to the HHI-
values of all candidates, which indicates that the differences in terms of diversity between candidates and representatives are smaller now than before.

All estimates are statistically significant except for the decrease in party representation, for which we at a 90%-confidence level cannot exclude the possibility that the direction of change is the opposite of our estimate. The small standard errors for the other estimates tell us that there is a rather high degree of statistical certainty with respect to the effect in diversity. This is a clear support for the diversification-hypothesis for the two variables connected to the representatives’ background, i.e. age and profession. Regarding party representation, the estimates support the homogenification-hypothesis, although there is a high degree of statistical uncertainty with respect to this effect. My analysis henceforth will nevertheless be based on the assumption that the diversification-hypothesis is a valid prediction for the change in candidates’ age and profession, while changes in party representation will be more in line with the homogenification-hypothesis.

The presented HHI-values show that there has been a change in diversity, but do not give any indications of which mechanisms that contributed to the change. In the theory section, three arguments were listed in favour of the diversification-hypothesis: i) changed normative selection criteria; ii) an increase of elected women, and; iii) the possibility to balance candidates. The first two arguments are related to the part of the reform that introduced a gender quota, whereas the third is related to the increase in district magnitude from one to two. The next step of the analysis is to establish a clearer picture of the relationship between the increase in diversity and the various parts of the Binominal parity vote reform.

4.3 The gender quota and diversity

To see if the increase in diversity was related to the gender quota, I run OLS-regressions for each variable, where the dependent variable is the HHI-values for each year and the independent variable is an interaction effect between the fixed effect of year and the change in the share of elected men for each council. All councils experienced a decrease in the share of elected men as a consequence of the gender quota, but since some of them had 39% female representatives in 2011 while others had none, it is clear that the quota’s effect on the representation of men varied between the local councils. The more negative the
independent variable is, the greater was the impact of the quota in the dimension of gender. Since a negative HHI-value here signifies an increase in diversity, a strong positive relationship in the regression means that the larger effect the quota had, the greater was the change in diversity.

Table 3 –Gender quota effect and change in diversity

<table>
<thead>
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<th>VARIABLES</th>
<th>Age</th>
<th>Profession</th>
<th>Party</th>
</tr>
</thead>
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<td>Year=2015</td>
<td>-0.0157</td>
<td>-0.0177</td>
<td>-0.0858</td>
</tr>
<tr>
<td></td>
<td>(0.0390)</td>
<td>(0.0347)</td>
<td>(0.0903)</td>
</tr>
<tr>
<td>Change in share of men</td>
<td>-0.226***</td>
<td>-0.133**</td>
<td>0.191</td>
</tr>
<tr>
<td></td>
<td>(0.0726)</td>
<td>(0.0645)</td>
<td>(0.168)</td>
</tr>
<tr>
<td>2015*change in share of men</td>
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<td>0.118</td>
<td>-0.314</td>
</tr>
<tr>
<td></td>
<td>(0.103)</td>
<td>(0.0913)</td>
<td>(0.238)</td>
</tr>
<tr>
<td>Constant</td>
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<td>0.185***</td>
<td>0.412***</td>
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<tr>
<td></td>
<td>(0.0276)</td>
<td>(0.0245)</td>
<td>(0.0639)</td>
</tr>
<tr>
<td>Observations</td>
<td>196</td>
<td>196</td>
<td>196</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.273</td>
<td>0.251</td>
<td>0.020</td>
</tr>
</tbody>
</table>

Table 3 shows that the greater effect that the gender quota had, the larger was the increase in diversity regarding age and profession. The reverse is true for party representation, the larger effect that the gender quota had, the fewer were the parties that were elected. The relationships are quite strong and indicate that parts of the changes in diversity were related to the introduction of the gender quota. It is interesting to see that the relationship is particularly strong when we look at party representation. It is not possible to say whether the decrease in diversity of party representation is a result of fewer parties, more coalitions or both. Regardless of the mechanism, these numbers show a clear correlation between the decrease in parties and the impact of the quota. The estimates are however not statistically significant, which creates an uncertainty with regards to the size of the effects.

One possible explanation to the insignificant results is the low variance in the variable change in share of men. Most local councils had a dominating presence of men in 2011. If the difference in share of men was only a few percentage points in the majority of cases, it
might make the relationship between the gender quota effect and the change in diversity less clear. The low estimates for the dummy variable year open up for an interesting interpretation. In a hypothetical case were the gender quota had not been introduced and the share of men had remained the same, there would have been almost no increase in diversity with regards to age or profession.

