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Education

2016 - Ph.D., Economics, Paris School of Economics
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2017 - 2018 Visiting Ph.D. Student, London School of Economics
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Research

Publication

Lippmann Q., & Senik, C. (2018) **Math, girls and socialism**, *Journal of Comparative Economics*, 46(3), 874-888.

Abstract: This paper argues that the socialist episode in East Germany, which constituted a radical experiment in gender equality in the labor market and other instances, has left persistent tracks on gender norms. We focus on one of the most resilient and pervasive gender gaps in modern societies: mathematics. Using the German division as a natural experiment, we show that the underperformance of girls in math is sharply reduced in the regions of the former GDR, in contrast with those of the former FRG. We show that this East–West difference is due to girls’ attitudes, confidence and competitiveness in math, and not to other confounding factors, such as the difference in economic conditions or teaching styles across the former political border. We also provide illustrative evidence that the gender gap in math is smaller in European countries that used to be part of the Soviet bloc, as opposed to the rest of Europe. The lesson is twofold: (1) a large part of the pervasive gender gap in math is due to social stereotypes; (2) institutions can durably modify these stereotypes.

Working Papers

Undoing Gender With Institutions. Lessons from the German Division and Reunification, with Alexandre Georgieff and Claudia Senik (first author, Conditionally Accepted at *Economic Journal*)

Abstract: Using the 41-year division of Germany as a natural experiment, we show that the GDR’s gender-equal institutions created a culture that has undone the male breadwinner norm

and its consequences. Since reunification, East Germany still differs from West Germany not only by a higher rate of female labor market participation and a higher female contribution to household income, but also because East German women can earn more than their husbands without having to increase their number of housework hours, put their marriage at risk or withdraw from the labor market. By contrast, the norm of higher male income, and its consequences, are still prevalent in West Germany.

Persistence of Incumbents and Female Access to Political Positions.

Abstract: This article investigates whether the persistence of incumbents hinders female access to political positions when incumbents are predominantly men. I exploit regression discontinuity from close electoral races in French municipalities to randomize the eligibility of incumbent mayors for reelection. Despite a context increasingly favorable to the election of women, I find that the persistence of incumbents does not block female access to the position of mayor. I investigate the mechanisms and show that it is more difficult for a woman to replace a female incumbent than a male one. This is consistent with a backlash or stereotype threat effect penalizing women after a female incumbent.

Gender and Lawmaking in Times of Quota. Evidence from the French Parliament

Abstract: This article investigates whether female legislators defend the interests of women more than their male counterparts. I combine quasi-experimental variations to randomize legislators' gender and text analysis to identify women-related policies among more than 300,000 amendments discussed in the French Parliament during the 2001-2017 period. First, I exploit mixed-gender close races in the Lower House to show that female legislators are twice more likely to initiate women-related amendments. Second, as compared to other topics, I establish that women's issues constitute the key topic on which women are more active relatively to men, followed by health and child issues. At the other end of the spectrum, men are more involved in military issues. Third, I investigate the mechanisms and provide evidence that the activity of female legislators cannot be entirely explained by constituents' preferences or political parties' strategies but stems from individual interest of legislators. Fourth, I replicate these findings in the Upper House using a difference-in-differences strategy that directly exploits the introduction of a gender quota. I obtain similar results.

Publications in French Peer-Reviewed Journals

Les politiques de quotas en faveur des femmes ont-elles brisé ou surélevé le plafond de verre ? (Do Gender Quotas Break or Raise the Glass Ceiling?), *Revue économique*, vol. 69, no. 5, 2018, pp. 849-867

Abstract: Using evidence from France, this paper argues that gender quotas mechanically attract new women in politics but fail to trigger a self-sustained dynamics that would help women climb the ladder. I analyze the impact of two gender quotas which were first introduced in 2001 in municipalities above 3,500 inhabitants and extended in 2014 to municipalities between 1,000 and 3,500 inhabitants. They both imposed 50% of women in candidate lists. I find that they largely increased the share of female municipal councillors but did not lead to an increase in the number of women at the next hierarchical level: the position of mayor.

Travail domestique : les couples mono-actifs en font-ils vraiment plus ?, avec Guillaume Allègre, Victor Bart, Laura Castell et Martin Henri, *Economie et statistique*, n°478-480, 2015. pp. 189-208.

Policy Brief

La Division Sexuée du Travail Parlementaire, Note n°38 de l'Institut des Politiques Publiques, Mars 2019.

Scholarships and Award

- 2019 Best Paper by a Phd Student at the 2019 Australian Gender Economics Workshop for the paper "Gender and Lawmaking in Times of Quotas. Evidence from the French Parliament."
- 2018 Wicksell Prize for the best paper by a young author at the 2018 European Public Choice Society Conference for the paper "Persistence of Incumbents and Female Access to Political Positions"
- 2016 - 2019 Phd Scholarship, Ecole Normale Supérieure Paris-Saclay
- 2013 - 2015 Full Scholarship, Ecole Normale Supérieure Paris-Saclay

Teaching

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| 2018 - 2019 | Microeconomics | ESCP-Europe |
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| 2016 - 2017 | Public Policy Evaluation Methods | Science-Po Paris |
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Conference and Seminar Presentations

- 2018 Paris School of Economics, INED, EDP Jamboree Florence, EEA Cologne, AFSE (Paris), RES (University of Sussex), EPCS (Rome).
- 2017 European Winter Meeting of the Econometric Society (Barcelona), People Matter Conference in Kiev, JMA, Paris School of Economics, INED, ASSA
- 2016 IAREP (Wageningen), Paris School of Economics

Skills

Computer Stata, Python, R, SAS

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Gender and Lawmaking in Times of Quotas.

Evidence from the French Parliament

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March 6th, 2019

Abstract

This article investigates whether female legislators defend the interests of women more than their male counterparts. I combine quasi-experimental variations to randomize legislators' gender and text analysis to identify women-related policies among more than 300,000 amendments discussed in the French Parliament during the 2001-2017 period. First, I exploit mixed-gender close races in the Lower House to show that female legislators are twice more likely to initiate women-related amendments. Second, as compared to other topics, I establish that women's issues constitute the key topic on which women are more active relatively to men, followed by health and child issues. At the other end of the spectrum, men are more involved in military issues. Third, I investigate the mechanisms and provide evidence that the activity of female legislators cannot be entirely explained by constituents' preferences or political parties' strategies but stems from individual interest of legislators. Fourth, I replicate these findings in the Upper House using a difference-in-differences strategy that directly exploits the introduction of a gender quota. I obtain similar results.

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1 Introduction

Politicians do not resemble the people they represent. This reality is perhaps best illustrated by the underrepresentation of women in politics. While they account for about 50% of the population, women occupy only 24% of parliament seats worldwide¹. This imbalance is often criticized on the basis that politicians' identity matters for policymaking. Politicians would tend to advocate on behalf of groups sharing a component of their identity. Female politicians would thus defend the interests of women more than their male counterparts.

This paper investigates the empirical validity of this argument. In doing so, I aim to answer four questions: are female legislators more involved on women's issues? Besides women's issues, do we observe gender differences on other topics? Are these differences due to the identity of legislators or alternative factors? What can we infer for the impact of policies that aim at increasing the share of women in politics such as gender quotas?

To address these questions, the main innovation of this paper is to combine text data to identify women-related policies with quasi-experimental variations to randomize legislators' gender. The text analysis is performed on web scraped data from more than 300,000 amendments discussed within the French Parliament during the period 2001-2017. Amendments constitute the main way to change policies for parliamentarians. Based on the assumption that an amendment related to women's issues will effectively mention women, I classify an amendment as women-related if it contains one of the words "women", "gender" or "sex". Although simple, this measure proves to be highly relevant. As illustration, the most frequent trigram is "equality women men". For quasi-experimental variations, the first part of this article exploits mixed-gender close races in single member constituencies for the Lower House. Since potential confounders, such as constituents' characteristics, are similar whether a man or a woman wins, this strategy randomizes legislators' gender and allows to identify the effect of legislator's identity.

Using this methodology, the first set of results establishes that female parliamentarians are unambiguously and largely more involved on women's issues. As compared to their male counterparts, they are twice more likely to author at least one women-related amendment and they also co-sponsor twice more women-related amendments. These results are established for both accepted and rejected amendments and remain relatively stable across

¹<http://data.worldbank.org/indicator/SG.GEN.PARL.ZS>

age, party affiliation and incumbency status of legislators. They are robust to several alternative specifications using the entire sample of parliamentarians, including fixed-effects at the constituency level or controlling for individual and constituencies' characteristics. These findings also hold when using a restrictive dictionary of women's issues including only the word "women", far more common than "sex" and "gender" and are also almost impossible to replicate drawing random samples of amendments, suggesting that they are deeply related to the topic of women's issues.

Second, I extend the analysis to the study of other topics. I manually classify the 10,000 most recurring words into 27 non-mutually exclusive topics corresponding to the usual government ministries and use this dictionary to retrieve the topics of each amendment. I find that, among the 27 topics, women's issues constitute the topic with the largest differences in involvement between male and female legislators. As for other topics, female legislators are more active on child and health issues where they are about 50% more likely to initiate at least one amendment. At the other extreme, men are more active on military issues. Surprisingly, there is only weak or no evidence of gender differences on topics traditionally considered as more feminine such as family and education or more masculine such as business, fiscality and agriculture.

Third, I investigate the mechanisms behind these differences by focusing on the main result related to women's issues. The mixed-gender close races allow to disentangle between constituents' preferences and legislator's identity. In such races, whether a man or a woman wins, constituencies have similar characteristics. Yet, female legislators contribute largely more to women's issues. This rules out the constituents' preferences channel and paves the way for identity-based policymaking. But what lies behind identity? It could be that women are intrinsically more interested in women's issues but it could also be that political parties anticipate that women-related policies supported by women are more credible and therefore strategically force female legislators to produce women-related amendments. To disentangle between individual interest and parties' strategy, I first restrict the sample to cases where the amendment cannot stem from political parties' will. Such cases are more likely to arise when amendments are sole-authored and when legislators from the majority see their amendments rejected by their majority. We observe that, as we move to cases where the political party influence declines, female legislators are increasingly more likely to author women-related amendments than their male counterparts, suggesting that the results cannot be entirely explained by political parties' influence but must stem from

individual interest. To confort this interpretation, I also exploit an institutional feature of the 2012-2017 term where all the legislators were given discretionary funds that they could use as they wanted. Using this data, I show that female legislators are about two to three times more likely to fund associations or projects related to women's issues.

Finally, two shortcomings of the Lower House setting are that, although the share of female legislators has increased from 10 to 27% from 2002 to 2012 following the introduction of a gender quota in the Lower House, it is difficult to infer the causal effect of this policy on the prevalence of women's issues because the design of this quota does not allow to distinguish women who have benefited from it from those that would have been elected either way. Additionally, since the analysis is done at the individual level, it is questionable whether the micro findings translate into a macro effect where more women in politics would lead to more amendments on women's issues. To provide evidence on these questions, the last part of this article takes advantage of a gender quota introduced in the Upper House. The work of senators is the same as legislators from the Lower House but the election system for the Upper House is different as it relies on proportional representation in multi-member constituencies. From 2001 onwards, candidate lists in constituencies that elect more than 4 senators were forced to nominate 50% of women. I implement a difference-in-differences strategy comparing the parliamentary activity of constituencies targeted by the quota to those that are not. I find that the quota led to a 1.25 increase of the number of elected women per constituency. Consistent with the Lower House findings, this jump also led to a doubling of the number and the share of women-related amendments initiated. This suggests that women who enter in politics with a quota do contribute more to women's issues and that this increase leads to a larger prevalence of women-related amendments at the macro level.

These results make three contributions to the literature. First, they contribute to the debate on the impact of women as policymakers. An early literature in political science has studied the role played by female legislators in the Parliament, mostly in the US (see for instance [Thomas 1991](#), [Thomas & Welch 1991](#) or [Bratton & Haynie 1999](#)). While this literature often finds that gender matters, the results are difficult to interpret as they do not disentangle between constituents' preferences and politicians' identity. Since women are more likely to be elected in more gender-friendly places which are also more demanding on women's issues, the results could be driven by constituents' demands. Therefore, starting from [Chattopadhyay & Duflo \(2004\)](#), the literature has focused on delivering causal

evidence by disentangling the impact of politicians' gender from constituents' preferences. Several studies focusing on the experience of developing countries have shown that women deliver different types of public policy when in power ([Chattopadhyay & Duflo 2004](#), [Clots-Figueras 2011](#), [Bhalotra & Clots-Figueras 2014](#), [Brollo & Troiano 2016](#) or [Kalsi 2017](#)). Yet, on the other hand, evidence from developed countries has been less conclusive ([Ferreira & Gyourko 2014](#), [Bagues & Campa 2017](#)). On top of these conflicting findings, a common issue in this literature is the difficulty to identify women-related policies. Because of data limitations, empirical work mostly relies on pre-defined categories based on spending or public goods data which rarely include women-related policies and often differ depending on the context. This paper aims to address the weaknesses of each literature: the difficulty to interpret the results as stemming from identity in the early literature and the difficulty to relate the outcomes to specific areas of interest in the causal literature. Moreover, by exploiting the introduction of a gender quota in the Upper House, this paper also provides evidence on the consequences of such policies which have been introduced in over 100 countries worldwide ([Krook 2010](#)).

Second, beyond gender, this paper contributes to the larger debate on the impact of politicians' identity. Understanding the extent to which identity determines policymaking is fundamental to understand how democracy works. This question is at the core of a theoretical debate on decision-making in politics. In theory, the classical median voter model ([Downs 1957](#)) suggests that politicians' preferences do not matter as policies should converge towards the preferences of the median voter. But in later-developed frameworks such as the citizen-candidate model ([Osborne & Slivinski 1996](#) and [Besley & Coate 1997](#)), policymakers' preferences do play a role and ultimately determine which policies are implemented. This paper brings support for the citizen-candidate model through the lens of gender. Moreover, the methods used in this paper could easily be extended to understand the influence of alternative dimensions of identity. Examples of these dimensions studied in the literature include caste ([Pande 2003](#)), family ([Washington 2008](#)), ethnicity ([Broockman 2013](#)), religion ([Meyersson 2014](#), [Bhalotra et al. 2014](#) or [Chaudhary & Rubin 2016](#)) and their interaction ([Cassan & Vandewalle 2017](#)).

Finally, methodologically, this paper contributes to the growing literature using text analysis methods (see [Grimmer & Steward 2013](#) or [Gentzkow et al. 2017](#)). Examples of recent studies include the analysis of economic uncertainty ([Baker et al. 2016](#)), central bank's deliberation ([Hansen et al. 2018](#)) or political discourse ([Gentzkow et al. 2016](#)). This

study presents an application of these tools combined with quasi-experimental variations.

This paper is organized as follows. Section 2 describes the institutional setting. The data is introduced in Section 3. The empirical strategy is explained in Section 4. The main results are displayed in Section 5 along with robustness checks. Section 6 dives into the mechanisms underlying the results. Section 7 investigates the impact of a gender quota in the Upper House to derive implications for public policy. Finally, Section 8 concludes.

2 Institutional Context: Legislative Work in the French Parliament

2.1 Parliamentary Procedure

The work of parliamentarians consists mainly in producing and voting the law. Before becoming effective, a law follows the subsequent path. First, a bill can be initiated either by the government or parliamentarians. Once initiated, a bill is examined by one of the Houses. Representatives have then the possibility to modify the bill by producing amendments. Once all the amendments have been examined, parliamentarians have to vote for the bill. If the bill is accepted, it is then passed to the other House which performs the same exercise. This procedure stops when a text is accepted in identical terms in the two Houses.

2.2 Public Policy Impact: Bills, Amendments and Vote

Parliamentarians have three ways to directly impact public policy: bill proposals, amendments and vote.

Bills. Bills can be introduced by the government or by parliamentarians. In practice, during the past 50 years, more than 70% of the adopted bills originated from the government. Since the government sets the agenda of the Houses for two weeks per month (and has different means to set the agenda during the remaining two weeks), the introduction of a bill by parliamentarians does not necessarily lead to its examination. Moreover, when introduced by parliamentarians, bills often result from a collective initiative originating from the political party to which parliamentarians belong to.

Amendments. Amendments consist of deletion, modification or addition of articles included in an existing bill. They can originate from the government or parliamentari-

ans. In practice, nearly 80% of the adopted amendments originate from parliamentarians. Amendments can be both sole authored or co-sponsored by other parliamentarians. Importantly, there is no limit on the number of amendment that can be submitted on a bill, and there is no limit either on the number of co-sponsors an amendment can have or the number of amendments a parliamentarian can produce. On the contrary of bill proposals, all the amendments must be examined and discussed.

Vote. To be adopted, amendments and bills need to obtain a majority of votes. In the vast majority of the cases, the voting system is done with a show of hands. It is the regular procedure and has been adopted because it is much faster than alternative methods. For important bills, the vote can be recorded. In this case, parliamentarians vote from their seat with an electronic device. In case of an absence, it is possible to delegate votes to another representative.

2.3 Amendments as the Main Form of Parliamentary Initiative

In the French Parliament, there is no doubt that the main form of parliamentary initiative lies in amendments². Quantitatively, it is well-established that the government remains the primary source of bills ultimately adopted while amendments mainly originate from parliamentarians. Tables A1 and A2 display descriptive statistics respectively on the origins of bills and amendments ultimately adopted. In the past 50 years, more than 70% of bills originated from the government while the picture is completely reversed when looking at amendments. During the period 2002-2017, more than 80% of them were initiated by parliamentarians. As for votes, there is a strong party discipline in the French Parliament which leaves little room for individual initiative. This is because parliamentarians risk being excluded from their party if they vote against bills from their own side.

Qualitatively, scholars have acknowledged amendments as the main form of parliamentary initiative (Knapp & Wright 2006, Avril & Gicquel 2014). They often argue that this situation stems from the possibility for the government to set a large part of the agenda of both Houses (Rasch & Tsebelis 2013). As such, bills are not necessarily discussed whereas all the amendments must be examined.

²As illustration, the Lower House website states that "*The right to amend is today the main form of expression of the parliamentary initiative*" (<http://www2.assemblee-nationale.fr/decouvrir-l-assemblee/role-et-pouvoirs-de-l-assemblee-nationale/les-fonctions-de-l-assemblee-nationale/les-fonctions-legislatives/l-exercice-du-droit-d-amendement-et-annexe>).

3 Data

3.1 Sources

Parliamentarian activity. Starting in 2002, the activity of legislators is accessible on the official website of the Lower House³. I web scraped this data to build an analyzable dataset containing all the amendments from 2002. It offers the possibility to analyze the activity during the 2002-2007, 2007-2012 and 2012-2017 terms.

For every amendment, this dataset includes three elements used for the analysis. First, it indicates which bill is targeted. Second, it includes the content as well as the oral presentation accompanying it (as they are defended publicly). Third, it specifies the identity of the amendment’s initiator and of all the representatives who co-sponsored it⁴.

Election Results. The data on the election results comes from the 2002, 2007 and 2012 parliamentary elections. These elections are held in 577 constituencies and the resulting dataset is produced by the French Ministry of Interior.

3.2 Identifying Women-Related Amendments

3.2.1 Dictionary-Based Approach

The main challenge is to identify whether the topic of an amendment is related to women’s issues. While the topics are not explicitly stated, it is possible to use the information associated to each amendment to retrieve them. In a nutshell, the procedure used in this article applies a dictionary based method to the bills’ titles and texts motivating amendments to identify those which are related to women’s issues.

Sources of Information. Each amendment is characterized by three elements: its content, a short text motivating its purpose and the bill that the amendment attempts to modify. Reading the content, it is almost impossible to understand what the topic of an amendment is. The content is very short and standardized, stating that a set of words should be removed, replaced or added⁵.

³In its raw format, the data can be found from 2002 at <http://www2.assemblee-nationale.fr/recherche/amendements> or from 2007 onwards via an API at <https://www.nosdeputes.fr>

⁴See Figure A1 for an example of amendment on the Lower House website

⁵Standardized formulations can be found on the Lower House website (in French) at <http://www2.assemblee-nationale.fr/decouvrir-l-assemblee/role-et-pouvoirs-de-l-assemblee-nationale/les-fonctions-de-l-assemblee-nationale/les-fonctions-legislatives/l-exercice-du-droit-d-amendement-et-annexe>

On the opposite, bills’ titles and texts motivating amendments are informative on the topic. For instance, the title *”Bill proposal related to the pay equality between men and women”* leaves no doubt that the topic of the bill is to reduce the wage gap between men and women. As such, an amendment targeting this text would be directly related to women’s issues. Additionally, parliamentarians can disseminate and provide dispositions related to women’s issues in bills whose primary purpose is unrelated to these issues. In this case, we would find a reference to women in the text motivating the amendment. To encompass these two dimensions, I exploit both the titles of the bills and the texts motivating the amendments to develop a definition of an amendment related to women’s issues.

Classifying Amendments. To identify amendments related to women’s issues, I build a simple dictionary containing words related to women. If the topic of an amendment is related to women, it is almost certain that the term women or a synonym will appear. I thus use three keywords: ”women”, ”gender” and ”sex”⁶.

Amendments may refer to women’s issues without using explicitly the word ”women”. For instance, they could only contain the expression ”gender equality” or ”equality between the sexes”. Therefore, introducing the words ”gender” and ”sex” leads to an *exhaustive* dictionary of women’s issues. One drawback of expanding the dictionary is the increased chances to capture false matches. This is especially true for the word ”gender” which is sometimes used in the French language as a synonym for ”genre” or ”kind of”. To circumvent this issue, I tagged these false matches and removed them from the classification⁷ (see Table A14 for the list). It should be stressed that the results remain unchanged whether I include these false matches or not. Moreover, for robustness, I also use a *restrictive* dictionary of women’s issues including only the word ”women”. Results remain unchanged.