All this taken together, we can conclude that there is a strong but insignificant relationship between the effect of the gender quota and changes in diversity.

4.3.1 Societal gender differences and diversity

Earlier, I listed two arguments for why a gender quota was likely to contribute to an increase in diversity: through a change in the normative assessment in selection criteria and through the election of more women. It is not within the scope of this thesis to establish with certainty if the two were strong contributing factors, and in that case to what extent. I will however attempt to tentatively test the second argument, by running OLS-regressions for women and men separately. If there has been an increase in the diversity of women’s age and professions, but not in the men’s, this would indicate that the diversification is related to men’s and women’s different backgrounds on a societal level. However, if there is also an increase in diversity among the men, that would show that societal differences between men and women are not the sole reason for increased diversity.

I run the same OLS-regressions as I earlier ran for all candidates and representatives, were the dependent variable is the HHI-values and the independent variable is a fixed effect for year. I will thus look at the intra-council variation over time. There were 13 local councils that did not have a single woman elected in 2011, and they are therefore excluded from the analysis when I look at the change in diversity for women. Important to remember is that there were only 277 elected female representatives in 2011, to compare with 1,717 elected men. As the group of elected women was so small, it is expectable that the change in their HHI-value will be quite drastic. For women, the most interesting thing will therefore be to compare their HHI-values of 2015 with the men’s, to see if the two groups have become similar in terms of diversity. Once again, the constant represents the HHI-value for 2011 and change in HHI shows the change between 2011 and 2015.
Table 4 – Changes in HHI-values for Women and Men

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>Women</th>
<th>Men</th>
<th></th>
<th>Women</th>
<th>Men</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Age</td>
<td>Profession</td>
<td>Party</td>
<td>Age</td>
<td>Profession</td>
<td>Party</td>
</tr>
<tr>
<td>Change in HHI</td>
<td>-0.294***</td>
<td>-0.374***</td>
<td>-0.293***</td>
<td>-0.0408***</td>
<td>-0.0306***</td>
<td>0.0372*</td>
</tr>
<tr>
<td></td>
<td>(0.0283)</td>
<td>(0.0326)</td>
<td>(0.0338)</td>
<td>(0.0120)</td>
<td>(0.0099)</td>
<td>(0.0200)</td>
</tr>
<tr>
<td>Constant</td>
<td>0.620***</td>
<td>0.558***</td>
<td>0.661***</td>
<td>0.392***</td>
<td>0.253***</td>
<td>0.334***</td>
</tr>
<tr>
<td></td>
<td>(0.0200)</td>
<td>(0.0231)</td>
<td>(0.0239)</td>
<td>(0.0085)</td>
<td>(0.0070)</td>
<td>(0.0142)</td>
</tr>
<tr>
<td>Observations</td>
<td>170</td>
<td>170</td>
<td>170</td>
<td>196</td>
<td>196</td>
<td>196</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.391</td>
<td>0.438</td>
<td>0.309</td>
<td>0.056</td>
<td>0.047</td>
<td>0.017</td>
</tr>
</tbody>
</table>

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

All estimates are statistically significant with p-values below 0.01. As expected, table 4 shows very high initial HHI-values for women in 2011, followed by dramatic decreases in the following election. This is probably a consequence of the low number of women that were elected in 2011. Both because they were so few, but also because they are likely to have had a specific background given that they managed to be elected without affirmative action. The most extreme change is the 67% increase in professional diversity, but the changes in age (47.4%) and party representation (44.3%) do not trail far behind. There was an increase in the diversity of party representation for women, which is not surprising given that only a few parties had a broad representation of women in 2011.

As for the men, there is a clear increase in diversity with regards to age (10.4%) and profession (12.1%). The changes are substantial, although not as dramatic as the women’s. This shows that the increased diversity in representatives’ backgrounds is not only a consequence of more women being elected, but the diversification is also driven by a change among the men. For men, there is a decrease in party representation, as expected.

Comparing the HHI-values for men and women in 2015, they show that the two groups have become more similar in terms of diversity after the Binominal parity vote. The HHI-values are now even lower for women than for men. The HHI-values for party representation in 2015 differ between men and women although they should be exactly the same, this is however a consequence of fewer observations for the group women.
To conclude, table 4 tells us that societal differences between men and women cannot be the only explanation to the increase in diversity, as the diversity has increased for both women and men.

4.4 Pairing candidates and diversity

Apart from introducing a strict gender quota, the Binominal parity vote also increased the district magnitude, thereby introducing a new element of \textit{pairing} candidates. One argument linked to the diversification-hypothesis said that the diversity among candidates should rise because parties would balance their pairs in order to appeal to several voter groups. This section therefore has two objectives, first of all to give a descriptive account of how the candidates were matched, and secondly to try to establish whether the parties deliberately tried to balance their pairs with regards to age or profession. Party representation will be excluded from this part of the analysis, as the two candidates always represent the same party.

To get an overview of how the representatives are matched, I tabulate the different categories of age and profession with regards to gender. This gives a descriptive account of the matching, but do not tell whether it was done strategically or not. In order to test that, I create hypothetical cases of randomly matched pairs. If the actual distribution of pairs is similar to the distribution of the hypothetical and randomly matched pairs, it indicates that the representatives have not been coordinated in a strategic manner. If the actual distribution differs essentially from the hypothetical one, it would on the other hand indicate that the matching has not been done randomly, but strategically.

To create the hypothetical distribution of pairs, I randomly matched female and male representatives within each local council. I then looked at how they were distributed across the different combinations of categories. The process was repeated 1 000 times. The average distribution of all 1 000 simulations was thereafter calculated. It shows how common each combination of categories would be if the representatives had been matched at random. Table 5 shows how common it is for both real and simulated pairs to be matched with someone that belongs to the same category.
Table 5 – Matching of candidates with regards to age and profession

<table>
<thead>
<tr>
<th>Variables</th>
<th>Age</th>
<th>Profession</th>
</tr>
</thead>
<tbody>
<tr>
<td>Share of candidates belonging to the same</td>
<td>26.9%</td>
<td>15.5%</td>
</tr>
<tr>
<td>category</td>
<td>27.5%</td>
<td>14.3%</td>
</tr>
</tbody>
</table>

Table 5 shows that the candidates are matched together with someone from the same age category in 26.9% of the cases, and with someone from the same professional category in 15.5% of the cases. The majority of the pairs thus have candidates from different categories, which could lead to the conclusion that parties are trying to appeal to many voter groups. The real distributions are however very similar to those of the randomly matched pairs. That suggests that the matching has not been done in a strategic manner. To further explore this, I will look at each variable individually.

4.4.1 Age

Table 5 shows that the vast majority of pairs have representatives from different age categories. Taking into consideration that the representatives are divided into four rather large age categories, we could expect the age differences to be quite considerable. Looking at the mean age difference within the pairs, it is found to be 11.9 years for the representatives, with a standard deviation of 8.7 years. The corresponding numbers for the simulations are 12.0 years, with a standard deviation of 9 years. This suggests that a common combination is to match candidates from two adjoined categories.

The real age difference is almost indistinguishable from that of the randomly matched pairs, reinforcing the earlier conclusion that the matching has not been done strategically to attract more voter groups. To further explore this, I tabulate all combinations of age categories and look at the share of pairs within each category (table 7). The corresponding averages for the simulations are shown within brackets.
Table 7 – Combinations of age categories by gender

<table>
<thead>
<tr>
<th>Categories</th>
<th>Women 18-39</th>
<th>Women 40-49</th>
<th>Women 50-59</th>
<th>Women 60-</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men 18-39</td>
<td>1.4% (1.4%)</td>
<td>3.1% (2.8%)</td>
<td>3.7% (3.9%)</td>
<td>2.2% (2.3%)</td>
</tr>
<tr>
<td>Men 40-49</td>
<td>3.2% (2.7%)</td>
<td>5.4% (5.4%)</td>
<td>7.0% (7.6%)</td>
<td>4.5% (4.4%)</td>
</tr>
<tr>
<td>Men 50-59</td>
<td>3.2% (3.4%)</td>
<td>8.3% (7.9%)</td>
<td>10.8% (11.2%)</td>
<td>6.7% (6.5%)</td>
</tr>
<tr>
<td>Men 60-</td>
<td>4.5% (4.8%)</td>
<td>10.4% (11.1%)</td>
<td>16.3% (15.1%)</td>
<td>9.3% (9.5%)</td>
</tr>
</tbody>
</table>

Also in table 7 are the real values for each combination very similar to the averages of the randomly matched pairs. The biggest discrepancy is in the category of women in the ages of 50-59 and men older than 60, were the actual share of pairs are 16.3% in difference to the simulations’ 15.1%. The difference of 1.2 percentage points corresponds to 25 pairs. This is the only category were the discrepancy is larger than one percentage point. All the measures of age thus point in the same direction, namely that the matching of pairs is almost indistinguishable from a completely random combination of representatives. I therefore conclude that the parties have not tried to appeal to several voter groups by strategically matching individuals of different ages.