This methodology is suited to my analysis for three reasons. First, the topic of an amendment is unknown and there does not exist a training dataset containing pre-defined categories for topics. Second, the main interest of this paper is clearly defined, i.e. about topics related to women’s issues. Third, it is very unlikely that unsupervised methods would pick the topic related to women’s issues because its prevalence is low (about 2%)

⁶In French, these keywords are respectively *”femme”*, *”genre”* and *”sexe”*. These keywords are stemmed such that the word ”women” becomes ”wom” to capture the singular and plural forms but also words such as womanly.

⁷The existence of false matches is common in dictionary-based methods (see for instance Gentzkow et al. 2016). Removing them from the exhaustive definition also allows to be consistent with the analysis on the other topics introduced in Section 5.3.

but also because the total number of topics is unknown⁸.

3.2.2 Validity of the Dictionary

Most Frequent Expressions. The dictionary-based method has selected 3,744 amendments in the Lower House (1.89%). Table I displays the 5 most frequent bigrams and trigrams used in these amendments. Looking at Panel A, the most frequent trigram is "equality wom men" which appears 166 times in the sample of amendments and the most frequent bigram is "wom men" which appears 425 times. Most of the expressions are directly related to women's issues containing the word "women" associated with "equality", "professional" or "violence". It strongly suggests that these amendments are used to improve gender equality. The only exception concerns part time work which is associated to women's issues because legislators tend to regulate the use of part time work for women since they are significantly more likely to be in this position than men.

Manual Screening. While the most frequent expressions are informative on the relevance of the topic, we cannot conclude on the relevance of the measure. I thus manually screened all the 3,744 amendments in order to determine the share of amendments falsely classified as related to women's issues. I find that 86% of amendments are unambiguously women-related. This rate is high and in line with other studies using dictionary based approach (see for instance Baker et al. 2016). The wrongly classified amendments often refer to jobs mainly occupied by women (such as prostitution). A small share also includes false matches that are difficult to identify. For instance, some amendments refer to citizens as "men and women" in a general statement.

3.3 Main Outcome: Authorship

The main outcome is related to the authorship of an amendment. In the French Parliament, legislators who initiate an amendment are identified as the first author on an amendment. They must defend it orally and are clearly categorized as the largest contributor on an amendment.

⁸In Section F.4, I discuss the main advantages and disadvantages of unsupervised methods to perform topic analysis and display the 30 topics found by a latent dirichlet allocation method. In summary, these methods would be more adequate if the research question was "as compared to male legislators, are female legislators working on different topics?" without being interested in the topics involved. But since there exists clearly identified topics on which we wish to test gender differences, dictionary-based methods are more relevant.

Since almost 60% of legislators have never initiated an amendment related to women’s issues, the main outcome is a dummy which equals 1 if a legislator has initiated at least one amendment related to women’s issues. It stands for the extensive margin of authorship.

3.4 Descriptive Statistics

Table A3 provides descriptive statistics on the Lower House legislators by sex. The sample is restricted to legislators who were elected at the beginning of each term and effectively served as legislators⁹. The sample contains 1,663 legislators on the 2002-2017 period. About 19% of the legislators are women. They are about 55 years old. They co-sponsor about 212 amendments per year and initiate 25, out of which women’s issues represent respectively 3% and 2%.

Regarding the sample of close races used to identify the effect of gender, we see in Figure A6 that they are scattered throughout the territory with a larger concentration in the region surrounding Paris, certainly due to the largest number of representatives in this area. Additionally, preferences for women exhibit substantial variations in the sample of close race elections. Figure A7 shows that female vote share ranges from 20 to about 70%. The extent of these variations is similar to other studies exploiting mixed-gender close races (see for instance Bhalotra et al. 2017 in India).

4 Empirical Setting

4.1 Election System for the Lower House

Electoral System. The elections for the Lower House (legislative elections) occur every 5 years in France and aim at electing 577 representatives (*Députés* in French) in 577 constituencies. Parliamentarians are elected by direct universal suffrage. All the French citizens aged more than 18 years old are able to vote.

The election system follows a two-round plurality voting round system. To be elected on the first round, one individual must obtain more than 50% of the votes and 25% of the registered citizens. If these conditions are not met, a second round is organized a week later and the two first-ranked candidates are automatically qualified for it. To be elected

⁹After each election, about 20 legislators out of 577 are nominated at high-ranked positions such as minister. Therefore, they never occupy the position of legislator in the Parliament.

on the second round, relative majority is sufficient and the candidate who receives the highest vote share is the winner.

Gender Quotas. Starting in 2002, financial incentives were introduced to force political parties to nominate women. If a political party does not nominate 50% of women, its public funding will be reduced proportionally on the gender gap in nomination. This proportion was gradually increased from 50% in 2002 to 75% in 2007 and reached 150% in 2017¹⁰. As a consequence, the share of female legislators increased from 10 to 27% between the 2002 and 2012 elections. Since nearly all the parliamentarians originate from political parties, it is difficult to exploit this policy to distinguish women who have benefited from it and women who would have entered in politics either way.

4.2 Methods

The aim of this article is to provide novel evidence on the role of female parliamentarians on policy decisions regarding women’s issues. I exploit data at the parliamentary level to analyze how gender determines the contribution to women’s issues.

To identify the impact of female legislators on policy decisions, I use three complementary specifications. The objective is to obtain both a comprehensive view of what happens in the Lower House but also to disentangle between legislator’s and constituents’ interests. The first empirical specification is the following:

$$Y_{ict} = \beta Woman_{ict} + \gamma X_{ict} + \epsilon_{ict} \quad (1)$$

Where i is the subscript for the individual level, c for the constituency level and t for the term. Since constituencies elect only one parliamentarian, the observation level is at the legislator-term level. $Woman_{ict}$ is the main variable of interest. It is a dummy that equals 1 if the parliamentarian is a woman. X_{ict} includes other control variables, namely the age at the beginning of the term, the political inclination (left or right-wing), the incumbency status, the margin of victory at the election, the female participation rate to the labor market in the constituency and term fixed-effects.

While this specification is useful to obtain a comprehensive view of gender specialization

¹⁰For instance in 2002, if a political party nominated 100 candidates, composed of 60 men and 40 women, the public financial aid would be reduced by $\frac{(60-40)*0.5}{100} = 10\%$

in the Lower House, it suffers from endogeneity issues undermining the interpretation. In particular, it does not disentangle between what stems from constituents' demand or from parliamentarians' interest. Since we could expect that women are elected in more gender-friendly places which also demand more gender equality, estimates of β from Equation 1 would capture both the effect of the legislator's gender and the effect of constituents' preferences, unobservable in the data.

To disentangle between these two effects, I use two different specifications. First, I add fixed-effects at the constituency level to control for time-invariant changes and obtain results interpretable within constituencies. As unobserved invariant heterogeneity is likely to sort male and female legislators in constituencies according to the interest and attitudes of constituents, fixed-effects improve the identification of the impact of female legislator. The second empirical specification is:

$$Y_{ict} = \beta Woman_{ict} + \gamma X_{ict} + \mu_c + \epsilon_{ict} \quad (2)$$

Where i is the subscript for the individual level, c for the constituency level and t for the term. μ_c is a fixed-effect at the level of a constituency. Yet, factors determining simultaneously the election of a woman and the policy decisions taken by the legislator, such as attitudes towards women's issues, could vary over time undermining the causal interpretation of the fixed-effects estimates.

To alleviate this concern, I implement a close election regression discontinuity design by focusing on mixed-gender close races¹¹. During these elections, women run against men and there are cases where a candidate of either sex wins by a narrow margin. In such cases, victory can be considered as random since unpredictable random events affect the electoral outcomes (Lee 2008) and therefore provide exogenous variations for the sex of legislators.

Empirically, the running variable is the vote margin between the first woman and the first man¹². Providing that confounders behave continuously around the victory threshold and that candidates cannot manipulate their score, this strategy causally identifies the

¹¹This method is regularly used in the literature investigating the impact of female politicians. Examples of studies using this method include Ferreira & Gyourko (2014), Bhalotra & Clots-Figueras (2014), Bhalotra et al. (2017) or Brollo & Troiano (2016)

¹²If the woman wins, this variable is thus positive and if the man wins, this variable is negative. For example, if, the first woman obtains 55% of the votes and the first man 45%. Then, the running variable would be equal to 10 percentage points.

impact of female legislators. Formally, the third empirical specification is:

$$Y_{ict} = \alpha + \beta \mathbb{1}\{X_{ict} > 0\} + \gamma f(X_{ict}) + \epsilon_{ict} \quad (3)$$

Where i is the subscript for the individual level and c for the constituency. X_{ict} is the running variable. $\mathbb{1}\{X_{ict} > 0\}$ is a dummy that equals 1 if the running variable is positive, i.e. if a woman won the seat. $f(X_{ict})$ is a polynomial interacted with $\mathbb{1}\{X_{ict} > 0\}$.

This equation is estimated on a narrow margin around the elimination threshold. The reference bandwidth is selected following the approach of [Calonico et al. \(2014\)](#) depending on the vote margin. To probe the robustness of the results, I also estimate the equation using the IK bandwidth ([Imbens & Kalyanaraman 2012](#)) which is often larger than the reference bandwidth¹³. In both specifications, observations are weighted with a rectangular kernel (following [Imbens & Lemieux 2008](#)). I also estimate an additional specification on the entire sample which fits a second order polynomial in the running variable X_{ict} .

4.3 Internal Validity Tests

The validity of the regression discontinuity design relies on two assumptions: absence of manipulation of the vote margin and continuity of potential confounders at the cutoff. In this section, I provide evidence supporting these two assumptions.

Figure [I](#) provides evidence on the absence of manipulation in the running variable around the elimination threshold. Visually, we observe that male candidates win more often against female candidates but, importantly for the identification strategy, there is no evidence of a discontinuity in the density of the vote margin. The McCrary test ([McCrary 2008](#)) does not reject the null hypothesis of no manipulation¹⁴. This was expectable as manipulation would require to either commit electoral frauds which are extremely rare in France or predict election results with extreme accuracy which is unlikely because in these constituencies, there are no polls and because unpredictable events (such as weather condition) on the election day could still happen and change the results.

To test the continuity assumption of potential confounders, I estimate Equation [3](#) using

¹³The bandwidths were selected with the Stata packages *rdrobust* and *rdob*

¹⁴I also ran an additional manipulation test based on [Cattaneo et al. \(2018\)](#) which confirmed that the drop is not significant (p-value = 0.8208)

a set of covariates as outcome variables. If the setting is valid, there should not be any discontinuity in these covariates and the coefficient β related to the election of a woman should not be significant. Three sets of covariates are considered: one representing election characteristics (number of candidates, number of registered voters, abstention rate and invalid vote rate, political inclination of the constituency) and demographic characteristics (total population size, total male population, total female population, share of women in the population, share of working women, share of working age people, unemployment rate), preferences for women (female vote share in T and T-1). As shown in Table II, the continuity assumption seems verified as there is no significant jump at the cutoff for each of these covariates (the relevant graphs are in Figures A3, A4, and A5). Therefore, there is no evidence that the results are driven by any other characteristic than the gender of the legislator elected.

5 Results

5.1 No Gender Differences in Parliamentary Activity

We start this analysis with the study of potential gender differences in overall parliamentary activity. This is necessary to interpret the results of the following sections as if women are as active as men, any differential in topic involvement should be interpreted as specialization and, by extension, at the cost of working on other topics.

Table III provides an answer to this interrogation. The outcome is the number of amendments initiated (first author) in Panel A and a dummy equals to 1 if the legislator has initiated at least one amendment in Panel B. Each column corresponds to a different specification from the least restrictive (column 1) to the most (column 6). There is no clear pattern that emerges except that women seem to be roughly as active as men. In Panel A column 1, we see that women initiate 6 fewer amendments than men. Nevertheless, this result does not hold when constituency fixed-effects are added (column 2) and also disappears in the RDD specification (Column 3,4, 5 and 6) where the point estimates become slightly positive. In Panel B, looking at the extensive margin of amendments' initiation, we see that women seem to be slightly more likely to initiate at least one amendment but the estimates are not significant except in the polynomial specification of column 3. It suggests that there are very limited gender differences, if not none, in amendments' initiation.

5.2 Female Legislators are Twice More Active on Women’s Issues

We now turn to the main outcome which is the initiation of women-related amendments. Figure II displays the main discontinuity graph examining the extensive margin of amendments’ initiation. On the right-side of the vertical dashed line, a woman is elected whereas on the left side, it is a man. We see that when a female legislator is elected by a narrow margin, the probability that she introduces at least one women-related amendment jumps by about 20 percentage points, from 20% to more than 40%.

Table IV confirms the visual impression. The five specifications all point towards the fact that women are more likely to initiate an amendment related to women’s issues. Looking at column 1, in the pooled OLS specification, women are about 18 p.p. more likely to initiate an amendment. This effect is robust to the inclusion of fixed-effects at the constituency level (column 2). Similarly, in columns 3, 4, 5 and 6, we see that women elected in mixed-gender close races are about 23 p.p. more likely to initiate such an amendment as compared to their male counterparts. Scaling this effect to the average probability of men to introduce at least one women-related amendment, we find that women are about 75% (column 1) to 120-160% (column 3,4, 5 and 6) more likely to initiate such amendments.

Besides authoring, legislators can contribute to an amendment by co-sponsoring it. Arguably, this requires less effort than authoring but it is still an indicator of interest. Therefore, I replicate the same analysis for co-sponsorship in Figure A8 and Table A4. Consistent with the analysis of authorship, the RDD, fixed-effects and pooled OLS specifications all point towards the fact that female legislators co-sponsor about twice more amendments than their male counterparts.

Additionally, in Section D, I investigate the heterogeneity of these results. The larger involvement of female legislators on women’s issues holds for amendments that are ultimately accepted and rejected. It also remains relatively stable across age, incumbency status and political inclination. For the latter, it is interesting to observe that women, whether they are right or left-wing are roughly as likely to author women-related amendments but that this is not true for men. The left-wing ones show a higher involvement on these issues, leading to narrower gender differences on the authoring of women-related amendments among left-wing parliamentarians.

To probe the robustness of these findings, I challenged the dictionary used to identify

women’s issues by restricting it to only one word: ”wom” which is far more common in French language than the two other words ”gender” and ”sex”. Using this alternative dictionary, I replicated the main results on authorship in Table A9. They are essentially similar to those found using the ”exhaustive” dictionary. Second, I designed a placebo test that consists in drawing a set of random samples of amendments of equal size to the sample used in the main regression. Using this random sample, I show in Section E.2 that there does not exist any sample of amendments that delivers similar and consistent findings across the five specifications. Third, I checked the robustness of the regression discontinuity specification using the lagged outcome as dependent variable and to alternative bandwidths in respectively Sections E.3 and E.4. Finally, I implemented the so-called local randomization strategy (Cattaneo et al. 2014) for the regression discontinuity in Section E.5 and obtained similar results.

5.3 Extension to Other Topics

This section extends the analysis to the study of other topics besides women’s issues. The purpose is twofold: first, to question whether women’s issues are the topic where female are the most active; second, to investigate potential gender differences on other topics.

I define a list of 27 non-mutually exclusive topics, which stems from the usual government ministries that existed during the 2002-2017 period. To assign each amendment to a topic, I classify the most frequent 10,000 words into each of the 27 categories and remove false matches. The methodological details are discussed in wider details in Section F.1 and descriptive statistics on the prevalence of each topic are displayed in Figure A14.

Figure III displays the relative contribution of female legislators to each topic. Each row corresponds to a topic and each dot to the scaled probability that a woman initiates at least one amendment on the given topic as compared to a man. The results are displayed for the least (Pooled OLS, graph a) and the most restrictive specifications (RDD with the CCT bandwidth, graph b).

First, looking at the first row of both graphs, we see that women’s issues constitute the key topic on which gender differences in contribution are the most striking. Women are about twice more likely to initiate an amendment on women’s issues and there does not exist any other topic where differences are as large.

Second, besides women’s issues, two topics seem to emerge as significantly more associated to female legislators: health and child issues, which are displayed in the second and third rows. Female legislators are respectively about 42% and 48% more likely to initiate at least one amendment related to health and child issues in the RDD sample. Coefficients are nonetheless more robust when it comes to health issues (significant at the 5% and 1% level) than child issues (1% and 10%)¹⁵. The robustness of women’s contribution to health issues is consistent with other results in the literature. For instance, in India, [Bhalotra & Clots-Figueras \(2014\)](#) find a causal link between women’s political representation and public health infrastructure. At the other end of the spectrum, we see that women are almost 50% less likely to initiate at least one amendment related to military issues (significant at the 1% and the 10% level respectively in the pooled OLS and the RDD specifications). There is also suggestive evidence that female legislators are less involved on elections and european issues although the estimations in the RDD sample are imprecise.

While the between topic analysis provides evidence of the absence of gender differences in involvement on the majority of topics, this finding could hide significant heterogeneity stemming from joint-topic involvement. For instance, female legislators may not work more on security issues as a whole but significantly more to the ones related to women’s issues. This joint-topic analysis is all the more important to understand where the larger involvement of female legislators on women’s issues comes from. [Figure A17](#) provides an answer to this question (descriptive statistics on the prevalence of each topic can be found in [Figure A15](#)). We observe that the larger involvement of female legislators on women’s issues come from an increase on amendments related to both women and family, security, europe, health, child, finance, labor, justice, elections and local issues. This strongly suggests that female legislators disseminate women’s issues across a wide range of topics including some that are closely related such as family, child, health or labor and others that are less obviously related.

¹⁵When using the fixed-effects specification, the results are very similar to the pooled OLS specification. They are displayed in [Figure A16](#).

6 Mechanisms: Why Are Female Legislators More Involved on Women’s Issues?

Female legislators are more likely to initiate women-related amendments. The effects are large and women’s issues constitute the topic on which gender differences are the most striking. This section attempts to dive in the mechanisms behind these facts and consider the influence of constituents’ preferences, strategy from political parties and individual interest.

6.1 Ruling Out Constituents’ Preferences

The first potential mechanism that comes to mind is the influence of constituents’ preferences. In a standard median voter model ([Downs 1957](#)), politicians’ policies should converge towards the preferences of the median voter. Therefore, if women are elected in constituencies which are more gender-equal and more demanding on women’s issues, female legislators should produce more amendments on this topic. This would be explained by voters’ preferences and not because of parliamentarians’ own identity and preferences.

While this mechanism is plausible when we consider the entire division of roles in the Parliament, it is less credible when the analysis is restricted to constituencies with variations through time in the identity of the legislator and, even less, when we focus on mixed-gender close races. In this case, [Section 4.3](#) provides evidence that constituents’ preferences for women and demographic characteristics are similar whether a man or a woman is ultimately elected and yet, we observe large differences on the involvement on women’s issues depending on the legislator’s gender¹⁶. This suggests that constituents’ preferences cannot explain the results and paves the way for identity-based policymaking.

¹⁶Arguably, the narrower the close races, the more alike are constituents’ preferences. While in the main regression tables, we report the results using relatively large bandwidths following the CCT approach, one could wonder how the results vary when we move towards the threshold. To answer this interrogation, two strategies are implemented. First, [Figure A10](#) shows that the impact of the sex of legislators is stable as we restrict the sample to narrower close races. Only the precision of the estimates seems to diminish, alleviating concerns on the potential effects of the bandwidth size. Second, [Section E.5](#) implements the so-called randomization strategy and narrows the sample to bandwidths where observables are balanced on both sides of the threshold. This leads to a window within 3 points in which women are still significantly more likely to initiate women-related amendments. The effect is of similar magnitude as the ones found previously.

6.2 What Lies Behind Identity: Individual Interest or Political Parties' Strategy?

Since constituents' preferences cannot explain the results, it means that the election of a female legislator leads to a greater contribution on women's issues because of her sex. Two mechanisms could explain this fact. On one hand, female legislators could be intrinsically more interested in women's issues and eager to contribute on this topic. On the other hand, political parties or groups of legislators may behave strategically and anticipate that women-related policies carried by women appear as more credible and therefore more likely to pass. To disentangle individual interest from political parties' strategy, I restrict the analysis to cases where the amendment cannot stem from political parties' will.

First Case: Sole-Authored Amendments. The first case exploits the existence of sole-authored amendments. By definition, the involvement of legislators on such amendments cannot be explained by a desire to add political weight and increase the success rate of an amendment since there is only one author and no co-sponsors. Sole-authored amendments are also unlikely to originate from political parties' will. Three elements provide supporting evidence for this claim. First, if this assertion is true, we should observe relatively more sole-authored amendments from legislators whose political party is majoritarian in the Parliament. This is because bills would reflect the views of the party and not those of individual legislators (especially because most bills originate from the government constituted of higher-ranked party officials). Quantitative evidence support this claim. During the period 2002-2017, the share of sole-authored amendments was about 60% for legislators from majoritarian parties and went down to 35% in periods of minority. Second, the guidelines indicating how to write an amendment in the Parliament clearly state that the more co-sponsors an amendment has, the more likely it is going to pass¹⁷. Therefore, the existence of sole-authored amendments cannot be explained by positive expectations on the success rate. Third, qualitative evidence from interviews with several parliamentary assistants working in the Lower House also confirm this classification¹⁸.

¹⁷They state that "In the case of the co-sponsorship of an amendment [...] by members of the same political group, the political weight of the amendment will be precisely evaluated by the Lower House and by the government. Sometimes, the amendment will mention that the author carries the amendment in the name of that political group, which obviously add political weight to the amendment". Source: Rédiger la Loi. Guide de rédaction des propositions de loi et des amendements.

¹⁸I interrogated 6 parliamentary assistants who all pointed towards sole-authored amendments as a way to proxy the individual interest of legislators. They also agreed on the fact that amendments backed by the entire group often originate directly from the political party.

Second Case: Rejected Amendments from the Majority. To investigate further the possibility that women are intrinsically more interested in women’s issues, the second case exploits the outcome of amendments along with the political compositions of the Parliament. Over the period 2002-2017, two parties have successively been majoritarian: the right-wing from 2002 to 2012 (*UMP*) and the left-wing from 2012 to 2017 (*PS*). Practically, being majoritarian in the Parliament means that the party can pass any bill and amendment. It also means that legislators have less incentives to amend existing bills since they should already reflect parties’ interest, as pointed above. Quantitative evidence support this claim as about 27% of majoritarian legislators’ amendments are accepted against 7% for those in minority. Legislators in the majority also initiate on average 50% less amendments. Given these low incentives to amend and the high probability that an amendment passes, rejected amendments from majoritarian legislators cannot but stem from their individual interest. Ruling out the possibility of cognitive biases from political parties, it is difficult to conceive cases where a party would both ask a legislator to produce an amendment and at the same time ask to vote against it.

Therefore, I investigate gender differences on the samples of women-related amendments that are (i) sole-authored, (ii) from a majoritarian legislator and rejected by the majority and (iii) both sole-authored and from a majoritarian legislator and rejected by the majority. Figure IV displays the results. The vertical axis represents the scaled effect and the horizontal axis represents the three cases described above plus the initial case without restriction on the origin or the outcome of the amendment. Looking at the Pooled OLS specification, we observe that as we move from the initial case to the sole-authored amendments from a majoritarian legislator and ultimately rejected by the majority, female legislators are increasingly likely to initiate women-related amendments when the influence of the party declines from about 100% for all amendments to 300% for sole-authored amendments originating from majoritarian legislators and ultimately rejected by the majority. Turning to the fixed-effects and the RDD specifications, we observe a similar pattern: point estimates increase but, because of the reduced sample sizes, the standard errors also increase and it is more difficult to conclude on the relative size of the effects. Nevertheless, it seems clear that the effects do not decrease in the three specifications, suggesting that the results cannot be entirely explained by political parties’ influence but must stem from individual interest.

6.3 Additional Evidence from Legislators' Discretionary Funds

To complement the previous results, we exploit an institutional feature of the 2012-2017 term. During this term, all the legislators were granted a discretionary fund of 130,000 euros per year¹⁹. Legislators were free to use the funds as they wanted (except for private gain). In practice, they were used to finance associations and local projects. Therefore, the analysis of the destination of these funds is likely to represent the individual interest of legislators. Another important feature of this data for the analysis is that every expenditure had to be classified according to a pre-defined nomenclature. This nomenclature included, among others, one category entitled equality between men and women, which is likely to be the closest to women's issues.

I exploit this data to build a dummy variable equal to 1 if the legislator has funded associations or projects related to women's issues. Using this outcome, I replicate the same analysis as before. Figure V displays the main graph related to legislators elected in a mixed-gender close-race setting. We observe that when a female legislator is elected by a narrow margin, the probability that she spends money on women's issues jumps starkly by about 30-40 p.p. and reach 50%. As we can see from Table V, this jump is significant at the 1% level. It holds across the entire sample of legislators controlling for individual and constituencies' characteristics (column 1) and in the four usual specifications used for the RDD (column 2,3, 4 and 5). Scaling this jump to the average for male legislators, it represents an increase in the probability to spend money on women's issues that range between 150 and 300%.

It is interesting to compare this scaled effect to the one obtained using amendments. Indeed, with expenditures data from personal funds, we are likely to observe individual interest of legislators. Female legislators seem to be at least 150% more likely than men to spend money on women's issues. This effect is larger than the one obtained on the entire sample of amendments and close to the one obtained on rejected amendments. Therefore, this comforts the interpretation of rejected amendments in terms of individual interest.

¹⁹During the previous terms, these funds were only available to a subset of legislators and were unknown to most of them and to the public. Following a legal action in 2011, it was decided that clear rules would be defined to regulate the use and the attribution of these funds. In 2017, because the use of these funds was widely criticized, it was decided to end this practice.

7 Extension - Exploiting a Natural Experiment from the Upper House

In the Lower House, female legislators contribute more to women’s issues because of their sex. This finding raises two questions: does it hold when we consider only women who would have entered in politics with the quota? Does a higher share of female politicians lead to a larger prevalence of women’s issues at the macro level? This section brings answers to these two interrogations by exploiting a natural experiment caused by the introduction of a gender quota in the French Upper House.

7.1 Data and Empirical Design

7.1.1 Election System for the Upper House

Electoral System. Since 2008, elections for the Upper House occur every 6 years and aim at electing 348 representatives in 103 constituencies. Half of the Senate is renewed every 3 years. Senators are elected by indirect universal suffrage where only locally elected politicians can vote.

Before 2008, two main changes to the election system occurred: senators were elected for 9 years and the Upper House was renewed every 3 years. Therefore, the 2001 elections were the last ones to elect all the senators for 9 years. In 2004, half of the elected senators were elected for 9 years and the other half for 6 years²⁰. Finally, starting in 2008, all the senators were elected for 6 years. Figure A19 schematizes this election schedule.

Most of the members of the Upper House are elected from multi-member constituencies and depending on the number of representatives elected, two election systems coexist. In constituencies where strictly less than 4 candidates are elected (48% of constituencies), the election system follows a two-round plurality voting round system. It is similar to the election system of the Lower House except that for some constituencies 2 or 3 representatives are elected. In constituencies where strictly more than 3 candidates are elected (52% of constituencies), the election system follows a proportional representation where votes are counted at the level of a list. Seats are attributed following a proportional rule where each candidate has a pre-determined rank of election on a list and when the number of votes for a list increases, so does the number of elected candidates.

²⁰The divide was assumed to be random

Gender Quotas. In 2000, a law was voted which imposed that constituencies where the election system followed proportional representation, i.e. constituencies which elect strictly more than 3 candidates, had to comply with a gender quota. It imposed that, for each list, there had to be a strict alternation between men and women. If the first on a list was a man, the second had to be a woman and the third a man, etc. For constituencies which elect strictly less than 4 candidates, this law made no difference. Furthermore, due to the staggered schedule of the election system of the Upper House, a third of the constituencies had to comply with the quota for the first time in 2001, another third in 2004 and the last third in 2008.

7.1.2 Data

Parliamentarian activity. The data on the amendments from 2001 onwards for the Upper House can be downloaded on the official website of the Senate²¹. Similarly to the Lower House, it contains for each amendment, the bill targeted, the content as well as the oral presentation motivating its adoption and the identity of the initiator and of all the co-sponsors.

Election Results. I complemented this data with the election results for the years 1995, 1998, 2001, 2004, 2008, 2011 and 2014. This supplementary data is used to identify parliamentarians that entered the Senate through regular elections (and not by replacement).

7.1.3 Methods: Difference-In-Differences

I take advantage of a gender quota introduced in the first election after 2000. As a third of the Upper House is renewed every 3 years, three series are treated at different years: 2001, 2004 and 2008. Since the data starts in 2001, I focus on the two series renewed in 2004 and 2008 for which it is possible to have information prior to the introduction of gender quotas.

Using these two series, I implement a difference-in-differences strategy comparing authorship of women-related amendments before and after the implementation of policy between constituencies targeted by the quota and those that are not. I directly relate the

²¹<http://data.senat.fr/donnees/>

introduction of women due to the quota to the production of amendments using an instrumental variable strategy. Formally, the first stage is :

$$NWomen_{ct} = \alpha_0 + \alpha_1 Treatment_c + \alpha_2 Post_t + \delta Treatment_c * Post_t + \epsilon_{ct} \quad (4)$$

The second-stage is:

$$Y_{ct} = \gamma_0 + \beta NWomen_{ct} + \gamma_1 Treatment_c + \gamma_2 Post_t + \epsilon_{ct} \quad (5)$$

where c is the subscript for the constituency level and t for time. $NWomen_{ct}$ corresponds to the number of women elected in a constituency. $Treatment_c$ is a dummy that equals 1 if a constituency has to comply with the quota, i.e. elects strictly more than 3 individuals after 2000. $Post_t$ is a dummy that equals 1 if the election year is after the introduction of the quota. β is the key coefficient representing the wald estimates. It measures the change in the prevalence of women's issues due to the election of one additional woman in the constituency.

7.1.4 Descriptive Statistics: Upper House Activity in Comparison With the Lower House

Compared to the Lower House, the activity in the Upper House is unambiguously lower. On the period 2001-2017, Upper House parliamentarians have produced 109,497 amendments, about twice less than their counterparts from the Lower House. Table A18 provides descriptive statistics at the constituency level. On average, constituencies elect 3 candidates, out of which 0.53 are women (12%) and co-sponsor on average 135 amendments per year. In the Lower House, each parliamentarian co-sponsors about 212 amendments per year, which is nearly 5 times what a single senator does.

Regarding the prevalence of women's issues, the dictionary based method has classified 2,064 Upper House amendments as related to women's issues (1.88%). As for the Lower House sample, the most frequent bigrams and trigrams often refer to gender equality. In Table A19, we see for instance that the second most frequent trigram is "equality women men". At the constituency level, roughly 21 amendments are initiated per year,

out of which about 0.3 are related to gender. Therefore, about 60% of constituencies have ever initiated an amendment related to women, and, considering all topics, they have all initiated at least one amendment.

7.2 Results

7.2.1 First Stage - Impact of the Quota on the Election of Women

We begin by analyzing the impact of the gender quota voted in 2000 and introduced in the first election after this year.

Figure VI displays the evolution of the number of women in constituencies targeted and untargeted by the quota. The vertical red-dashed line represents the introduction of the quota. On its right side, treated constituencies have to comply with the quota whereas on its left side, both types of constituencies are untargeted. Looking at the evolution of the number of women in both types of constituencies, we first see that the number of women elected was stable and following a common trend before the introduction of the quota. It was slightly higher in treated constituencies perhaps because of the proportional election system operating only therein. After the introduction of the quota, the number of women elected in treated constituencies almost triples and is slightly below 2. In the other type of constituencies, there is a slight increase yet nothing comparable as the number of women elected per constituency remains below 0.5.

Table VI confirms this visual impression. The two columns use two different specifications pooling the period after the introduction of the quota. Looking at the coefficient related to $Quota * PostPool$, we see that the quota has increased the number of women elected per constituency by about 1.25. In column 2, we see that this increase remained stable for constituencies where a second election took place within the period studied²². The F-statistics are respectively of 35.7 and 22.7 for the specifications used in columns 1 and 2, leaving aside concerns about a potential weak instrument.

²²Alternatively, in the Appendix Table A23, alternative measures of the political representation of women are considered (share of women and at least one woman per constituency). The quota had an unambiguous positive impact on all these measures.

7.2.2 Gender Quotas Lead to an Increase of the Prevalence of Women’s Issues

We turn to the analysis of authorship of women-related amendments. To ease the interpretation and the comparability with the findings obtained in the Lower House, the main explanatory variable is the number of women in a constituency. It allows to interpret the coefficients as the consequence of one additional elected woman.

The impact of the quota is clearly consistent with the findings from the Lower House. In Table VII, looking at Panel A, we see that constituencies with one additional elected woman unambiguously produce more amendments related to women’s issues. One additional woman leads to an increase of 0.17 amendments per year (column 1), a 1 p.p. increase in the share of women-related amendments (column 2), and a 12 p.p. jump in the probability to produce at least one amendment on this topic (column 3). As opposed to the Lower House results, estimations are more precise when using the share of amendments instead of studying the extensive margin. This is because the Upper House constituencies are held by multiple members. For each of these members, it is more relevant to study the extensive margin but for a group, or in this case a constituency, it is preferable to use a continuous measure such as the count or the share of amendments.

Although OLS estimates are informative, they suffer from endogeneity biases which undermine the causal interpretation. For this reason, Panel B displays Wald estimates where the number of women in a constituency is instrumented by the variation in the number of women due to the gender quota introduced in constituencies with more than 4 elected representatives. Results remain similar and slightly larger in terms of magnitude. We observe that a constituency with one additional woman produces 0.39 additional amendment (column 1), increase by 2 p.p. the share of amendments initiated (column 2) and is 28 p.p. more likely to initiate at least one amendment (column 3), the coefficients being significant at the 5% level. Looking at the extensive margin studied in column 3, it is striking that the magnitude is very similar to what was found in the Lower House. Women were on average 23 p.p. more likely to initiate at least one amendment related to women’s issues in the Lower House and this figure is about 28 p.p., i.e. indistinguishable from the one found in the Upper House.

To probe the robustness of the results, I implemented the same robustness tests as for the Lower House findings, namely restricting the dictionary of women-related terms to the word ”wom” and implementing placebo tests using random samples of amendments. Results are

discussed in Section [H.4](#). The restricted definition of gender-related amendments yields essentially similar findings (see Table [A26](#)). As for the placebo tests, results are displayed in Figures [A21](#). In a nutshell, drawing 1000 random samples of amendments, none delivers similar findings. This provides supporting evidence of the existence of homogeneity and relevance in the sample of women-related amendments selected using the dictionary-based approach.

8 Conclusion

This article has combined quasi-experimental variations and text analysis to investigate the causal impact of female legislators on women-related policies. In the Lower House, using a regression discontinuity restricted to mixed-gender close races, I found that women are twice more likely to initiate amendments related to women’s issues than their male counterparts. Classifying amendments into 27 topics, I established that women’s issues constitute the topic with the largest gender differences in contribution. Female legislators are also more active on health and child issues whereas men contribute more to military issues. Investigating the mechanisms behind these findings, I showed that constituents’ preferences and political parties’ strategies cannot entirely explain these facts. Female legislators seem to be intrinsically more interested in contributing to women’s issues which brings support for citizen candidate models. To provide evidence on the impact of gender quotas and to extrapolate on the potential macro effect of more women in politics, I used a difference-in-differences strategy exploiting the introduction of a quota in the Upper House only in constituencies that elect more than 4 senators. I found that constituencies which had to comply with the quota doubled the share of amendments related to women’s issues they initiate.

Methodologically, the main contribution of this paper is to exploit text data from the Parliament to identify women-related policies along with quasi-experimental variations to randomize legislators’ gender. Exploiting text data allows to overcome limitations from spendings or public good data which rarely include women-related categories. It is worth noting that data from Parliaments is often publicly and freely accessible and as such further research could thus extend this methodology to other countries and settings. Text analysis methods could also be used beyond the question of gender to test the relevance of different dimensions of politicians’ identity.

From a public policy perspective, these results have two consequences. First, they directly contribute to the discussion on the policy relevance and consequences of gender quotas. They imply that the introduction of gender quotas could lead to a shift in policymaking taking increasingly into account the interests of women in the population. Second, beyond gender, these findings question more generally the consequences of imbalances between the characteristics of politicians and those of the people they represent. It is questionable whether these imbalances matter for policymaking and whether correcting them would lead to public policies better encompassing the interests of groups of people underrepresented in politics.

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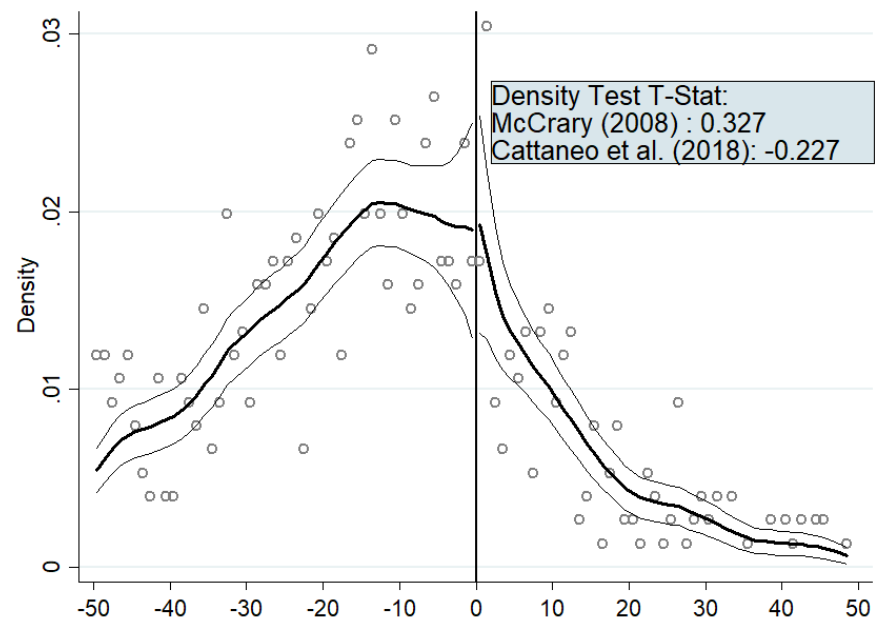
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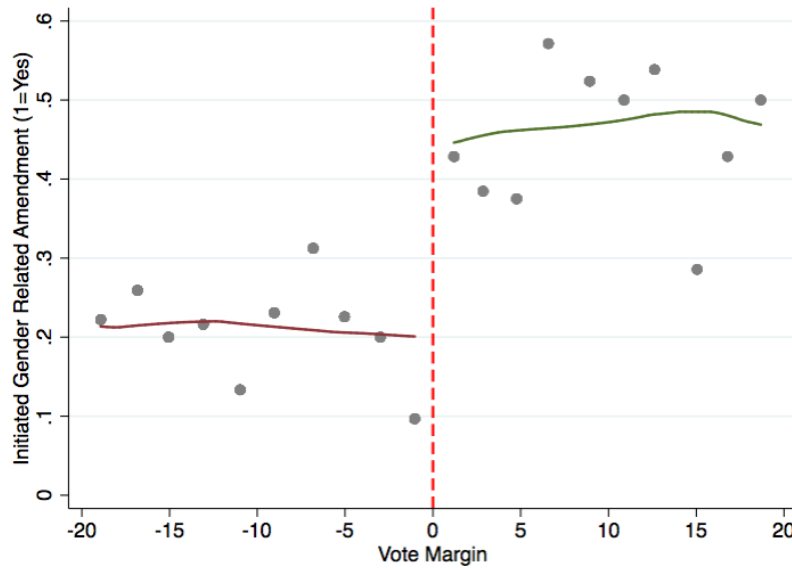
Figures

Figure I: Manipulation Test



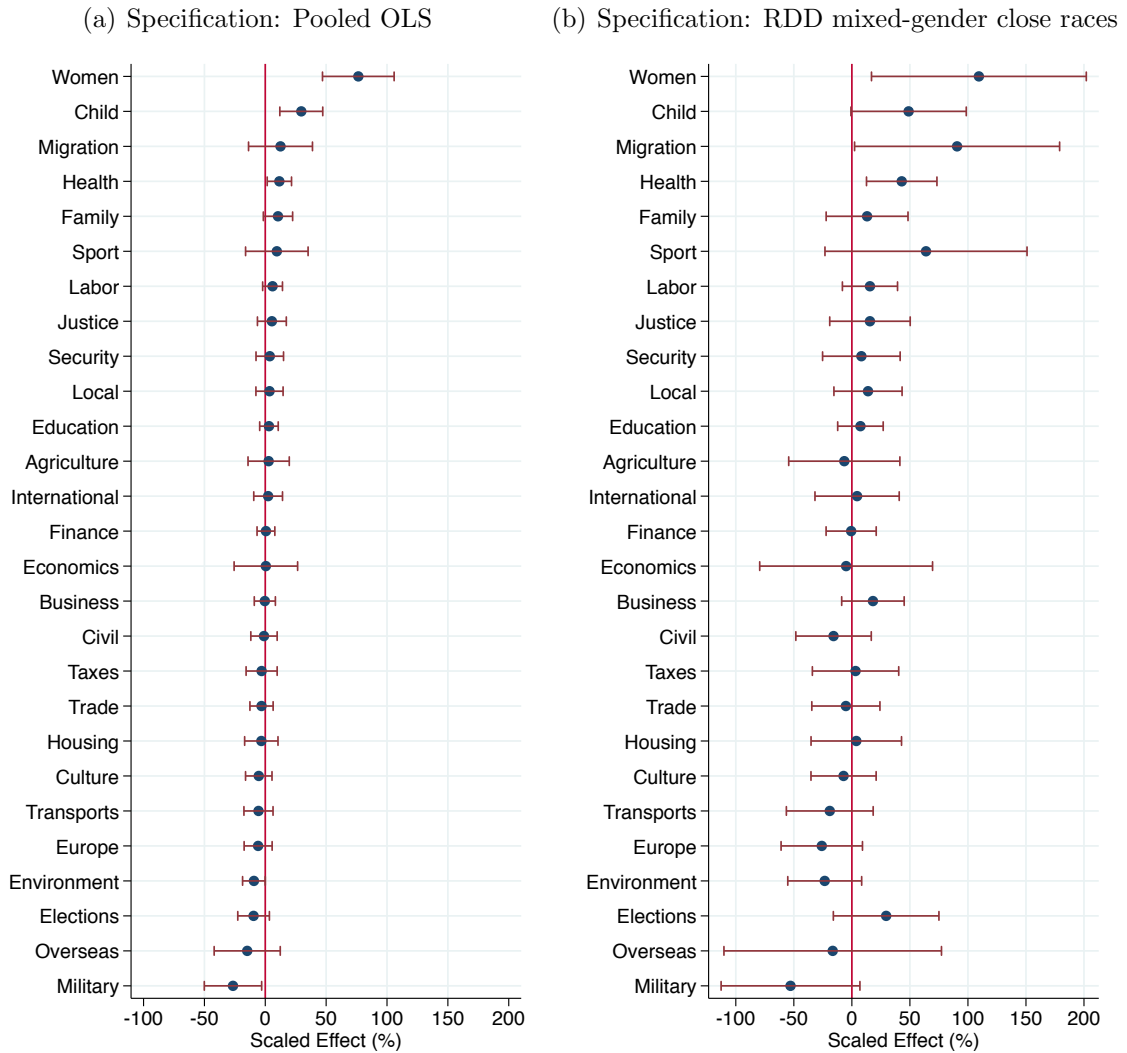
Notes: the data comes from the 2002, 2007 and 2012 elections for the French Lower House.