4.4.2 Professions

As with the age variable, I have created 1 000 hypothetical distributions of professional combinations and calculated an average. Table 8 (page 37) shows the distribution of the real pairs, as well as for the simulated ones (within brackets).

The pattern is the same as for age, with the real values being very close to the random estimates. Only three combinations have a discrepancy equal to 0.5% or more (corresponding to 10 pairs), suggesting that no strategic matching has been done with regards to age.
Table 8 – Combinations of professions by gender

<table>
<thead>
<tr>
<th>Categories</th>
<th>Farmer</th>
<th>Non-Active</th>
<th>Other</th>
<th>Artisan</th>
<th>Cadre</th>
<th>Intermediate</th>
<th>Emp/wor</th>
<th>Retired</th>
<th>Liberal</th>
<th>Teacher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>0.1% (0.2%)</td>
<td>0.3% (0.3%)</td>
<td>0.2% (0.2%)</td>
<td>0.3% (0.3%)</td>
<td>1.5% (1.3%)</td>
<td>0.4% (0.5%)</td>
<td>0.7% (0.9%)</td>
<td>1.2% (0.9%)</td>
<td>0.3% (0.4%)</td>
<td>0.3% (0.6%)</td>
</tr>
<tr>
<td>Male</td>
<td>0.3% (0.6%)</td>
<td>1.8% (1.8%)</td>
<td>1.1% (1.0%)</td>
<td>0.9% (1.1%)</td>
<td>6.0% (5.6%)</td>
<td>1.5% (1.9%)</td>
<td>3.1% (3.5%)</td>
<td>4.0% (3.5%)</td>
<td>2.1% (1.7%)</td>
<td>2.4% (2.7%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Categories</th>
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<th>Emp/wor</th>
<th>Retired</th>
<th>Liberal</th>
<th>Teacher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>0.0% (0.1%)</td>
<td>0.3% (0.2%)</td>
<td>0.0% (0.1%)</td>
<td>0.2% (0.2%)</td>
<td>0.7% (0.5%)</td>
<td>0.1% (0.2%)</td>
<td>0.1% (0.4%)</td>
<td>0.3% (0.4%)</td>
<td>0.3% (0.2%)</td>
<td>0.2% (0.3%)</td>
</tr>
<tr>
<td>Male</td>
<td>0.0% (0.1%)</td>
<td>0.3% (0.5%)</td>
<td>0.5% (0.3%)</td>
<td>0.1% (0.2%)</td>
<td>1.3% (1.5%)</td>
<td>0.3% (0.4%)</td>
<td>0.9% (0.9%)</td>
<td>0.9% (0.9%)</td>
<td>0.5 (0.5%)</td>
<td>1.1% (0.8%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Categories</th>
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<th>Retired</th>
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<th>Teacher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>0.0% (0.1%)</td>
<td>0.4% (0.6%)</td>
<td>0.1% (0.2%)</td>
<td>0.3% (0.3%)</td>
<td>1.6% (1.5%)</td>
<td>0.5% (0.5%)</td>
<td>1.7% (1.0%)</td>
<td>0.7% (1.0%)</td>
<td>0.5% (0.5%)</td>
<td>0.4% (0.7%)</td>
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<tr>
<td>Male</td>
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<td>0.7% (1.0%)</td>
<td>0.5% (0.5%)</td>
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<th>Retired</th>
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<th>Teacher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>0.4% (0.2%)</td>
<td>0.4% (0.6%)</td>
<td>0.1% (0.2%)</td>
<td>0.3% (0.3%)</td>
<td>1.6% (1.5%)</td>
<td>0.5% (0.5%)</td>
<td>1.7% (1.0%)</td>
<td>0.7% (1.0%)</td>
<td>0.5% (0.5%)</td>
<td>0.4% (0.7%)</td>
</tr>
<tr>
<td>Male</td>
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<td>0.4% (0.6%)</td>
<td>0.1% (0.2%)</td>
<td>0.3% (0.3%)</td>
<td>1.6% (1.5%)</td>
<td>0.5% (0.5%)</td>
<td>1.7% (1.0%)</td>
<td>0.7% (1.0%)</td>
<td>0.5% (0.5%)</td>
<td>0.4% (0.7%)</td>
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<tbody>
<tr>
<td>Female</td>
<td>0.0% (0.1%)</td>
<td>0.4% (0.3%)</td>
<td>0.2% (0.2%)</td>
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<td>0.7% (0.9%)</td>
<td>0.5% (0.4%)</td>
<td>0.9% (0.5%)</td>
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<td>0.1% (0.3%)</td>
<td>0.5% (0.4%)</td>
</tr>
<tr>
<td>Male</td>
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<td>0.2% (0.2%)</td>
<td>0.1% (0.2%)</td>
<td>0.7% (0.9%)</td>
<td>0.5% (0.4%)</td>
<td>0.9% (0.5%)</td>
<td>0.2% (0.5%)</td>
<td>0.1% (0.3%)</td>
<td>0.5% (0.4%)</td>
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<th>Emp/wor</th>
<th>Retired</th>
<th>Liberal</th>
<th>Teacher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>0.9% (0.8%)</td>
<td>2.0% (1.9%)</td>
<td>0.6% (1.0%)</td>
<td>1.7% (1.4%)</td>
<td>6.5% (6.5%)</td>
<td>2.4% (2.4%)</td>
<td>4.0% (4.9%)</td>
<td>4.7% (4.9%)</td>
<td>2.0% (2.3%)</td>
<td>3.4% (3.0%)</td>
</tr>
<tr>
<td>Male</td>
<td>0.4% (0.3%)</td>
<td>1.1% (0.8%)</td>
<td>0.4% (0.4%)</td>
<td>0.4% (0.5%)</td>
<td>2.0% (2.4%)</td>
<td>0.9% (0.9%)</td>
<td>1.4% (1.8%)</td>
<td>1.7% (1.8%)</td>
<td>1.1% (0.9%)</td>
<td>1.4% (1.2%)</td>
</tr>
</tbody>
</table>