Figure II: Legislator's Gender and Authorship of Women-related Amendments



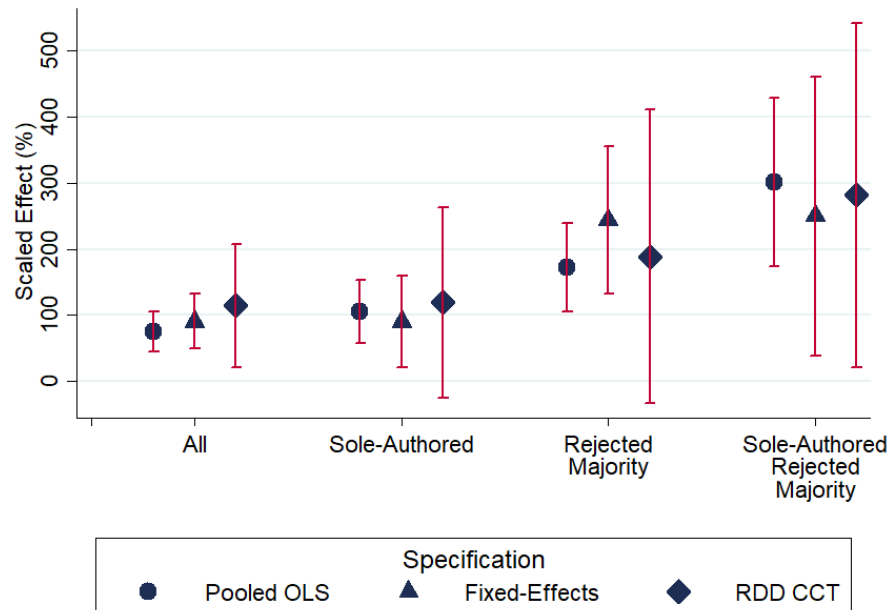
Notes: the data comes from the French Lower House during the period 2002-2017. The outcome is a dummy that equals 1 if the legislator initiates at least one women-related amendment. The x-axis represents the vote margin between the first woman and the first man in a mixed-gender election. On the right side of the vertical dashed line, a woman is elected whereas on the left it is a man. The solid lines correspond to a lowess fit of the bin-averages. There are 10 bins on each side of the cutoff.

Figure III: Extension to Other Topics: Authorship Analysis



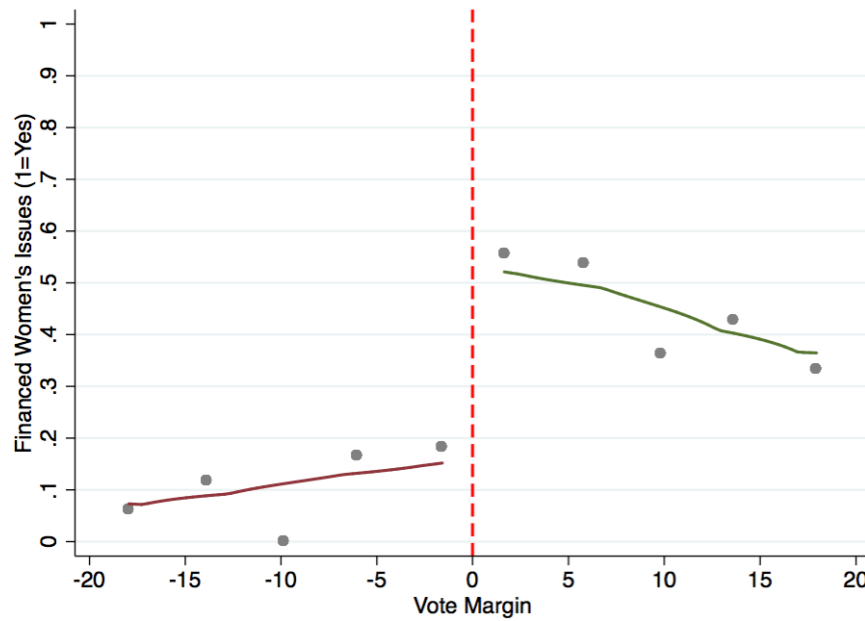
Notes: the data comes from the French Lower House during the period 2002-2017. Each row corresponds to a topic. The outcome is a dummy that equals 1 if the legislator initiates at least one amendment on the topic considered. Each dot represents the coefficient associated to the variable *Woman* divided by the average of male legislators (scaled effect). Confidence intervals are represented at the 95% level. Graph (a) and (b) respectively represent estimates from the pooled OLS specification and the RDD mixed-gender close race with the CCT bandwidth.

Figure IV: Investigating the Individual Interest Channel



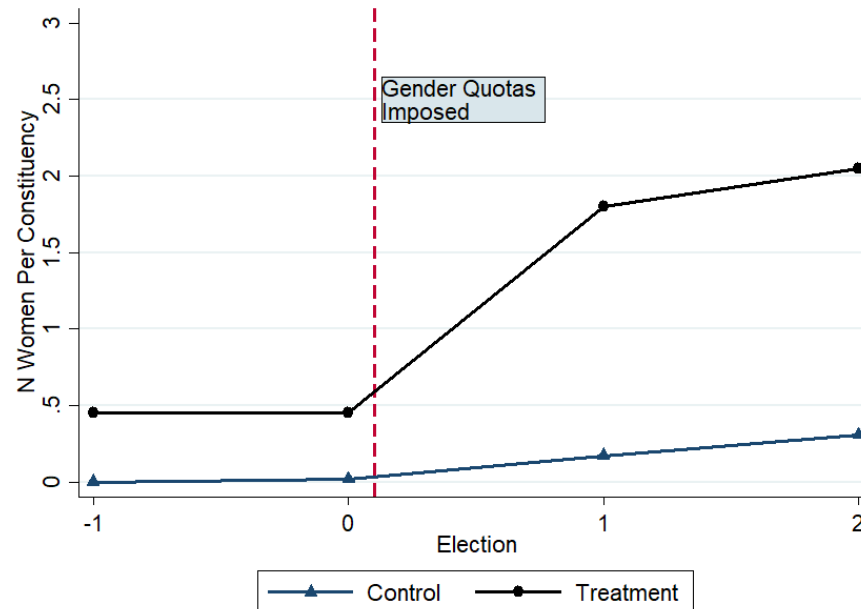
Notes: the data comes from the French Lower House during the period 2002-2017. The y-axis represents the coefficient associated to the variable *Woman* divided by the average of male legislators (scaled effect) in a regression where the outcome is a dummy that equals 1 if the legislator initiates at least one women-related amendment. Confidence intervals are represented at the 95% level. Sole-authored designates the sample restricted to sole-authored amendments. Rejected majority designates the sample restricted to amendments ultimately rejected whose author is from the majority.

Figure V: Legislator's Use of Discretionary Funds for Women's Issues



Notes: the data comes from the 2012 elections for the French Lower House. The outcome is a dummy that equals 1 if the legislator has funded associations or projects related to women's issues. The x-axis represents the vote margin between the first woman and the first man in a mixed-gender election. On the right side of the vertical dashed line, a woman is elected whereas on the left it is a man. The solid lines correspond to a lowess fit of the bin-averages. There are 5 bins on each side of the cutoff.

Figure VI: First-Stage - Impact of the Gender Quota on the Number of Female Senators in the Upper House



Notes: the data comes from the 1988-2017 French Upper House. The y-axis represents the average number of women elected per constituency. The x-axis represents the election dates. Circles and triangles respectively designate the average number of women per constituency for those that have to comply with the quota and those that do not need to. The vertical red-dashed line corresponds to the time where gender quotas were introduced.

Tables

Table I: Most Frequent Trigrams and Bigrams in the Sample of Amendments Related to Women's Issues

(1)	(2)	(3)	(4)	(5)	(6)
<i>Trigrams</i>			<i>Bigrams</i>		
Rank	N	Keywords	N	Keywords	
1	166	equality wom men	425	wom men	
2	63	violenc done wom	192	men wom	
3	47	worker part time	187	part time	
4	45	high council equality	166	equality wom	
5	36	equality men wom	94	equality professional	

Notes: the data comes from all the amendments produced produced in the Lower House during the period 2002-2017. It is restricted to amendments identified as related to women's issues with a dictionary-based method. The word "wom" is the stem of words such as women or woman.

Table II: Testing the Continuity Assumption

	(1) Discontinuity Estimate	(2) Bandwidth Restriction	(3) N Observations
N Registered Voters	-11.855 (3417.295)	12.91	315
Abstention Rate	-.425 (1.172)	12	292
Invalid Vote Rate	-.082 (.132)	14.61	352
Total Population	230.221 (4800.727)	18.13	414
Population Male	-332.875 (2217.747)	19.13	434
Population Female	33.832 (2534.476)	16.6	393
Share Women Population	.002 (.002)	13.28	319
Share Working Women	-.008 (.013)	20.5	459
Share Working Age Population	.004 (.008)	12.43	299
Unemployment Rate	.004 (.006)	13.54	325
Female Vote Share	1.171 (1.297)	8.61	212
Female Vote Share T-1	-2.258 (7.974)	9.46	230
Left Wing Constituency	-.046 (.114)	9.82	239

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. The data comes from the French Lower House during the period 2002-2017. Standard errors clustered at the constituency level are given in parentheses. Each line corresponds to one dependent variable. Column 1 displays the discontinuity estimates, column 2 the bandwidth restrictions and column 3 the number of observations. The model fits a local linear regression around the cutoff that allows for a break in the slope at the cutoff. The bandwidth is computed following the CCT approach.

Table III: Are there Gender Differences in Overall Parliamentary Activity - Lower House

Specification	(1) Pooled OLS	(2) Fixed Effects	(3) Poly	(4) <i>Regression Discontinuity</i> LLR IK	(5) LLR CCT	(6) LLR CCT/2
<i>Panel A: N Authored</i>						
Woman (1=Yes)	-4.99 (3.24)	-8.35 (5.67)	6.02 (6.11)	-2.06 (7.77)	0.26 (8.20)	9.10 (10.66)
Bandwidth Restriction			None	22.8	12.1	6.0
Observations	1663	1663	791	484	293	154
Constituencies	597	597	469	328	221	136
<i>Panel B: At Least One Authored</i>						
Woman (1=Yes)	0.01 (0.02)	0.04 (0.04)	0.09** (0.04)	0.08 (0.07)	0.07 (0.08)	0.09 (0.11)
Bandwidth Restriction			None	16.8	11.7	5.8
Observations	1663	1663	791	400	283	147
Constituencies	597	597	469	281	216	129

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. The data comes from the French Lower House during the period 2002-2017. Standard errors clustered at the constituency level are given in parentheses. The dependent variable in Panel A is the number of amendments authored and a dummy equals to 1 if the legislator authors at least one amendment in Panel B. Controls in specifications of column 1 and 2 include the age at the beginning of the term, the political inclination (left or right-wing), the incumbency status, the margin of victory at the election, the female participation rate to the labor market in the constituency and term fixed-effects. Controls in column 2 also include constituency fixed-effects. Controls in column 3 include a second order polynomial in the running variable. Specifications of columns 4, 5 and 6 fit a local linear regression around the cutoff that allows for a break in the slope at the cutoff using respectively the IK, the CCT and half the CCT bandwidth. The "Control Mean" line designates the outcome mean for the sample of male legislators. The "Scaled Effect" line designates the impact of female legislators scaled to the mean of male legislators (Treatment Effect/Control Mean).

Table IV: Authorship of Women-Related Amendments - Lower House

<i>Dep. Var.: At Least one Amendment Initiated (1=Yes)</i>						
Specification	(1) Pooled OLS	(2) Fixed Effects	(3) Poly	(4) <i>Regression Discontinuity</i> LLR IK	(5) LLR CCT	(6) LLR CCT/2
Woman (1=Yes)	0.17*** (0.03)	0.20*** (0.05)	0.25*** (0.06)	0.25*** (0.08)	0.22** (0.09)	0.32** (0.13)
Control Mean	0.22	0.22	0.19	0.21	0.20	0.19
Scaled Effect	76.4	89.9	128.0	120.0	109.5	166.5
Bandwidth Restriction			None	20.1	14.1	7.1
Observations	1663	1663	791	452	341	183
Constituencies	597	597	469	307	249	156

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. The data comes from the French Lower House during the period 2002-2017. Standard errors clustered at the constituency level are given in parentheses. Controls in specifications of column 1 and 2 include the age at the beginning of the term, the political inclination (left or right-wing), the incumbency status, the margin of victory at the election, the female participation rate to the labor market in the constituency and term fixed-effects. Controls in column 2 also include constituency fixed-effects. Controls in column 3 include a second order polynomial in the running variable. Specifications of columns 4, 5 and 6 fit a local linear regression around the cutoff that allows for a break in the slope at the cutoff using respectively the IK, the CCT and half the CCT bandwidth. The "Control Mean" line designates the outcome mean for the sample of male legislators. The "Scaled Effect" line designates the impact of female legislators scaled to the mean of male legislators (Treatment Effect/Control Mean).

Table V: Spending on Women's Issues - Lower House

<i>Dep. Var.: Legislator Has Funded Women's Issues (1=Yes)</i>					
Specification	(1) Pooled OLS	(2) Poly	(3) <i>Regression Discontinuity</i> LLR IK	(4) LLR CCT	(5) LLR CCT/2
Woman (1=Yes)	0.29*** (0.05)	0.35*** (0.10)	0.41*** (0.14)	0.39*** (0.15)	0.39* (0.19)
Control Mean	0.18	0.16	0.12	0.13	0.13
Scaled Effect	154.8	215.6	328.7	299.4	297.4
Bandwidth Restriction		None	16.5	15.9	7.9
Observations	540	244	131	126	77
Constituencies	540	244	131	126	77

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. The data comes from the French Lower House during the period 2012-2017. Controls in specifications of column 1 include the age at the beginning of the term, the political inclination (left or right-wing), the incumbency status, the margin of victory at the election, the female participation rate to the labor market in the constituency. Controls in column 2 include a second order polynomial in the running variable. Specifications of columns 3, 4 and 5 fit a local linear regression around the cutoff that allows for a break in the slope at the cutoff using respectively the IK, the CCT and half the CCT bandwidth. The "Control Mean" line designates the outcome mean for the sample of male legislators. The "Scaled Effect" line designates the impact of female legislators scaled to the mean of male legislators (Treatment Effect/Control Mean).

Table VI: First Stage Results: Impact of Gender Quotas on the Number of Female Senators
- Upper House

<i>Dep. Var.: N Women Per Constituency</i>		
	(1)	(2)
Quota*Post Pool	1.23*** (0.24)	
Post Pool	0.22*** (0.05)	
Quota*Post 1		1.20*** (0.25)
Quota*Post 2		1.26*** (0.26)
Post 1		0.15*** (0.05)
Post 2		0.29*** (0.07)
Quota	0.48*** (0.15)	0.48*** (0.15)
F-Statistic	35.7	22.7
Observations	216	216
Constituencies	72	72

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. The data comes from the 2001-2017 French Upper House. Standard errors clustered at the constituency level are given in parentheses.

Table VII: Impact of Gender Quotas on Initiation of Women-Related Amendments - OLS and Wald Estimates in the Upper House

Dependent Variable	(1) N	(2) Share	(3) At least One (1=Yes)
<i>Panel A: OLS Estimates</i>			
N Women	0.17* (0.08)	0.01*** (0.00)	0.12*** (0.04)
Observations	216	216	216
Constituencies	72	72	72
<i>Panel B: Wald Estimates</i>			
N Women	0.39** (0.16)	0.02** (0.01)	0.28** (0.13)
Observations	216	216	216
Constituencies	72	72	72

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. The data comes French Upper House during the period 2001-2017. Standard errors clustered at the constituency level are given in parentheses. Panel A displays OLS estimates and Panel B Wald estimates.

Appendix. For Online Publication.

A Institutional Setting

Table A1: Number and Share of Bills Adopted by Origin

Term	Total Number	Government	Representatives
1973 - 1978	562	486 (86.47%)	76 (13.53%)
1978 - 1981	259	229 (88.41%)	30 (11.59%)
1981 - 1986	524	499 (95.22%)	25 (4.78%)
1986 - 1988	176	143 (81.03%)	33 (18.97%)
1988 - 1993	428	395 (92.26%)	33 (7.04%)
1993 - 1997	392	343 (87.5%)	49 (12.5%)
1997 - 2002	432	351 (81.25%)	81 (18.75%)
2002 - 2007	290	212 (73.1%)	66 (26.9%)
2007 - 2012	404	328 (81.2%)	76 (18.8%)
2012 - 2017	449	339 (75.5%)	110 (24.5%)

Notes: the data comes from the Lower House during the period 1973-2017.

Table A2: Number and Share of Amendments Adopted by Origin

Term	Total Number	Government	Representatives
2002 - 2007	2692	352 (13.1%)	2340 (86.9%)
2007 - 2012	12719	2528 (19.9%)	10191 (80.1%)
2012 - 2017	38660	2591 (6.7%)	36069 (93.3%)

Notes: the data comes from the Lower House during the period 2002-2017.

B Data

B.1 An Example of Amendment

Figure A1 shows how an amendment is displayed on the Lower House website. The page contains several information such as the title of the bill on the top, the identity of the author and co-sponsors in the middle and the content along with the oral presentation motivating the adoption of the amendment in the bottom.

Figure A1: Example of Amendment on the Lower House website

ART. 18 BIS N°58

ASSEMBLÉE NATIONALE
23 juin 2014

EGALITÉ ENTRE LES FEMMES ET LES HOMMES - (N° 2043) ← Bill's title

Commission	
Gouvernement	

REJETÉ

AMENDEMENT N°58

présenté par
Mme Nachury, Mme Guégot et Mme Zimmermann ← Author and Co-sponsors

ARTICLE 18 BIS ← Content

Après l'alinéa 4, insérer les deux alinéas suivants :

« 4° Le deuxième alinéa de l'article L. 5211-10 est complété par une phrase ainsi rédigée :

« L'écart entre le nombre des vice-présidents de chaque sexe des établissements publics de coopération intercommunale à fiscalité propre et des métropoles ne peut être supérieur à un. ».

EXPOSÉ SOMMAIRE ← Presentation

L'égalité de représentation entre les femmes et les hommes doit être envisagée pour l'intercommunalité également. C'est aussi un amendement de cohérence avec l'obligation de parité des exécutifs départementaux introduite par la loi du 17 mai 2013. Si l'objectif du présent projet de loi est bien de mettre en oeuvre une politique pour l'égalité entre les femmes et les hommes, il est nécessaire de ne pas « rester au milieu du gué » et de prévoir le respect de ce principe dans et par l'État, les collectivités territoriales, ainsi que leurs établissements publics.

Notes: this figure comes from the Lower House website at <http://www.assemblee-nationale.fr/14/amendements/2043/AN/58.asp>.

This amendment is related to the bill entitled *Equality between Women and Men*. Its content consists in adding the following sentence to the bill: "the gap between the number of vice-presidents of each sex in a Public Institution of Intercommunal Cooperation²³ cannot be higher than one".

The motivation is that: *The equality of representation between women and men should be considered at the intercommunal level. This is also an amendment of coherence with the obligation of parity among departmental executives introduced by the law of 17th may 2013. If the objective of the present bill is really to set a public policy in favor of equality between*

²³These institutions consist of gathering of small municipalities which coordinate their public policies and set similar level of tax.

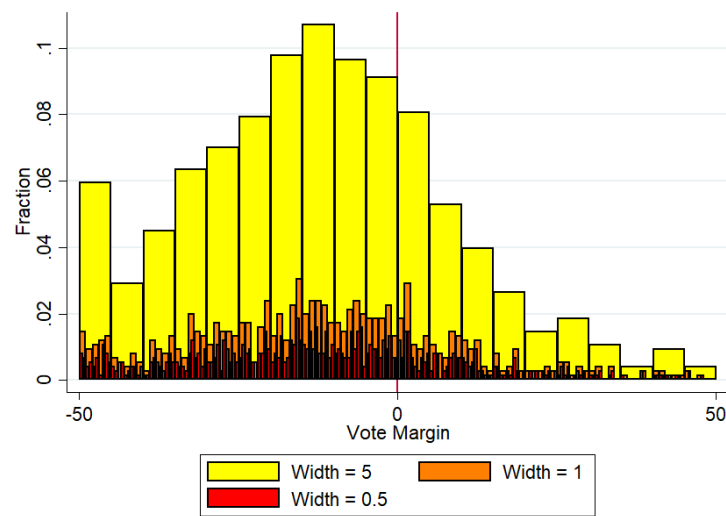
women and men, it is necessary to finish what was started and to provide the respect of this principle in and by the State, the local authorities as well as the public organisms.

C Empirical Strategy

C.1 Internal Validity Tests for the Regression Discontinuity Design

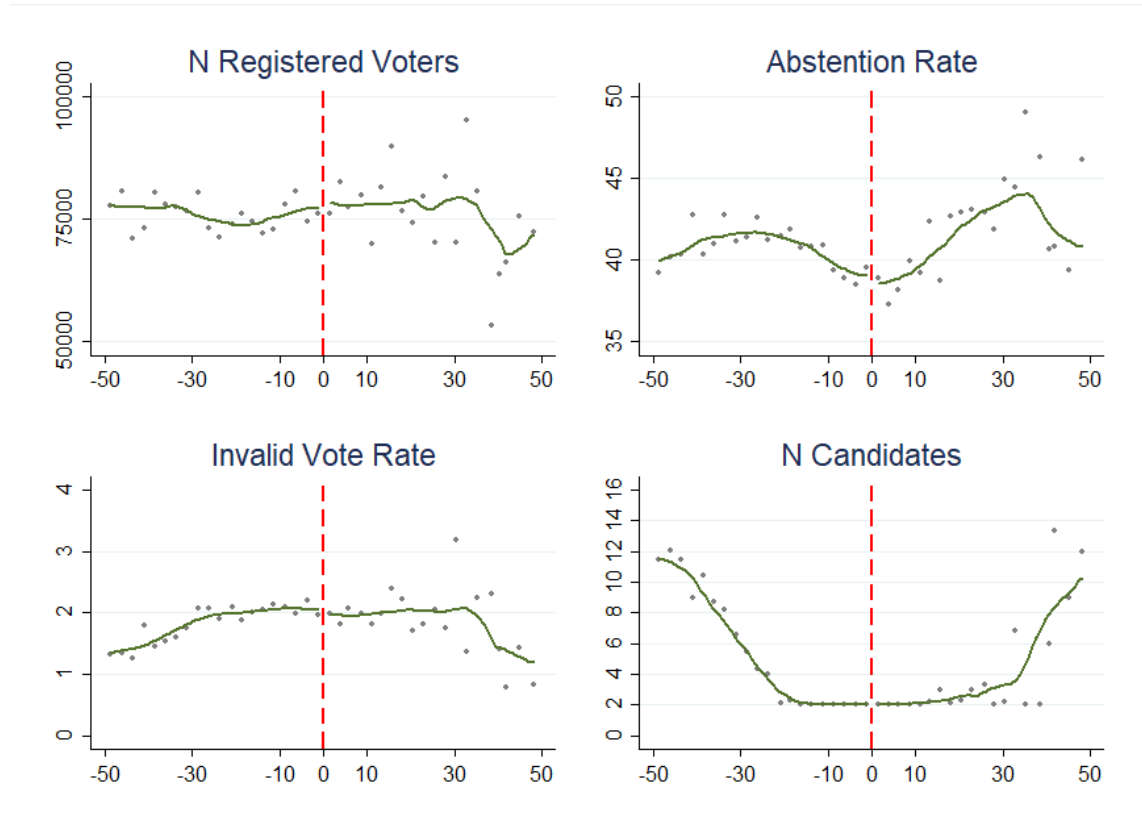
This section provides further internal validity tests for the regression discontinuity design. Figure A2 displays the histogram of the running variable density. Figure A3, A4 and A5 display the graph showing the relationship between potential confounders and the running variable.

Figure A2: Histogram Density



Notes: The data comes from the 2002, 2007 and 2012 elections for the Lower House. The sample is restricted to mixed-gender close races.

Figure A3: Continuity Assumption - Election Characteristics



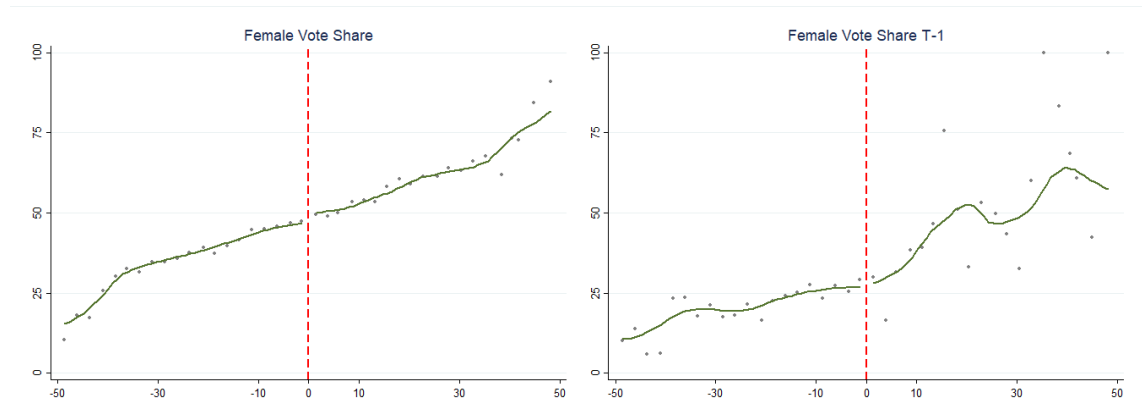
Notes: The data comes from the 2002, 2007 and 2012 elections for the Lower House. The sample is restricted to mixed-gender close races.

Figure A4: Continuity Assumption - Demographics Characteristics



Notes: The data comes from the 2002, 2007 and 2012 elections for the Lower House. The sample is restricted to mixed-gender close races.

Figure A5: Continuity Assumption - Preferences for Women



Notes: The data comes from the 2002, 2007 and 2012 elections for the Lower House. The sample is restricted to mixed-gender close races.

C.2 Descriptive Statistics

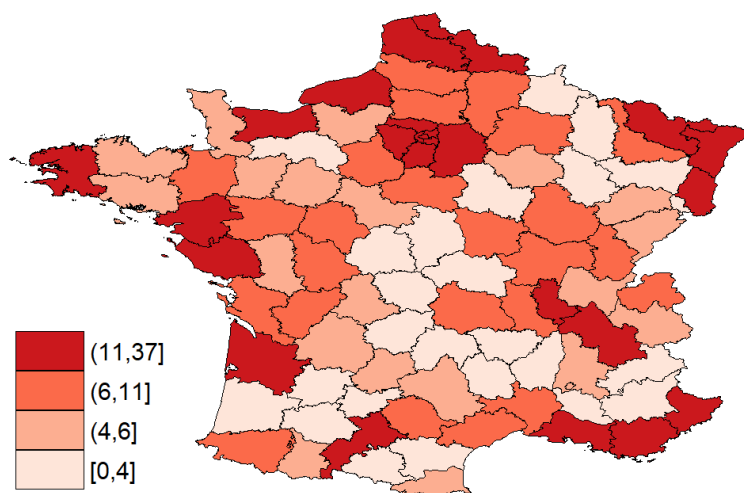
Table A3: Descriptive Statistics on Legislators' Characteristics and their Activity Related to Amendments

	(1)	(2)	(3)	(4)
	Mean	S.D.	Min	Max
Woman (1=Yes)	0.19	0.39	0	1
Age	54.60	8.88	23	81
Left-Wing (1=Yes)	0.43	0.50	0	1
Incumbent (1=Yes)	0.58	0.49	0	1
Victory Margin	16.72	15.10	0	100
N Co-Sponsored Per Year	212.74	295.67	0	2228
N Authored Per Year	25.74	53.84	0	622
Dummy Authored (1=Yes)	0.87	0.34	0	1
N Co-Sponsored Per Year Women-Related	4.61	8.40	0	106
Share Co-Sponsored Women-Related	0.03	0.05	0	1
N Authored Per Year Women-Related	0.39	1.99	0	49
Share Authored Women-Related	0.02	0.08	0	1
Dummy Authored Women-Related (1=Yes)	0.27	0.44	0	1
Observations	1663			

Notes: the data comes from the Lower House during the period 2002-2017. *Women – Related* indicates that the amendment is identified as related to women's issues with a dictionary-based method. Dummy Authored Women-Related is a variable that is equal to 1 if the legislator has authored at least one amendment related to women's issues.

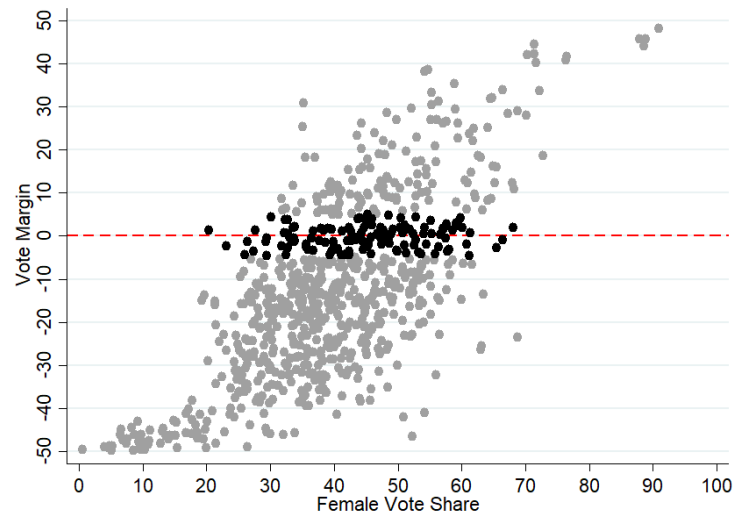
Figure A6 depicts the distribution of the observations on the French territory. Importantly, we see that they are scattered throughout the territory with a larger concentration in the north and east of France.

Figure A6: Where Are the Close-Races?



Notes: the data comes from the 2002, 2007 and 2012 Lower House elections. Each class represents a quantile of the distribution of observations.

Figure A7: Preferences for Women in Close Race Elections



Notes: the data comes from the 2002, 2007 and 2012 Lower House elections. The graph represents the total vote share of women on the x-axis and vote margin (forcing variable) on the y-axis. The black dots are located in a 5 points interval around the elimination threshold.

D Additional Results

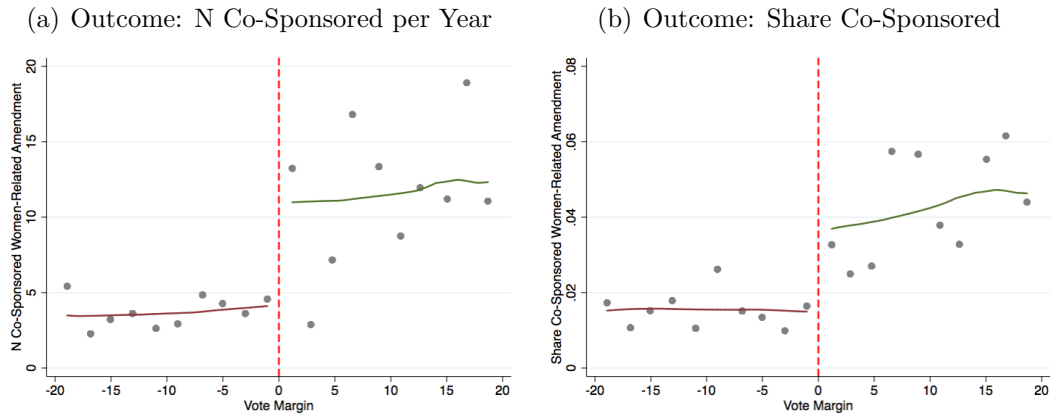
D.1 Co-Sponsorship Activities

In addition to authoring, legislators can contribute to an amendment by co-sponsoring it. Arguably co-sponsoring amendments requires less effort than authoring but it is still a clear indicator of interest which adds political weight to the amendment and increase its chances to pass. In the French Parliament, there is no limit on the number of co-sponsors an amendment can have.

I build two outcomes related to co-sponsorship. The first is the total number of co-sponsorship a legislator makes to women-related amendments. Since some parliamentarians may co-sponsor a large number of amendments on every topic, total numbers may not be informative of a specific interest for women's issues. Therefore, the second outcome is the number of co-sponsors for women-related amendments divided by the total number of co-sponsored amendments. This second outcome informs us on the relative interest a legislator attributes to the topic.

Figure A8 displays the main discontinuity graphs. We observe a sizeable jump in the number (graph a) and the share of co-sponsored women-related amendments (graph b). Table A4 confirms the visual impression. Panel A and Panel B respectively display results using the number and the share of co-sponsored women-related amendments as outcomes. In Panel A, we see that female legislators tend to co-sponsor 5 additional women-related amendments per year. Using the share of amendments as outcome, in Panel B, we see that the larger number of co-sponsored amendments translates into a jump in the share of about 1 to 2 percentage points. Scaling these effects to the average outcome of male legislators, we see that women co-sponsor about 140% (Column 3 Panel A) to 250% (column 5 panel A) additional women-related amendments which translates in an increase of about 100% of the share (from 185% in column 1 to 87% in column 5 of Panel B).

Figure A8: RDD Graph Co-Sponsorship



Notes: the data comes from the French Lower House during the period 2002-2017. The outcomes are respectively the number (a) and the share (b) of women-related amendments co-sponsored by the legislator. The x-axis represents the vote margin between the first woman and the first man in a mixed-gender election. On the right side of the vertical dashed line, a woman is elected whereas on the left it is a man. The solid lines correspond to a lowess fit of the bin-averages. There are 10 bins on each side of the cutoff.

Table A4: Co-Sponsorship of Women-Related Amendments - Lower House

Specification	(1) Pooled OLS	(2) Fixed Ef- fects	(3) Polynomial	(4) <i>Regression Discontinuity</i> LLR IK	(5) LLR CCT
<i>Panel A: N Co-Sponsored</i>					
Woman (1=Yes)	5.25*** (0.75)	6.81*** (1.05)	7.96*** (1.56)	5.53*** (2.10)	5.62** (2.45)
Control Mean	3.46	3.31	3.20	3.91	3.91
Scaled Effect	151.8	205.4	248.8	141.6	143.7
Bandwidth Restriction			None	27.3	11.7
Observations	1663	1663	791	554	286
Constituencies	597	597	469	370	217
<i>Panel B: Share Co-Sponsored</i>					
Woman (1=Yes)	0.03*** (0.01)	0.02*** (0.01)	0.02*** (0.01)	0.02*** (0.01)	0.01* (0.01)
Control Mean	0.02	0.02	0.02	0.02	0.02
Scaled Effect	182.3	124.2	118.1	119.3	88.4
Bandwidth Restriction			None	14.1	11.1
Observations	1663	1663	791	341	274
Constituencies	597	597	469	249	211

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. The data comes from the French Lower House during the period 2002-2017. Standard errors clustered at the constituency level are given in parentheses. Controls in specifications of column 1 and 2 include the age at the beginning of the term, the political inclination (left or right-wing), the incumbency status, the margin of victory at the election, the female participation rate to the labor market in the constituency and term fixed-effects. Controls in column 2 also include constituency fixed-effects. Controls in column 3 include a second order polynomial in the running variable. Specifications of columns 4 and 5 fit a local linear regression around the cutoff that allows for a break in the slope at the cutoff. The "Control Mean" line designates the outcome mean for the sample of male legislators. The "Scaled Effect" line designates the impact of female legislators scaled to the mean of male legislators (Treatment Effect/Control Mean).

D.2 Heterogeneity Depending on the Outcome of the Amendment

This section investigates the heterogeneity of the main result depending on the outcome of the amendment. Table A5 displays the results. In Panel A, the dependent variable is defined only on the sample of rejected amendments whereas, in Panel B, it is defined only

on the sample of accepted amendments. We see that in both cases, female legislators are significantly more likely to initiate women-related amendments. The scaled-effects are larger for the sample of accepted amendments.

Table A5: Authorship of Women-Related Amendments Depending on the Outcome - Lower House

<i>Dep. Var.: At Least one Amendment Initiated (1=Yes)</i>					
Specification	(1) Pooled OLS	(2) Fixed Ef- fects	(3) Polynomial	(4) LLR IK	(5) LLR CCT
<i>Panel A: Rejected Amendments</i>					
Woman (1=Yes)	0.18*** (0.03)	0.21*** (0.05)	0.23*** (0.06)	0.23*** (0.08)	0.24*** (0.09)
Control Mean	0.20	0.20	0.17	0.20	0.20
Scaled Effect	91.0	106.8	134.9	115.3	121.2
Bandwidth Restriction			None	21.5	16.5
Observations	1663	1663	791	477	394
Constituencies	597	597	469	325	278
<i>Panel B: Accepted Amendments</i>					
Woman (1=Yes)	0.10*** (0.03)	0.12*** (0.04)	0.14*** (0.05)	0.13** (0.06)	0.16** (0.07)
Control Mean	0.07	0.07	0.06	0.06	0.04
Scaled Effect	152.8	174.1	247.6	233.3	408.3
Bandwidth Restriction			None	15.3	10.6
Observations	1663	1663	791	723	258
Constituencies	597	597	469	436	201

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. The data comes from the French Lower House during the period 2002-2017. Standard errors clustered at the constituency level are given in parentheses. Panel A is restricted to rejected amendments. Panel B is restricted to accepted amendments. Controls in specifications of column 1 and 2 include the age at the beginning of the term, the political inclination (left or right-wing), the incumbency status, the margin of victory at the election, the female participation rate to the labor market in the constituency and term fixed-effects. Controls in column 3 include a second order polynomial in the running variable. Specifications of columns 4 and 5 fit a local linear regression around the cutoff that allows for a break in the slope at the cutoff. The "Control Mean" line designates the outcome mean for the sample of male legislators. The "Scaled Effect" line designates the impact of female legislators scaled to the mean of male legislators (Treatment Effect/Control Mean).

D.3 Heterogeneity Depending on Legislators' Characteristics

This section investigates the heterogeneity of the main result depending on the legislators' characteristics. Three characteristics are considered: the political inclination (left or right-wing), the incumbency status and the age at the beginning of the term. The results are displayed in Tables [A6](#), [A7](#) and [A8](#) for the pooled ols and the fixed-effects specifications.

We observe little heterogeneity depending on these characteristics. Female legislators, whether they are left or right-wing, incumbent or inexperienced or young, are significantly more likely to initiate women-related amendments than their male counterparts. It seems that the gender gap is larger among right-wing legislators than among the leftist ones. This is because the leftist male legislators contribute significantly more to this topic than their male counterparts from the right-wing. Regarding the role of incumbency, the gender gap seems higher among incumbents than among inexperienced legislators.

Table A6: Authorship of Women-related Amendments - Heterogeneity Depending On Political Inclination

Specification	(1) Pooled OLS	(2) Pooled OLS	(3) Pooled OLS	(4) Fixed- Effects	(5) Fixed- Effects	(6) Fixed- Effects
Woman (1=Yes)	0.24*** (0.05)	0.11*** (0.04)	0.25*** (0.05)	0.21** (0.10)	0.27*** (0.07)	0.28*** (0.08)
Left-Wing (1=Yes)			0.05* (0.03)			0.04 (0.05)
Woman*Left-Wing			-0.13** (0.07)			-0.13 (0.10)
Sample Restriction	Right- Wing	Left- Wing	All	Right- Wing	Left- Wing	All
Control Mean	0.19	0.28		0.19	0.28	
Scaled Effect	128.6	41.4		111.2	98.0	
Observations	943	720	1663	943	720	1663
Constituencies	415	367	597	415	367	597

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. The data comes from the French Lower House during the period 2002-2017. Standard errors clustered at the constituency level are given in parentheses. Controls include the age at the beginning of the term, the incumbency status, the margin of victory at the election, the female participation rate to the labor market in the constituency and term fixed-effects. Controls in columns 4, 5 and 6 also include constituency fixed-effects. The "Control Mean" line designates the outcome mean for the sample of male legislators. The "Scaled Effect" line designates the impact of female legislators scaled to the mean of male legislators (Treatment Effect/Control Mean).

Table A7: Authorship of Women-related Amendments - Heterogeneity Depending On Incumbency Status

Specification	(1) Pooled OLS	(2) Pooled OLS	(3) Pooled OLS	(4) Fixed- Effects	(5) Fixed- Effects	(6) Fixed- Effects
Woman (1=Yes)	0.14*** (0.04)	0.20*** (0.05)	0.14*** (0.04)	0.20*** (0.06)	0.47*** (0.12)	0.17*** (0.05)
Incumbent (1=Yes)			-0.03 (0.02)			-0.03 (0.03)
Woman*Incumbent			0.07 (0.06)			0.13** (0.07)
Sample Restriction	New	Incumbent	All	New	Incumbent	All
Control Mean	0.25	0.21		0.25	0.21	
Scaled Effect	56.1	98.2		80.5	224.1	
Observations	698	965	1663	698	965	1663
Constituencies	474	532	597	474	532	597

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. The data comes from the French Lower House during the period 2002-2017. Standard errors clustered at the constituency level are given in parentheses. Controls include the age at the beginning of the term, the political inclination (left or right-wing), the margin of victory at the election, the female participation rate to the labor market in the constituency and term fixed-effects. Controls in columns 4, 5 and 6 also include constituency fixed-effects. The "Control Mean" line designates the outcome mean for the sample of male legislators. The "Scaled Effect" line designates the impact of female legislators scaled to the mean of male legislators (Treatment Effect/Control Mean).

Table A8: Authorship of Women-related Amendments - Heterogeneity Depending On Age

Specification	(1) Pooled OLS	(2) Pooled OLS	(3) Pooled OLS	(4) Fixed- Effects	(5) Fixed- Effects	(6) Fixed- Effects
Woman (1=Yes)	0.17*** (0.04)	0.17*** (0.05)	0.16*** (0.04)	0.20** (0.08)	0.24** (0.10)	0.20*** (0.05)
AgeAboveMedian (54)			-0.06*** (0.02)			-0.05 (0.03)
Woman*AgeAbMedian			0.01 (0.06)			0.03 (0.07)
Age Above Median	No	Yes	All	No	All	All
Control Mean	0.25	0.20		0.25	0.20	
Scaled Effect	66.0	85.8		79.8	121.9	
Observations	839	824	1663	839	824	1663
Constituencies	472	451	597	472	451	597

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. The data comes from the French Lower House during the period 2002-2017. Standard errors clustered at the constituency level are given in parentheses. Controls include the political inclination (left or right-wing), the incumbency status, the margin of victory at the election, the female participation rate to the labor market in the constituency and term fixed-effects. Controls in columns 4, 5 and 6 also include constituency fixed-effects. The "Control Mean" line designates the outcome mean for the sample of male legislators. The "Scaled Effect" line designates the impact of female legislators scaled to the mean of male legislators (Treatment Effect/Control Mean).

E Robustness

E.1 Alternative Dictionary of Women's Issues

To identify amendments on women's issues, the main dictionary contained words whose stemmed version was "wom", "sex" and "gender". This constituted the "exhaustive" definition of women's issues as it contained different words referring to women. Yet, in French language, it is much more common to refer to women's issues by using words starting with "wom" such as woman²⁴. In the sample, "wom" occurs 5,554 times while "sex" and "gender" respectively occur 815 and 560 times.

I thus build a restrictive definition of women's issues by restricting the dictionary to only one word: "wom". This alternative procedure selects 3,285 amendments. Using this measure, I replicate the main results on authorship and co-sponsorship. Table A9 displays the results. They are essentially similar to the ones obtained with the exhaustive definition. In Panel A, we see that female legislators are about twice more likely to initiate at least one amendment on the topic. In Panel B, we observe that female legislators co-sponsor a larger share of women-related amendments but the precision of the estimations is lower than the one obtained with the exhaustive definition.