<table>
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<tr>
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<th>Cadre</th>
<th>Intermediate</th>
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<th>Retired</th>
<th>Liberal</th>
<th>Teacher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>0.2% (0.2%)</td>
<td>0.5% (0.6%)</td>
<td>0.3% (0.3%)</td>
<td>0.3% (0.3%)</td>
<td>1.9% (1.9%)</td>
<td>0.7% (0.7%)</td>
<td>1.3% (1.4%)</td>
<td>1.5% (1.4%)</td>
<td>0.6% (0.6%)</td>
<td>0.9% (0.9%)</td>
</tr>
<tr>
<td>Male</td>
<td>0.2% (0.2%)</td>
<td>0.5% (0.6%)</td>
<td>0.3% (0.3%)</td>
<td>0.3% (0.3%)</td>
<td>1.9% (1.9%)</td>
<td>0.7% (0.7%)</td>
<td>1.3% (1.4%)</td>
<td>1.5% (1.4%)</td>
<td>0.6% (0.6%)</td>
<td>0.9% (0.9%)</td>
</tr>
</tbody>
</table>
To check that it is not my categorization that creates the similarities, I do the same thing but with only three categories: private sector, public sector and other (including non-actives and students). A table of the categorization is available in Appendix D. The results are shown in table 9 with the averages of the simulations within brackets.

### Table 9 – Combinations of professional sector by gender

<table>
<thead>
<tr>
<th></th>
<th>Women Private</th>
<th>Women Public</th>
<th>Women Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td>5.6% (5.1%)</td>
<td>8.3% (8.9%)</td>
<td>5.2% (5.1%)</td>
</tr>
<tr>
<td>Private</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>10.2% (11,2%)</td>
<td>21.7% (20,9%)</td>
<td>12.3% (12,1%)</td>
</tr>
<tr>
<td>Public</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>9.8% (9.3%)</td>
<td>17.1% (17,4%)</td>
<td>9.8% (10.1%)</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Also here are the real values and the averages of the simulations very similar. Representatives are matched with someone from the same sector in 37.1% of the cases, which is more often than the 36.1% predicted by the simulations, but no dramatic difference. There is still no indication that parties have tried to strategically match candidates from different sectors. This suggests that it is not the categorization of professions that has created a bias, but that our results are robust.

To conclude, it looks as if no strategic matching has been done with regards to either age or profession. This does not exclude the possibility that strategic matching has been done with respect to some other dimension, such as political experience or birth place. Neither does it rule out the possibility that the increase in district magnitude has had an impact on diversity in some other way than strategic matching. The simulations were carried out based on the men and women that had been elected to the local council. Had the district magnitude been only 1, it is unlikely that the exact same individuals would have been elected.
To conclude, if the increased district magnitude did contribute to an increase in diversity, it was not through a strategic balancing of pairs with regards to age or profession.