²⁴For instance the minister responsible for women's issues is officially in charge of *Equality between women and men*. Similarly the public organism working on these issues is the *High Council for Equality between women and men*

Table A9: Authorship of Women-Related Amendments - Restrictive Definition

<i>Dep. Var.: At Least one Amendment Authored (1=Yes)</i>						
Specification	(1) Pooled OLS	(2) Fixed Effects	(3) Poly	(4) <i>Regression Discontinuity</i> LLR IK	(5) LLR CCT	(6) LLR CCT/2
Woman (1=Yes)	0.16*** (0.03)	0.17*** (0.05)	0.25*** (0.06)	0.26*** (0.08)	0.24** (0.10)	0.31** (0.13)
Control Mean	0.20	0.20	0.17	0.20	0.19	0.17
Scaled Effect	78.8	84.4	142.5	128.5	124.2	175.5
Bandwidth Restriction			10.6	13.8	13.8	6.9
Observations	1663	1663	791	473	336	178
Constituencies	597	597	469	322	246	153

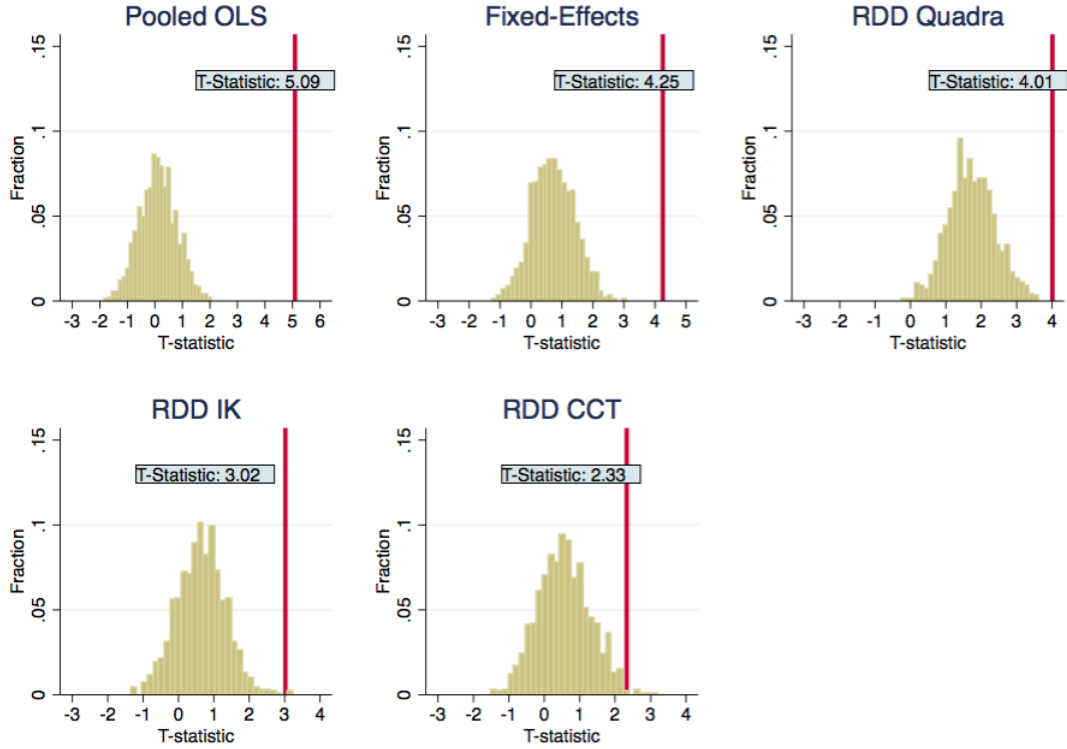
Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. The data comes from the French Lower House during the period 2002-2017. Standard errors clustered at the constituency level are given in parentheses. Outcomes are respectively for Panel A, a dummy that equals 1 if the legislator authored at least one amendment and, for Panel B, the share of women-related amendments co-sponsored. Controls in specifications of column 1 and 2 include the age at the beginning of the term, the political inclination (left or right-wing), the incumbency status, the margin of victory at the election, the female participation rate to the labor market in the constituency and term fixed-effects. Controls in column 2 also include constituency fixed-effects. Controls in column 3 include a second order polynomial in the running variable. Specifications of columns 4, 5 and 6 fit a local linear regression around the cutoff that allows for a break in the slope at the cutoff. The "Control Mean" line designates the outcome mean for the sample of male legislators. The "Scaled Effect" line designates the impact of female legislators scaled to the mean of male legislators (Treatment Effect/Control Mean).

E.2 Placebo - Random Samples

This section designs a placebo test assessing the uniqueness of the results obtained with the sample of women-related amendments. This test attempts to determine the probability to obtain similar findings with random sample of amendments. Specifically, I drew 1,000 samples of 3,744 amendments. I then built a dummy equal to one if a woman initiated one of these amendments. Using this outcome, I used the usual five specifications (pooled ols with and without constituency fixed-effects and three regression discontinuity specifications) and plotted the obtained T-statistics. The results are displayed in Figure A9 for the authorship outcome. In a nutshell, out of the 1,000 random samples of amendments, none delivers consistent findings across the five specifications as the ones observed with the sample of

women-related amendments.

Figure A9: Placebo Test - Random Sample of Amendments Authorship Outcome



Notes: The data comes from the French Lower House during the period 2002-2017. The histograms represent the T-statistic associated to the coefficient *Woman* in the five different specifications used in the paper (pooled ols without constituency fixed-effects, with constituency fixed-effects, mixed-gender close races using a quadratic specification, the IK and the CCT bandwidth). The outcome is a dummy equals to 1 if the legislator has initiated at least one amendment related to the random sample of amendment drawn. There are 1000 samples constituted of 3,744 randomly drawn amendments. The T-statistic box included in each graph displays the t-stat obtained with the sample of amendments classified as women-related..

E.3 Outcome Previous Election

Restricting the sample to narrow mixed-gender close races should provide exogenous variations in the sex of the legislator. Therefore, we should not observe similar results when using lagged outcomes, otherwise this would mean that the activity of legislators persists. Table A10 displays the results using as outcome variable a dummy equals to one if the previous legislator initiated at least one women-related amendment. Reassuringly, coefficients are not significant anymore and largely shrink in magnitude. This suggests

that persistence in the outcome cannot explain the results.

Table A10: Placebo Authorship of Women-Related Amendments

<i>Dep. Var.: At Least one Amendment Initiated in T-1(1=Yes)</i>			
	(1) Polynomial	(2) LLR IK	(3) LLR CCT
Woman in T (1=Yes)	0.06 (0.06)	0.07 (0.08)	0.01 (0.09)
Bandwidth Restriction	None	21.8	13.5
Observations	528	318	222
Constituencies	401	266	195

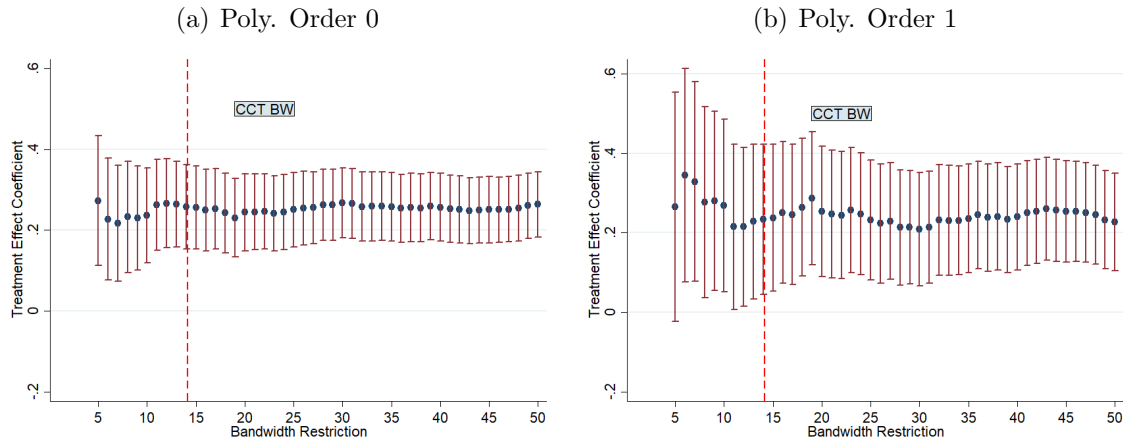
Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. The data comes from the French Lower House during the period 2002-2017. Standard errors clustered at the constituency level are given in parentheses. The outcome is a dummy that equals 1 if the legislator in T-1 from the same constituency authored at least one women-related amendment. The "Control Mean" line designates the outcome mean for the sample of male legislators. The "Scaled Effect" line designates the impact of female legislators scaled to the mean of male legislators (Treatment Effect/Control Mean).

E.4 Alternative Bandwidths

The choice of the bandwidth is crucial and while two methods are used (CCT and IK), one could wonder how sensitive the results are to the size of the bandwidth, especially to smaller ones. Figure A10, A11 and A12 provide an answer to this question for the usual outcomes. I replicate the estimation for all the possible windows bounded by two integers including at least 50 observations (the smallest window is [-5;5]).

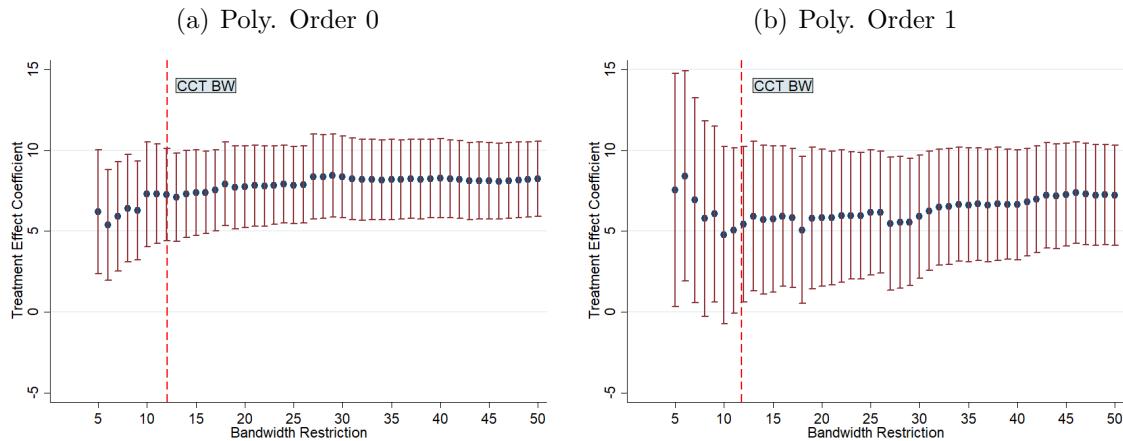
For the three outcomes, the coefficient is always positive and quite stable across the different bandwidths. Only the precision seems to diminish as the bandwidth is narrowed, which is expected since the number of observations also goes down. This is especially true when using the share of co-sponsored amendments as outcome along with a polynomial of degree 1.

Figure A10: RDD Alternative Bandwidth Outcome: At Least One Amendment Initiated



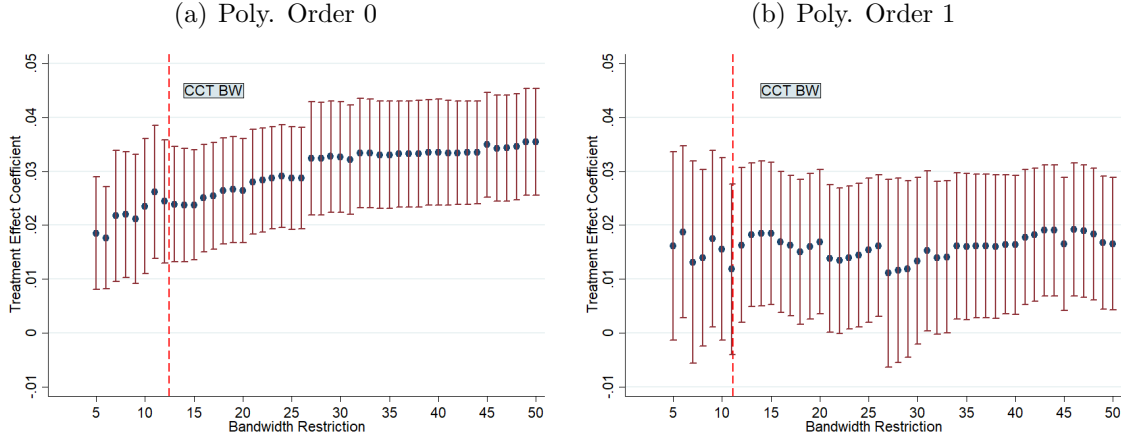
Notes: The data comes from the French Lower House during the period 2002-2017. The vertical axis represents the probability that a woman initiates at least one amendment related to women's issues relatively to a male legislator. Confidence intervals are represented at the 95% level. The vertical red dashed line represents the CCT bandwidth.

Figure A11: RDD Alternative Bandwidth - Outcome: N Amendments Co-sponsored



Notes: The data comes from the French Lower House during the period 2002-2017. The vertical axis represents the additional number of amendments related to women's issues a woman co-sponsors relatively to a male legislator. Confidence intervals are represented at the 95% level. The vertical red dashed line represents the CCT bandwidth.

Figure A12: RDD Alternative Bandwidth - Outcome: Share Amendments Co-Sponsored



Notes: The data comes from the French Lower House during the period 2002-2017. The vertical axis represents the additional share of amendments related to women's issues a woman co-sponsors relatively to a male legislator. Confidence intervals are represented at the 95% level. The vertical red dashed line represents the CCT bandwidth.

E.5 Local Randomization Strategy

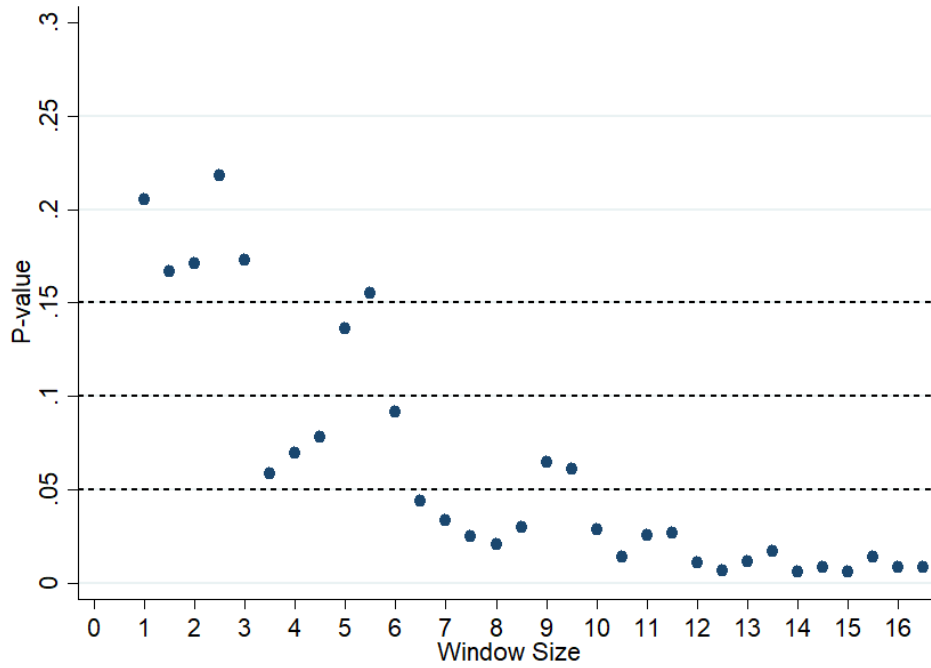
This section implements the so-called local randomization strategy. While the usual regression discontinuity design relies on the continuity of potential confounders around the threshold, this strategy is more stringent. It selects the largest window for which all the covariates are balanced on both sides of the threshold. Using this window, it tests for the difference in the outcome between the two sides of the threshold.

Figure A13 displays the smallest p-value for all the covariates on a wide range of windows. The covariates are the number of candidates, the number of registered voters, the abstention rate, the invalid vote rate, the total population in the constituency, the total male population, the total female population, the share of women, the share of working women, the share of working age individuals, the unemployment rate, the female vote share during the last election, a dummy indicating that the constituency was won by the left-wing during the last election, the share of female and left-wing candidates. We see that the smallest p-value is below 0.15 (and 0.1) for nearly all the windows larger than $[-3;3]$. Using a threshold of 0.05, the selected window is $[-6;6]$.

Table A11 displays the results for the difference in means of the outcome between the two sides of the cutoff. We see that when the p-value threshold for the balance test is

0.15 or 0.1, the selected window is $[-3;3]$. Using this window, the difference in means is 0.256, which is significant at the 5% level (the related p-value is 0.008 as shown in column 4). The 95% level confidence interval is $[0.093;0.465]$. The inference is done on a sample including 43 legislators on each side of the cutoff.

Figure A13: P-values from Balance Tests over a Set of Windows



Notes: The data comes from the French Lower House during the 2002-2017 period. Each dot corresponds to the smallest p-value of all the covariates included in a balance test over a given window. The y-axis represents the value of the p-values. The x-axis represents the window sizes. The covariates are the number of candidates, the number of registered voters, the abstention rate, the invalid vote rate, the total population in the constituency, the total male population, the total female population, the share of women, the share of working women, the share of working age individuals, the unemployment rate, the female vote share during the last election, a dummy indicating that the constituency was won by the left-wing during the last election, the share of female and left-wing candidates. The horizontal dashed-lines represent the 0.15, 0.1 and 0.05 significance levels.

Table A11: Randomization Inference: Difference in Means Test

Balance Test P-value Threshold	Window	Diff. in Means Stat	P-value	95% Confidence Interval	N Left Cutoff	N Right Cutoff
(1)	(2)	(3)	(4)	(5)	(6)	(7)
0.15	[-3;3]	0.256	0.008	[0.093;0.465]	43	43
0.1	[-3;3]	0.256	0.008	[0.093;0.465]	43	43
0.05	[-6;6]	0.231	0.000	[0.08;0.373]	89	65

Notes: the data comes from the Lower House during the period 2002-2017. The dependent variable is a dummy that equals 1 if the parliamentarian initiated at least one women-related amendment. Column 1 displays the p-value threshold regarding the balance test for all the covariates to determine the window. Column 2 displays the selected window. Column 3 displays the value of the Difference in Means statistics between the two sides of the cutoff. Column 5 displays the p-value related to the diff. in means statistics. Column 6 displays the confidence interval at the 95% level. Column 7 and 8 respectively show the number of observations used on the left and the right side of the cutoff.

F Details on Topic Classification

F.1 Procedure

This section brings further details on the topic classification. The procedure used is the following:

1. Create a list of topics of interest. This was done by using the usual government ministries that existed during the 2002-2017 period. This leads to 27 non-mutually exclusive topics.
2. Remove stop words and stem all the words in the amendments and the bills' title. Then, return the 10,000 most recurring words in the amendments. Practically, I selected the closest threshold to the 10,000th word which is 49 and above which are 9,967 words. I thus obtain a sample of 9,967 words which occur at least 49 times in the amendments. The bills' title contain 1712 words. I pooled the two samples of words and obtained a final sample of 10,030 unique words.
3. Manually classify the words in the 27 categories.
4. Classify the amendments into each of the 27 non-mutually exclusive categories. The rule is that if an amendment contains one of the keywords included in a category, it is classified as belonging to the category.
5. Using the sample of amendments, return the 10,000 most recurring bigrams for each category and select only those that contain one of the classified keywords. Using this narrower sample of bigrams, I tagged obvious false matches. I then cleaned the classification of amendments by excluding these false matches from the classification.

Table A12: Details on Topic Classification - Part 1

Topic	Top 10 Keywords	5 Most Frequent Bigrams	5 Most Frequent Trigrams	Excluded Matches	False	Notes
Agriculture	agricul, agricultur, alimentar, farmer, fishing, hunt, breeding, food, fruit, methanised (58)	agricul exploit, local autorit, sea fish, plant protection, alimentary product	rural sea fish, greenhouse gas, natural agricul forest, space natural agricul, emiss greenhouse gas	duplicate hunt, will be aliment, aliment font, aliment height		aliment is used as a verb in other meanings.
Business	business, sme, capit, bank, banking, shareholder, employer, entrepreneur, dividend, multinational (4)	works council, million euro, turnover, entrepreneur, social security	organis professional employer, level nation interprofessional, solidarity social economy, employer social contribution, professional employer applic	work undertaken		the french word for business is "entreprise" which may also mean undertaken
Child	child, kindergarten, infant, baby, child pornography, child psychiatrist, pedophilia	family allowanc, parental autorit, child right, franc televis, child protection	best interest child, television channel advertis, suppress advertis televis, social action family, international child right	None		
Civil	civil servant	right oblig civil servant, territorial public service, deontology right oblig, cumulative employment retirement, magistrate judiciary order	public service, delegation management, compulsory scheme, employee private, court audit	None		in french, civil servant is a one-word expression. There is always a ministry for this topic.
Culture	cultur, cultural, audiovisual, televis, art, radio, spectacl, artistic, artist, cinema (26)	franc televis, public audiovisual, local autorit, public servic, million euro	high council audiovisual, television channel advertis, suspend acc internet, public service audiovisual, commiss protect right	scientific cultur, cultur mathematics, farmer culture, gmo cultur, cultur diversit (17)		cultur is a word used in other contexts, especially agriculture.
Economics	economic, economy, growth, gdp, inflat, conjunctur, cyclical, dollar, inflationnist, economist (3)	million euro, public servic, economic develop, local autorit, economic social	solidarity social economy, greenhouse gas, emiss greenhouse gas, environment social economic, court auctionneer	growth aliment, demographic growth, justic economi, energy saving, substantial saving, budgetary saving		The French verb "economiser" means saving.
Education	teach, academic, educ, study, middle school, school, degree, universit, educativ, university (25)	public servic, educ national, health instit, higher educ, million euro	private health instit, higher educ instit, higher educ research, mission public servic, hospital public servic	study possibilit, study article, free license, equal license, open license (19)		the french word for bachelor also means license.
Elections	elected, elect, ballot, constituenc, elector, voter, eligibility, senate elections, ineligible, mandatur (10)	local autorit, local elected, council communautar, new municipalit, municipal council	tax overtime, EPCI own tax, direct universal suffrag, local autorit gener, intermunicipalit public cooper	None		EPCI is a conglomerate of municipalities.
Environment	energy, environment, energetic, water, electricity, biodiversit, gas, mountain, environmental, ecologic (138)	local autorit, renewable energy, transit energetic, sustainabl develop, public servic	greenhouse gas, emiss greenhouse gas, biodiversit french agenc, rural sea fish, economic social environment	work environment, institutional landscap, economic landscap, concurrential environment, administrativ environment (2)		
Europe	european, europ, ESF	european union, state member, direct european, commiss european, european parliament	council european parliament, member european union, state member union, european human right, other state member	None		ESF is the European Social Fund.