5.0 Discussion

The aim of this study was to see if the diversity of representatives’ backgrounds changed after the introduction of the Binominal parity vote. After having looked at changes in HHI-values for age and profession, it is clear that the diversity has increased. When exploring potential mechanisms, we learned that that the relationship between the quota’s effectiveness and the change in diversity is strong, but not statistically significant. We further concluded that the increase in elected women could not be the sole explanation to the change, as the diversity increased for the group of men as well. If the increased district magnitude contributed to the change, it was not through a strategic matching of individuals with regards to age and profession, since the matching of representatives is almost indistinguishable from a random distribution.

So what does this tell us? First of all, the findings should interest policy makers who wish to increase the diversity of elected bodies. Since the diversity increased for both men and women, it disqualifies the fear that gender quotas will promote majority women at the expense of minority men. This study supports a win-win situation were the diversity goes up in terms of both gender and other dimensions. There are however two clear limitations to this interpretation. First of all, our findings verify that the diversity in terms of party representation decreased following the reform, leading to a higher disproportionality between the share of expressed votes for a party and its representation in the councils. Secondly, the two proxies for representatives’ backgrounds only captures very specific aspects. We cannot safely say that the diversity would continue to increase for both men and women if we were to include other variables as well.

Researchers should also be interested by the possibility that gender quotas can lead to enhanced descriptive representation in other dimensions than gender. Future studies should try include other proxies for representatives’ backgrounds, i.e. household income, educational background, family ties to politics and political experience, to see if there is an increase in diversity across dimensions or if it is isolated to only a few aspects. Ethnicity is a variable that especially needs to be further explored. Economic, social and political inclusion
of foreign-born citizens is one of the most important challenges in Europe of today. A large share of France’s citizens have their roots in Maghreb, but it is clear that the political parties have had difficulties to put forward politicians with immigrant background in the National Assembly (See Murray: 2016). Future studies should therefore try to establish whether the Binominal parity vote also led to an increased diversity in terms of ethnic background.

If we look at the individual parts of the reform, I have not been able to establish with certainty how much each mechanism contributed to the change in diversity. The estimates of the relationship between the quota’s effectiveness and the changes in diversity were insignificant and needs to be further investigated. Somewhat surprisingly, the representatives proved to not have been matched strategically in order to appeal to as many voter groups as possible. This does not mean that there are no patterns in the matching. For example, men tend to be older and women tend to be younger within the pairs. This suggests that there are general patterns in which women and which men that are elected, even if the matching of them within individual districts is random.

It is the element of pairing candidates that makes the Binominal parity vote unique and more studies are needed if we are to better understand the workings of it. One of the next steps should be to look closer at the internal selection processes of parties and to obtain information about the individuals who almost were selected as candidates by their party. Then we would be a couple of steps closer to understand the logic behind the selection and the matching of candidates.

Furthermore, this is the first study to look at the relationship between a gender quota and changes in the diversity of representatives’ backgrounds. It tentatively suggests that quota-advocates are right in their belief that gender quotas can lead to better descriptive representation also in other dimensions. It further shows how diversity can be a good element to study also when there are only a few variables available that can serve as proxies for representatives’ backgrounds. It should therefore not be difficult to repeat the study in other cases of newly introduced gender quotas.

Even if no comparison has been made to the diversity of the French population at large in this paper, it is safe to say that all increases in diversity at this point are a step closer to a more accurate descriptive representation. Descriptive representation does not ensure
substantial representation, but is often perceived as being closely interlinked. The question remains whether the dramatic increase in diversity of backgrounds is matched by changes in the councils’ substantial outcomes as well. Future studies should try to assess this once the first term of office has ended.

To conclude, the study have given us some initial understandings about the workings of the Binominal parity vote with regards to changes in diversity, but it has also opened up for many new potential research questions.

6.0 Conclusions

This study has looked at how the diversity of representatives’ backgrounds changed after the introduction of the Binominal parity vote in the French local elections. The aim was to contribute to our understanding of the impact of gender quotas in other dimensions than gender. By applying a theoretical framework based on feminist institutionalism, three different hypothesis were presented: the diversification-, the status quo- and the homogenification-hypothesis. A fourth disproportionality-hypothesis predicted that the change in party representation would differ from the changes in representatives’ backgrounds. The diversity of each council in 2011 and 2015 was measured with the Herfindahl-Hirschman Index (HHI).