Notes: the data comes from all the amendments produced produced in the Lower House during the period 2002-2017.

Table A13: Details on Topic Classification - Part 2

Topic	Top 10 Keywords	5 Most Frequent Bigrams	5 Most Frequent Trigrams	Excluded Matches	False	Notes
Family	family, parent, familial, spouse, couple, mother, parenthood, mariage, famili, divorc (11)	famil allowanc, social securit, handicap person, million euro, parent authorit	social action famil, best interest child, person situat handicap, solidarit civil pact, reduced rate vat	famil neonicotinoid, herbicid famil, parent company, parent rock, joint exclus (10)		the french word for spouse can also mean joint
Finance	financ, financial, financi, budget, budgetar, deficit, PLF, PLFSS, LFSS, refinanc	million euro, social security, health institut, local authorit, public servic	financ social securit, intermunicipalit public cooper, mission public servic, private health instit, public health cooper	deficit care, deficit competitiv, deficit attract, deficit housing		plf, plfss, lfss are acronym for finance bills.
Health	health, care, doctor, diseases, patient, sanitar, medical, medica, handicap, medico (130)	health instit, public health, social securit, professional health, insuranc diseases	financ social securit, health private instit, person situat handicap, public servic hospital, care follow readapt	care examin, care delimit, care rule, leav care, animal health (20)		as in english care may also be used as take care of.
Housing	housing, hous, rent, building, tenant, lessor, habitat, locativ, HLM, ALUR (13)	social housing, social housing (singular), public instit, local authorit, build hous	rent social housing, intermunicipalit public cooper, institut public cooper, EPCI own fiscalit, build social housing	wild habitat, habitat species, natural habitat, rent movie, rent car (18)		HLM are social housing and ALUR is a bill on housing.
International	international, international (singular), AFD, internationaliz, humanitar, unesco, diplomatic, diplomat, genocid	million euro, child right, illegal trade, economic develop, international convent	schem region develop, international right convent, region develop economic, economic develop innov, economic innov internationaliz	None		AFD is the French Development Agency.
Justice	justic, judiciar, lawyer, notary, juridict, inmat, tribunal, magistrat, jail, court (34)	penal procedur, constitutional council, state council, court appeal, european union	court auctioneer, account personal prevent, personal prevent penibilit, jail euro fine, court justic union	social justic, fiscal justic, economic justic, share held, fish held		the french word for inmate also means held
Labor	work, salaried, job, employer, syndicate, worker, dismiss, labor, wage, unemploy (14)	social securit, million euro, employment contract, overtime work, professional format	organis professional employer, solidarity social economy, financ social securit, account personal format, level national interprofessional	syndicate energy, mixt syndicate, transport syndicate, parliamentary work, governmental work (9)		
Local	authorit, region, metropolit, regional, EPCI, regional (singular), intermunicipalit, department, department (singular), metropolitan (77)	local authorit, public instit, intermunicipalit cooper, own tax, public servic	intermunicipalit public cooper, public institut cooper, gener local authorit, EPCI own tax, cooper intermunicipalit tax	float authorit, ultramarine authorit		Authorit is translated by "collectivités" in French which is specific to this theme and narrows the number of false matches.
Migration	asylum, immigr, border, OFPRA, refugee, stateless, migrant, naturalize, migr, migrator	asylum seeker, right asylum, ask asylum, waiting area, residence permit	stay foreign right, stay residence foreign, foreign right asylum, temporary residence permit, country origin safe	fish migrator, bird migrator, river migrator, migr fish, migr wildlife (5)		OFPRA is a public organism protecting refugees.

Notes: the data comes from all the amendments produced produced in the Lower House during the period 2002-2017.

Table A14: Details on Topic Classification - Part 3

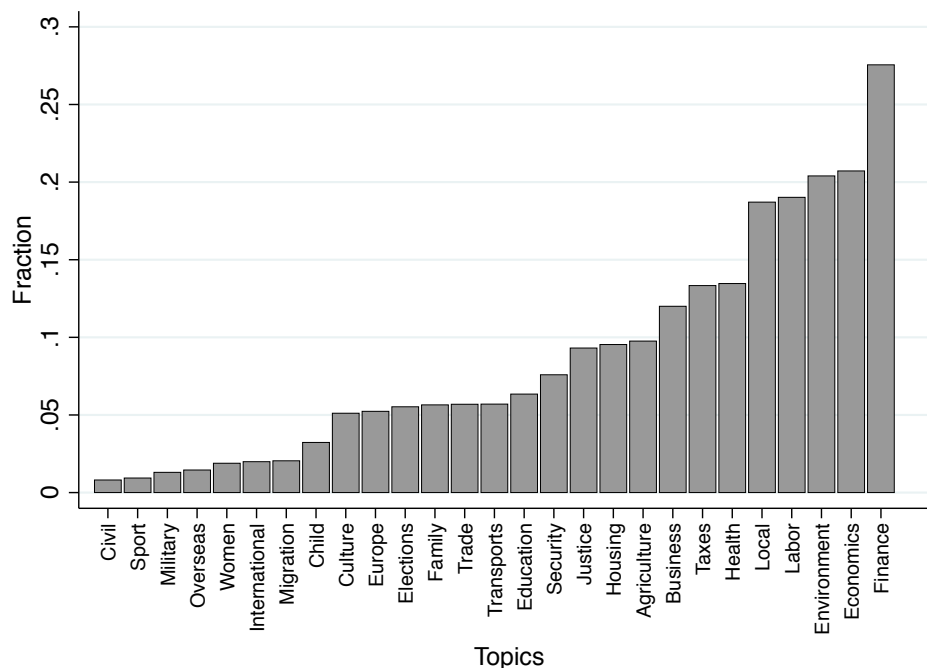
Topic	Top 10 Keywords	5 Most Frequent Bigrams	5 Most Frequent Trigrams	Excluded Matches	False	Notes
Military	militar, war, army, combat, weapon, soldier, armament, ONAC	veteran, armed force, penal constraint, civil right, civil statute	civil right statute, local civil right, day defense citizenship, armed force, action day defense	declaration war family, obstacle course, price war, collector weapon, truth armed (1)		In french obstacle course is translated as combat race. Onac is an organism helping veterans.
Overseas	corsica, guian, caledoni, polynesi, mayott, martiniqu, guadeloup, miquelon, futuna, antil, oversea (14)	local authorit, oversea, saint pierr, pierr miquelon, genetic resourc	saint pierr miquelon, local authorit corsica, department oversea, rural agricul develop, convent pass state	None		Keywords include names of oversea territories
Security	securit, polic, securis, violenc, delinqu, terrorism, crim, insecurit, terrorist, forgery (24)	penal procedur, judiciar polic, state member, constitutionnal council, million euro	suspend internet acc, violenc done wom, commiss protect right, statu civil right, jail euro fine	social securit, financ securit, alimentar securit, medical securit, fiscal insecurit		
Sport	sport, athletic, footbal, horse riding, doping, olympic, cyclist, hippodrom, hooliganism, uefa	million euro, bet onlin, gam onlin, local authorit, sport event	solidarity social economy, competit sport event, game bet online, gambling chance, nation develop sport	None		
Taxes	fiscal, tax, levy, tax system, VAT, fiscal (singular), taxat, CICE, ISF, tax exemption (20)	million euro, own tax, tax credit, gener tax, turnover	EPCI own tax, intermunicipalit public cooper, public instit cooper, tax intermunicipalit cooper, reduced rate vat			VAT, CICE, ISF are acronyms which stands for specific taxes.
Trade	trade, commerce, commercial, commerci, commercial (singular), export, customs, customs officer, import, exporter	million euro, trade industry, chamber commerc, public service, illegal trade	chamber commerc industr, clerk tribunal commerc, mission public service, decree state council, greenhouse gas	None		
Transports	transport, vehicle, train, airport, SNCF, automobil, auto, train station, car, carrier (35)	million euro, local authorit, public servic, organisat authorit, greenhouse	greenhouse gas, emiss greenhouse gas, regulat train activit, authorit organisat transport, EPCI own tax	legislative vehicle, pesticide vehicle, air pesticide, conductive thread, political driver (16)		
Women	wom, sex, gender	wom men, men wom, part time, equalit wom, professional equalit	equalit wom men, violenc done wom, work part time, high council equalit, equalit men wom	kind of offens, uniqu kind, all kind, kind behavior, many kind (4)		the french word for gender also means genre or kind.

Notes: the data comes from all the amendments produced produced in the Lower House during the period 2002-2017.

F.2 Descriptive Statistics

Figure A14 displays descriptive statistics on the prevalence of each topic. We see that the most prevalent topic is finance. About 28% of the amendments are classified as finance-related. At the other end of the spectrum, the least prevalent topic is related to civil-servant which include about 1% of all the amendments.

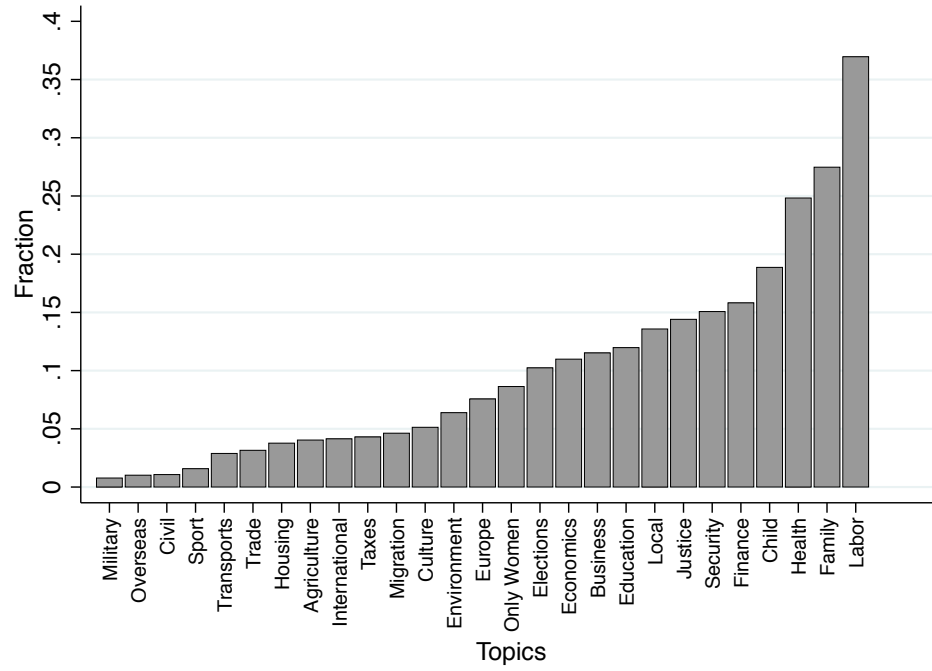
Figure A14: Descriptive Statistics on Topics Prevalence



Notes: The data comes from the French Lower House during the 2002-2017 period. Each bar corresponds to a topic and represents the share of amendments associated to this topic. An amendment can be associated to several topics.

Figure A15 displays descriptive statistics on the prevalence of each topic within the women's issues category. We see that, among women-related amendments, about 35% also refer to labour issues and 25% to health or family issues. At the other end of the spectrum, the least represented topics are military and overseas issues. It should be noted that amendments can be associated to more than 2 topics and therefore, the fractions in the histogram do not sum to 1.

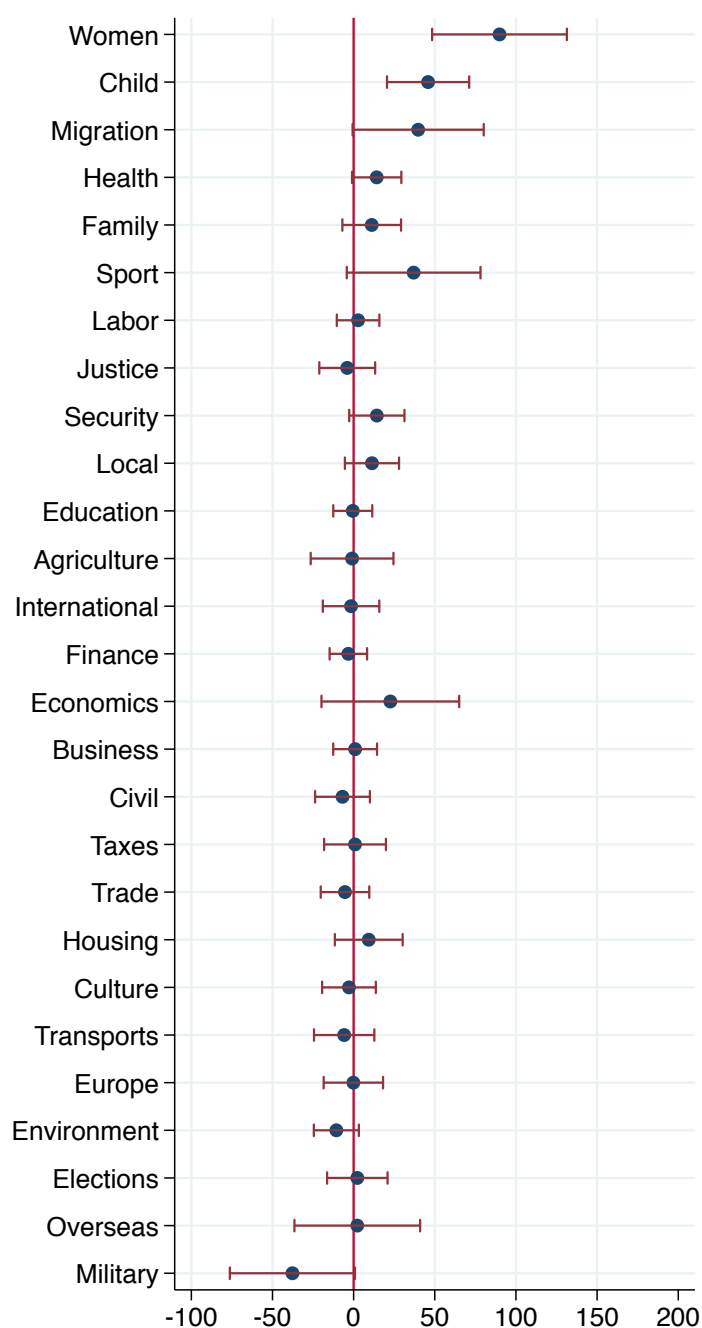
Figure A15: Descriptive Statistics on Topics Prevalence Within Women's Issues



Notes: The data comes from the French Lower House during the 2002-2017 period. The sample is restricted to women-related amendments. Each bar corresponds to a topic and represents the share of amendments associated to this topic. An amendment can be associated to several topics.

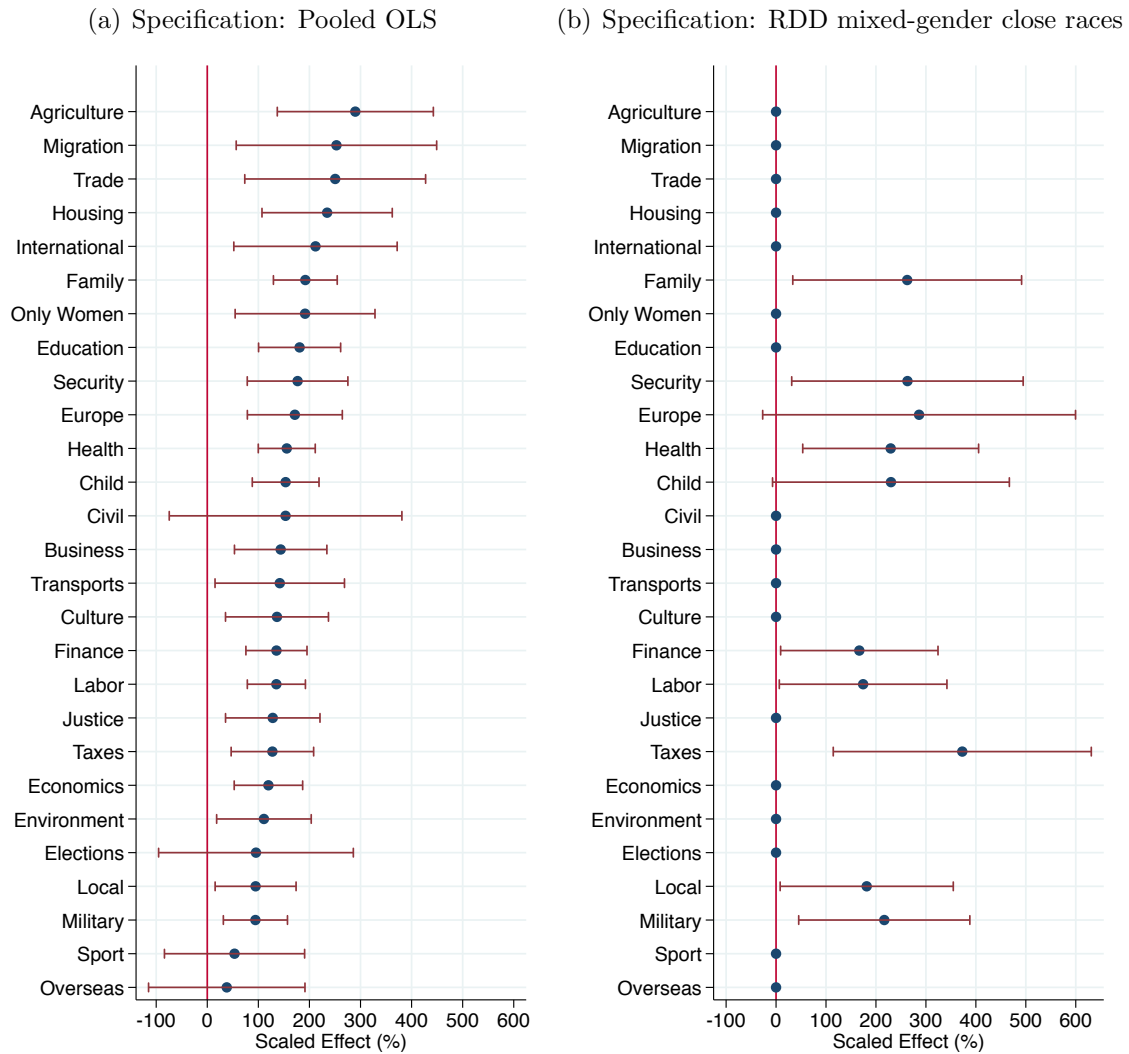
F.3 Additional Results

Figure A16: Extension to Other Topics: Authorship Analysis - Fixed-effects specification



Notes: The data comes from the French Lower House during the 2002-2017 period. Each row corresponds to a topic. The outcome is a dummy that equals 1 if the legislator initiates at least one amendment on the topic considered. Each dot represents the coefficient associated to the variable *Woman* divided by the average of male legislators (scaled effect). Confidence intervals are represented at the 95% level. Estimates come from the fixed-effect specifications.

Figure A17: Extension to Other Topics: Authorship Analysis Within Women-Related Amendments



Notes: The data comes from the French Lower House during the period 2002-2017. The sample is restricted to women-related amendments. About 91.34% of women-related amendments are also related to another topic. Each row corresponds to a topic within the sample of women-related amendments. The outcome is a dummy that equals 1 if the legislator initiates at least one amendment on the topic considered. Each dot represents the coefficient associated to the variable *Woman* divided by the average of male legislators (scaled effect). Confidence intervals are represented at the 95% level. Graph (a) and (b) respectively represent estimates from the pooled OLS and the RDD mixed-gender close race specifications with the CCT bandwidth. Because of the large standards errors for several topics in graph (b), only coefficients significant at the 10% level are displayed.

F.4 Classification Using Unsupervised Methods

This section uses unsupervised methods to uncover 30 topics in the full sample of amendments. The method used is a Latent Dirichlet Allocation and the inference is done with variational bayes . As compared to dictionary-based methods, the main advantage of this method is that the user does not need to specify words associated to topics. Therefore, it allows the research to abstract from its subjectivity in the first steps of the analysis.

This absence of subjectivity is true only in the pre-processing steps of the data. When analyzing the results, subjectivity is necessary. For instance, consider topic 8 obtained in Table A15. the top words associated to this topic are clearly related to energy and it is tempting to label topic 8 as energy-related. Using this information, we could then construct a variable classifying an amendment as energy-related if topic 8 is the most prevalent in the amendment. Then, we could compare the relative involvement of male and female legislator on this topic and draw conclusions on their relative interest for this topic. While this is tempting, this methodology has two severe limitations. First, topic 8 is likely to be a subset of the full energy-related topic. For instance, 50% of the amendments related to energy could use associations of words found in topic 8 and the other half could be much more diverse and included in different topics. Therefore, classifying topic 8 as the "energy-related topic" would miss all the information not contained in topic 8. Second, while some parts of topic 8 are likely to be related to energy issues, some words are also likely to be classified as related to other topics such as transport (for instance the word vehicle). Therefore, topic 8 is likely to be a mixture of energy and transport issues.

Finally, one last and perhaps the most important limitation of unsupervised methods is that they do not deliver topics that we may be interested in. For instance, consider the main interest of this paper which is on women's issues. Reading the list of topics and their associated top words, topic 11 is perhaps the closest to these issues because it contains the word "wom" among its top words. But it also contains the words retired and family. Therefore, it is difficult to conclude on whether topic 11 represents women's issues, a subset of those, or a different topic. Moreover, some topics that we may be interested in such as "military issues" do not appear in the list.

Table A15: Latent Dirichlet Allocation Classification Method

Topic	Top 5 words
Topic 1	fiscal, tax, rate, title, compens
Topic 2	agricul, product, exploit, price, metropol
Topic 3	national, governm, princip, assembl, text
Topic 4	municipal, territor, zon, habit, mountain, popul
Topic 5	be, same, done, effect, more
Topic 6	environm, protect, water, natural, biodiversit
Topic 7	french, transport, countr, european, road
Topic 8	energy, energetic, vehicle, transit, renewabl
Topic 9	financ, million, euro, fund, region
Topic 10	articl, present, redact, erase, new
Topic 11	individu, wom, situat, retired, famil
Topic 12	collectivit, territor, region, compet, local
Topic 13	politic, develop, economic, program, objectiv
Topic 14	housing, income, rate, social, tax
Topic 15	council, represent, mandate elected, member
Topic 16	amendment, redactional, precis, clarif, harmoniz
Topic 17	servic, public, activt, establish, contract
Topic 18	sentenc, diseas, regim, complementar, crim
Topic 19	notion, criter, definit, chamber, commerc
Topic 20	numeric, servic, public, operator, market
Topic 21	salaried, work, enterpris, job, social
Topic 22	text, justify, redistrict, high, board
Topic 23	procedur, control, demand, decis, precis
Topic 24	amendment, coordin, coherenc, consequ, withdraw
Topic 25	research, langu, scientific, cultur, teach
Topic 26	health, care, medecine, securit, establish
Topic 27	right, people, penal, judiciar, polic
Topic 28	format, child, professional, young, educ
Topic 29	year, delay, length, elect, period, ballot
Topic 30	bank, deliver, payment, banking, fee

Notes: the data comes from all the amendments produced produced in the Lower House during the period 2002-2017.

G Mechanisms

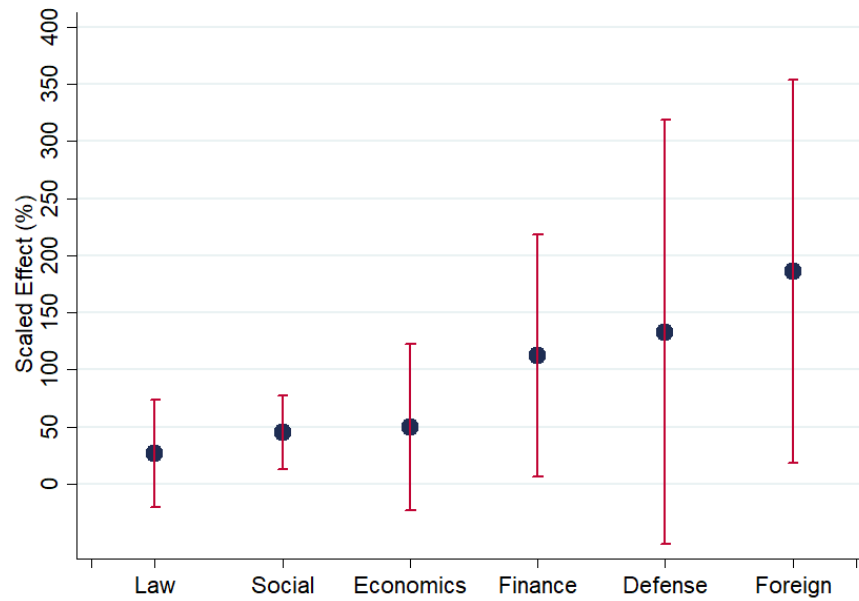
G.1 Results by Committee

Table A16: Authorship of Women-Related Amendments Depending on Membership in Women's Rights Delegation- Lower House

<i>Dep. Var.: At Least one Amendment Initiated (1=Yes)</i>					
Specification	(1) Pooled OLS	(2) Fixed Ef- fects	(3) Polynomial	(4) <i>Regression Discontinuity</i> LLR IK	(5) LLR CCT
<i>Panel A: All Parliamentarians</i>					
Woman (1=Yes)	0.17*** (0.03)	0.20*** (0.05)	0.24*** (0.06)	0.24*** (0.08)	0.23** (0.10)
Control Mean	0.22	0.22	0.19	0.22	0.20
Scaled Effect	75.2	90.5	123.8	111.2	114.8
Bandwidth Restriction			None	25.0	14.1
Observations	1663	1663	791	518	341
Constituencies	597	597	469	349	249
<i>Panel B: Outside Women's Rights Delegation</i>					
Woman (1=Yes)	0.11*** (0.04)	0.14*** (0.05)	0.18*** (0.07)	0.19** (0.08)	0.23** (0.09)
Control Mean	0.22	0.22	0.19	0.21	0.22
Scaled Effect	47.5	61.9	91.6	87.4	104.1
Bandwidth Restriction			None	24.3	18.6
Observations	1556	1556	733	467	391
Constituencies	590	590	443	323	277

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. The data comes from the French Lower House during the period 2002-2017. Standard errors clustered at the constituency level are given in parentheses. Panel A includes all parliamentarians. Panel B is restricted to parliamentarians outside the Women's Rights Delegation. Controls in specifications of column 1 and 2 include the age at the beginning of the term, the political inclination (left or right-wing), the incumbency status, the margin of victory at the election, the female participation rate to the labor market in the constituency and term fixed-effects. Controls in column 2 also include constituency fixed-effects. Controls in column 3 include a second order polynomial in the running variable. Specifications of columns 4 and 5 fit a local linear regression around the cutoff that allows for a break in the slope at the cutoff. The "Control Mean" line designates the outcome mean for the sample of male legislators. The "Scaled Effect" line designates the impact of female legislators scaled to the mean of male legislators (Treatment Effect/Control Mean).

Figure A18: Results by Committee



Notes: The data comes from the French Lower House during the period 2002-2017. Confidence intervals are represented at the 95% level. The x-axis represents the committees. The y-axis represents the coefficient associated to the variable *Woman* divided by the average of male legislators (scaled effect) in a regression where the outcome is a dummy that equals 1 if the legislator initiates at least one women-related amendment. The estimates are obtained with the Pooled OLS specification controlling for age at the beginning of the term, the political inclination (left or right-wing), the incumbency status, the margin of victory at the election, the female participation rate to the labor market in the constituency and term fixed-effects.

G.2 Potential Influence of Parliamentary Assistants

Table A17: Authorship of Women-Related Amendments Depending on the Composition of the Team of Parliamentary Assistants - Lower House

<i>Dep. Var.: At Least one Women-Related Amendment Initiated (1=Yes)</i>			
	(1)	(2)	(3)
Woman (1=Yes)	0.13* (0.07)	0.15* (0.08)	0.12 (0.07)
AboveMedianShareFemaleAssistant			-0.06 (0.05)
Woman*AboveMedianShareFemaleAssistant			0.06 (0.10)
Share Female Assistant Above Median	No	Yes	All
Control Mean	0.44	0.36	
Scaled Effect	29.1	40.0	
Observations	246	252	498

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. The data comes from the French Lower House during the period 2012-2017 for which information on the parliamentary assistants is available. The sample is restricted to parliamentarians who were in the House when the data was collected. Controls include the age at the beginning of the term, the political inclination (left or right-wing), the incumbency status, the margin of victory at the election, the female participation rate to the labor market in the constituency. The "Control Mean" line designates the outcome mean for the sample of male legislators. The "Scaled Effect" line designates the impact of female legislators scaled to the mean of male legislators (Treatment Effect/Control Mean). The median share of female assistant is 2/3.

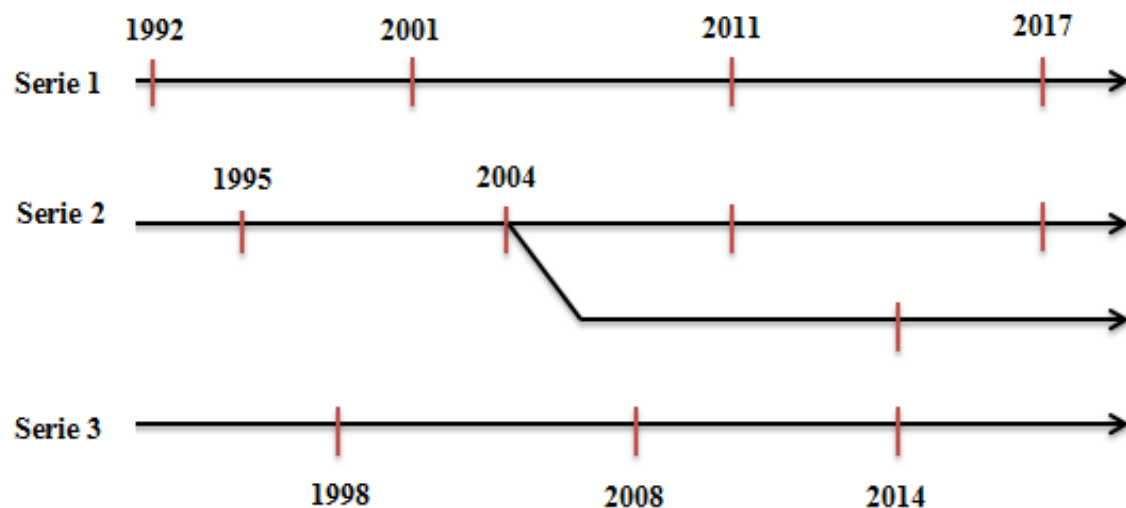
H Evidence from the Upper House

H.1 Institutional Setting

Figure A19 schematizes the schedule of the Upper House election system. Initially, there were 3 series. The first had elections in 1995, 2001, 2011 and 2017. The second had election in 1995 and 2004. After 2004, this serie was splitted in two (randomly) and half of the senators were reelected in 2014 (and will be in 2020) and the other half in 2011 and then 2017. Finally, the last serie had elections in 1998, 2008 and 2014 (and will have in 2020).

Gender quotas were voted in 2000. As such, they were applied for the first time in 2001 (serie 1), 2004 (serie 2) and 2008 (serie 3).

Figure A19: Upper House Election Schedule



Notes: This figure schematizes the schedule of the French Upper House election system. Each short vertical red line represents an election.

H.2 Descriptive Statistics

Table A18: Descriptive Statistics on Constituencies' Characteristics and their Activity Related to Amendments

	(1) Mean	(2) S.D.	(3) Min	(4) Max
N Elected	3.04	1.81	1.0	12.0
N Elected Women	0.53	0.89	0.0	5.0
Share Women Elected	0.12	0.18	0.0	1.0
N Co-Sponsored Per Year	135.65	93.98	2.0	451.3
N Co-Sponsored Per Year Gender	2.57	2.63	0.0	14.3
Share Co-Sponsored Gender	0.02	0.02	0.0	0.1
N Authored Per Year	21.45	22.59	0.0	169.3
N Authored Per Year Gender	0.30	0.61	0.0	4.9
Share Authored Gender	0.01	0.02	0.0	0.2
At Least One Authored Gender (1=Yes)	0.56	0.50	0.0	1.0
At Least One Authored (1=Yes)	1.00	0.07	0.0	1.0
Observations	216			

Notes: the data comes from the French Upper House during the period 2001-2017. *Gender* indicates that the amendment is identified as related to women's issues with a dictionary-based method.

Table A19: Most Frequent Trigrams and Bigrams in the Sample of Amendments Related to Women's Issues - Upper House

(1)	(2)	(3)	(4)	(5)	(6)
<i>Trigrams</i>			<i>Bigrams</i>		
Rank	N	Keywords	N	Keywords	
1	111	delegation rights women	480	women men	
2	110	equality women men	265	national assembly	
3	54	professional women men	264	men women	
4	51	equality professional women	236	part time	
5	50	equal access women	185	equality professional	

Notes: the data comes from all the amendments produced in the French Upper House during the period 2001-2017. It is restricted to amendments identified as related to women's issues with a dictionary-based method.

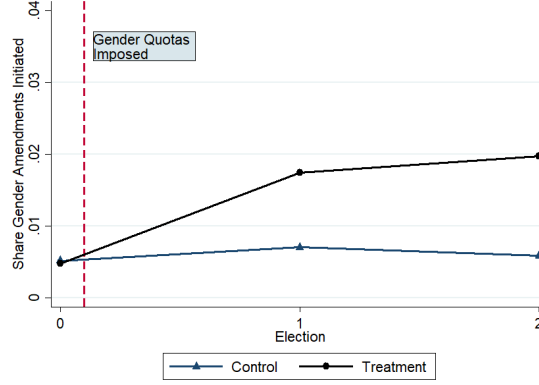
H.3 Results

Table A20: Overall Gender Differences in Parliamentary Activities - OLS and Wald Estimates in the Upper House

Dependent Variable	(1) N Authored	(2) N Co-sponsored
<i>Panel A: OLS Estimates</i>		
N Women	5.07 (6.92)	0.65 (2.42)
Observations	216	216
Constituencies	72	72
<i>Panel B: Wald Estimates</i>		
N Women	-4.54 (16.99)	2.32 (4.80)
Observations	216	216
Constituencies	72	72

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. The data comes from the French Upper House during the period 2001-2017. The dependent variable is respectively the number of amendments initiated and the number of amendments co-sponsored by the constituency in column 1 and 2. Standard errors clustered at the constituency level are given in parentheses. Panel A displays OLS estimates and Panel B Wald estimates.

Figure A20: Impact of the Gender Quota on Authorship of Women-Related Amendments in the Upper House



Notes: the data comes from the French Upper House during the period 2001-2017. Circles and triangles respectively designate the average number of women per constituency for those that have to comply with the quota and those that do not need to. The y-axis represents the share of authored women-related amendments. The vertical red dashed line corresponds to the time where gender quotas were introduced.

Below, I estimate the reduced-form impact of the gender quotas in the Upper House. Formally, I estimate:

$$Y_{ct} = \alpha + \delta Treatment_c + \gamma Post_t + \beta Treatment_c * Post_t + \epsilon_{ct} \quad (6)$$

Where c is the subscript for the constituency level and t for time. $Treatment_c$ equals 1 if the constituency has to comply with the quota. $Post_t$ equals 1 if the election happened after the introduction of the gender quota.

Table A21: Reduced-Form Impact of Gender Quotas on Initiation of Women-Related Amendments - Upper House

Dependent Variable	(1) N	(2) Share	(3) At least One (1=Yes)
Treatment	0.06 (0.08)	-0.00 (0.00)	0.08 (0.13)
Post	0.07 (0.08)	-0.00 (0.00)	0.15* (0.09)
Treatment*Post	0.48*** (0.16)	0.02*** (0.01)	0.35** (0.14)
Observations	216	216	216
Constituencies	72	72	72

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. The data comes from the French Upper House during the period 2001-2017. Standard errors clustered at the constituency level are given in parentheses. Treatment corresponds to constituency that have to comply with the quota, i.e. those with more than 4 representatives. Post corresponds to the period after the first election with quotas.

Table A22: Reduced-Form Impact of Gender Quotas on Co-Sponsorship of Women-Related Amendments - Upper House

Dependent Variable	(1) N	(2) Share
Treatment	0.24 (0.37)	0.00 (0.00)
Post	2.04*** (0.39)	0.01* (0.00)
Treatment*Post	1.07* (0.57)	0.00 (0.00)
Observations	216	216
Constituencies	72	72

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. The data comes from the French Upper House during the period 2001-2017. Standard errors clustered at the constituency level are given in parentheses. *Quota* corresponds to constituency that have to comply with the quota, i.e. those with more than 4 representatives. *PostPool* corresponds to the period after the first election with quotas.

Table A23: First Stage Results: Impact of Gender Quotas - Upper House

Dependent Variable	(1)	(2)	(3)	(4)	(5)	(6)
	N Women		At Least One Woman (1=Yes)		Share Women	
Quota*Post Pool	1.23*** (0.24)		0.35*** (0.12)		0.13*** (0.05)	
Post Pool	0.22*** (0.05)		0.22*** (0.05)		0.09*** (0.02)	
Quota*Post 1		1.20*** (0.25)		0.45*** (0.12)		0.14*** (0.05)
Quota*Post 2		1.26*** (0.26)		0.26* (0.13)		0.13** (0.06)
Post 1		0.15*** (0.05)		0.15*** (0.05)		0.06*** (0.02)
Post 2		0.29*** (0.07)		0.29*** (0.07)		0.12*** (0.03)
Quota	0.48*** (0.15)	0.48*** (0.15)	0.38*** (0.11)	0.38*** (0.11)	0.09*** (0.03)	0.09*** (0.03)
F-Statistic	35.7	22.7	316.4	565.6	72.2	53.9
Observations	216	216	216	216	216	216
Constituencies	72	72	72	72	72	72

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. The data comes from the French Upper House during the period 2001-2017. The dependent variables are the number of women (column 1 and 2), a dummy that equals 1 if at least one woman is elected (column 3 and 4), the share of women elected (column 5 and 6). The regressions are run at the constituency level.

Table A24: Instrumental Variable Strategy

<i>Dep Var: Share Women-Related Amendments Initiated</i>			
	(1)	(2)	(3)
N Women	0.02** (0.01)		
Share Women		0.16** (0.07)	
At Least One Woman			0.06** (0.03)
Treated	-0.01* (0.01)	-0.02 (0.01)	-0.03 (0.02)
Post	-0.01 (0.01)	-0.02 (0.01)	-0.01 (0.01)
Observations	215	215	215
Constituencies	72	72	72

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. The data comes from the French Upper House during the period 2001-2017. Standard errors clustered at the constituency level are given in parentheses. The dependent variable is the share of women-related amendment initiated in a constituency. Each column displays the results using a different measure of the presence of elected women per constituency (number of women for column 1, the share of women for column 2 and a dummy that equals 1 if at least one woman is elected in column 3).

Analyzing co-sponsorship, Table A25 provides the OLS and Wald estimates. Looking at Panel A, using OLS estimations, we see that the number of women in a constituency is strongly correlated with the number and the share of women-related amendments co-sponsored. In column 1, we see that one additional woman increases the number of amendments co-sponsored by 0.77 per year. Similarly, in column 2, the share of women-related amendments increases by 0.004 percentage points when one additional woman is elected. Turning to Wald estimates, estimates lose in precision. We see that an additional woman introduced through gender quotas increases the number of co-sponsors by 0.87, this coefficient being significant at the 10% level. Turning to column 2, the increase in the number of amendments co-sponsored does not lead to an increase in the share of amendments co-sponsored. One potential explanation for this finding is that due to the lower co-sponsorship activity in the Upper House, women may prefer to engage in authorship

rather in co-sponsorship. This would be increasingly valued in the Upper House context.

Table A25: Impact of Gender Quotas on Co-Sponsorship of Women-Related Amendments
- OLS and Wald Estimates in the Upper House

Dependent Variable	(1) N	(2) Share
<i>Panel A: OLS Estimates</i>		
N Women	0.775*** (0.243)	0.004*** (0.001)
Observations	216	216
Constituencies	72	72
<i>Panel B: Wald Estimates</i>		
N Women	0.872* (0.500)	0.003 (0.003)
Observations	216	216
Constituencies	72	72

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. The data comes from the French Upper House during the period 2001-2017. Standard errors clustered at the constituency level are given in parentheses. Panel A displays OLS estimates and Panel B Wald estimates.

H.4 Robustness

In Table A26, I replicate the main analysis using a restrictive definition of women-related amendments. Only amendments containing the word "wom" are classified as women-related. The results are essentially similar although slightly lower in magnitude.

Table A26: Impact of Gender Quotas on Initiation of Women-Related Amendments **Restricted Definition** - OLS and Wald Estimates in the Upper House

Dependent Variable	(1) N	(2) Share	(3) At least One (1=Yes)
<i>Panel A: OLS Estimates</i>			
N Women	0.166* (0.084)	0.005*** (0.002)	0.122*** (0.039)
Observations	216	215	215
Constituencies	72	72	72
<i>Panel B: Wald Estimates</i>			
N Women	0.391** (0.155)	0.017** (0.007)	0.278** (0.132)
Observations	216	215	215
Constituencies	72	72	72

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. The data comes French Upper House during the period 2001-2017. Standard errors clustered at the constituency level are given in parentheses. Panel A displays OLS estimates and Panel B Wald estimates.

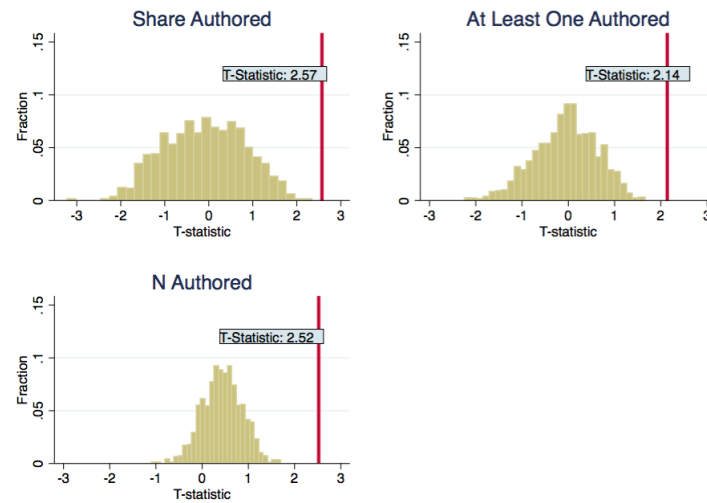
While the introduction of a gender quotas has increased the share of amendments initiated on women-related topics in the Upper House, the question remains as to what extent this finding depends on the fact that these amendments are related to women's issues?. To investigate, I build a placebo test that consists in drawing a set of random sample of amendments (500) of equal size to the sample used in the main regression (2,064) and comparing the estimates related to the difference-in-differences coefficient ($Quota * Post$) to the one with the main sample.

Figures [A21](#) displays the t-statistics for the three outcomes which are respectively: the share of amendments initiated, the probability to initiate at least one amendment and the raw count of amendments initiated. The placebo test shows that it is very unlikely to obtain findings consistent with the body of the article using a random sample of amendments.

For the main outcome which is the share of amendments initiated, there does not exist any random sample that delivers a larger t-statistic than the one with the main sample. Only 7 (1.4%) samples deliver estimates significant at the 5% level. These figures are equal

to zero for the other two outcomes. Consequently this test provides supporting evidence of the existence of homogeneity and relevance in the sample of amendments selected using the dictionary-based approach.

Figure A21: Placebo Test Random Sample Amendments - Upper House



Notes: The data comes from the French Upper House during the period 2001-2017. The histogram represents the distribution of T-statistics related to the difference-in-differences coefficient $Quota * PostPool$ using 1000 placebo samples constituted of random draws of amendments. Each graph represents a different outcome.