By looking at the changes in HHI, the study has shown that the diversity of representatives and candidates has increased in terms of age and profession, but decreased in terms of party representation. The exact workings of the mechanisms behind the changes have not been established, but some preliminary conclusions have been made. The relationship between the gender quota’s effectiveness and the change in diversity is strong, but statistically insignificant. Societal gender differences cannot be the sole driver of the changes, as the diversity increased among both women and men. If the increased district magnitude contributed to the increase in diversity, it was not through the strategic matching of representatives, as they are shown to be almost randomly matched.

These findings show that the Binominal parity vote is a reform that could be of interest to policy makers and researchers alike, as it suggests that gender quotas improve the
descriptive representation also in other dimensions than gender. However, further studies that include more variables are needed before we can be certain of this conclusion.
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Doi: http://dx.doi.org.ezproxy.its.uu.se/10.1017/S1743923X15000513

Doi: https://doi-org.ezproxy.its.uu.se/10.1093/parss064


Doi: 10.1093/acprof:oso/9780199830091.003.0004

Doi: http://dx.doi.org.ezproxy.its.uu.se/10.1017/S0003055415000611


## APPENDIX A – List of Professions

1. Administrateur de sociétés
2. Agent d'affaires
3. Agent d'assurances
4. Agent général d'assurances
5. Agent immobilier
6. Agent subalterne (entreprises publiques)
7. Agent technique et technicien
8. Agriculteur-propriétaire exploitant
9. Architecte
10. Artisan
11. Assistante sociale
12. Autre cadre (secteur privé)
13. Autre profession
14. Autre profession libérale
15. Autre retraité
16. Avocat
17. Cadre (entreprises publiques)
18. Cadre supérieur (entreprises publiques)
19. Cadre supérieur (secteur privé)
20. Chirurgien
21. Commercant
22. Conseiller juridique
23. Contremaitre
24. Dentiste
25. Employé (autres entreprises publiques)
26. Employé (secteur privé)
27. Enseignant 1er degré-directeur école
28. Entrepreneur en batiments
29. Etudiant
30. Expert comptable
31. Fonctionnaire de catégorie A
32. Fonctionnaire de catégorie B
33. Fonctionnaire de catégorie C
34. Grands corps de l'état
35. Homme de lettres et Artiste
36. Huissier
37. Industriel-Chef entreprise
38. Ingénieur
39. Ingénieur conseil
40. Journaliste et autre média
41. Magistrat
42. Marin (patron)
43. Marin (salaried)
44. Médecin
45. Ministres du culte
46. Notaire
47. Ouvrier (secteur privé)
48. Permanent politique
49. Pharmacien
50. Professeur de faculté
51. Professeur du secondaire et technicien
52. Profession rattachée à l'enseignement
53. Propriétaire
54. Représentant de commerce
55. Retraité artisan/commercant/chef d’entreprise
56. Retraité agricole
57. Retraité de l’enseignement
58. Retraité des entreprises publiques
59. Retraité des professions libérales
60. Retraité fonctionnaire publique (sauf enseignants)
61. Retraité salaried privé
62. Salarié agricole
63. Salarié du secteur médical
64. Sans profession déclarée
65. Vétérinaire
APPENDIX B – Categorisation of Professions

1. Farmer
Agriculteur-propriétaire exploitant

2. Artisan
Artisan
Commercant
Entrepreneur en batiments
Industriel-Chef entreprise
Marin (patron)
Propriétaire

3. Cadre (Civil servant / Manager / University graduate)
Administrateur de sociétés
Agent d’affaires
Agent d’assurances
Agent immobilier
Autre cadre (secteur privé)
Cadre (entreprises publiques)
Cadre supérieur (entreprises publiques)
Cadre supérieur (secteur privé)
Fonctionnaire de catégorie A
Grands corps de l’état
Homme de lettres et Artiste
Ingénieur
Ingénieur conseil
Journaliste et autre média
Magistrat
Représentant de commerce

4. Intermediate profession
Agent technique et technicien
Contremaitre
Fonctionnaire de catégorie B
Fonctionnaire de catégorie C

5. Employee / Worker
Agent subalterne (entreprises publiques)
Assistante sociale
Employé (autres entreprises publiques)
Employé (secteur privé)
Marin (séarié)
Ouvrier (secteur privé)
Séarié agricole

6. Retired
Autre retraité
Retraité artisan/commercant/chef d’entreprise
Retraité agricole
Retraité de l’enseignement
Retraité des entreprises publiques
Retraité des professions libérales
Retraité fonctionnaire publique
Retraité salarié privé

7. Liberal profession
Agent général d’assurances
Architecte
Autre profession libérale
Avocat
Chirurgien
Conseiller juridique
Dentiste
Expert comptable
Huissier
Médecin
Notaire
Pharmacien
Vétérinaire

8. Teacher
Enseignant 1er degré-directeur école
Professeur de faculté
Professeur du secondaire et technicien
Profession rattachée à l’enseignement

9. Not participating in the labour force (including house-wives)
Sans profession déclarée

10. Other
Autre profession
Etudiant
Ministres du culte
Permanent politique
APPENDIX C – Party Abbreviations

<table>
<thead>
<tr>
<th>Code</th>
<th>Party Abbreviation</th>
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<tr>
<td>EXG</td>
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<td>FG</td>
<td>Front de Gauche</td>
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<tr>
<td>COM</td>
<td>Communiste</td>
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<tr>
<td>PG</td>
<td>Parti de Gauche</td>
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<td>UG</td>
<td>Union de la Gauche</td>
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<tr>
<td>PS</td>
<td>Parti Socialiste</td>
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<tr>
<td>RDG</td>
<td>Radical de Gauche</td>
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<tr>
<td>DVG</td>
<td>Divers gauche</td>
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<tr>
<td>VEC</td>
<td>Europe Ecologie / Les Verts</td>
</tr>
<tr>
<td>ECO</td>
<td>Ecologiste</td>
</tr>
<tr>
<td>REG</td>
<td>Régionaliste</td>
</tr>
<tr>
<td>MODM</td>
<td>MODEM</td>
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<tr>
<td>UC</td>
<td>Union du Centre</td>
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<td>UDI</td>
<td>Union Démocrates et Indépendants</td>
</tr>
<tr>
<td>UD</td>
<td>Union de la Droite</td>
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<td>M-NC</td>
<td>Majorité présidentielle</td>
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<tr>
<td>M</td>
<td>Autres candidats majorité présidentielle</td>
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<td>UMP</td>
<td>Union pour un Mouvement Populaire</td>
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<td>DLF</td>
<td>Debout la France</td>
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<td>DVD</td>
<td>Divers droite</td>
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<td>FN</td>
<td>Front National</td>
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<td>EXD</td>
<td>Extrême droite</td>
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<td>DIV/AUT</td>
<td>Divers / Autres</td>
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APPENDIX D – Categorisation of Professional Sectors

**Private**
- Administrateur de sociétés
- Agent d’affaires
- Agent d’assurances
- Agent général d’assurances
- Agent immobilier
- Agent subalterne (entreprises publiques)
- Agent technique et technicien
- Agriculteur-propriétaire exploitant
- Architecte
- Artisan
- Autre cadre (secteur privé)
- Autre profession libérale
- Avocat
- Assistante sociale
- Cadre (entreprises publiques)
- Cadre supérieur (entreprises publiques)
- Cadre supérieur (secteur privé)
- Chirurgien
- Commercant
- Conseiller juridique
- Contremaitre
- Dentiste
- Employé (autres entreprises publiques)
- Employé (secteur privé)
- Entrepreneur en batiments
- Expert comptable
- Homme de lettres et Artiste
- Huissier
- Industriel-Chef entreprise
- Ingénieur
- Ingénieur conseil
- Journaliste et autre média
- Marin (patron)
- Marin (salarié)
- Médecin
- Notaire
- Ouvrier (secteur privé)
- Pharmacien
- Propriétaire
- Représentant de commerce
- Salarié agricole
- Salarié du secteur médical
- Vétérinaire

**Public**
- Enseignant 1er degré-directeur école
- Fonctionnaire de catégorie A
- Fonctionnaire de catégorie B
- Fonctionnaire de catégorie C
- Grands corps de l’état
- Magistrat
- Professeur de faculté
- Professeur du secondaire et technicien
- Profession rattachée à l’enseignement

**Other**
- Autre profession
- Autre retraité
- Etudiant
- Ministres du culte
- Permanent politique
- Retraité artisan/commercant/chef d’entreprise
- Retraité agricole
- Retraité de l’enseignement
- Retraité des entreprises publiques
- Retraité des professions libérales
- Retraité fonctionnaire publique (sauf enseignants)
- Retraité salarié privé
- Sans profession déclarée