

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

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14th February 2019

Motivation

- **Women are underrepresented in politics**
 - Account for 24% of parliament seats worldwide in 2018
- Central argument for equal representation: **gender matters for policymaking**
- Important implications:
 - ① Absence of women in politics may bias policymaking in favor of men
 - ② Implications beyond the question of gender
- **This article tests this argument**

What We Know: Does Gender Matter for Policymaking?

① In theory: unclear

- **Median voter** framework (Downs, 1957) → Policies are determined by voters' preferences
- **Citizen-candidate** models (Osborne & Slivinski, 1996 or Besley & Coate, 1997) → Politicians' preferences determine policymaking

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② Empirically: mixed evidence

- **Conflicting evidence**
 - Evidence from developing countries that women deliver different types of policies (Chattopadhyay & Duflo, 2004, Bhalotra & Clots-Figueras, 2014, Brollo & Troiano, 2016)
 - Difficult to replicate in developed countries (Ferreira and Gyourko, 2014 or Bagues & Campa, 2017)

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- **Data limitations:** does different mean women-related?
 - Relies on spending or public goods data
 - Rarely include women's issues

This Paper

- Investigates the **effect of legislators' gender on policymaking towards women's issues**
- Methods
 - **Text analysis** to select work related to women's issues
 - **Quasi-experimental variations** to identify the impact of legislators' gender
- Data from the **French Parliament during the period 2001-2017**
 - Over 300,000 amendments from the Lower and the Upper House

Preview Results

- ① **Identifying amendments related to women's issues**
 - Dictionary: "women", "sex", "gender"

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- Evidence supporting this hypothesis
- As we move closer to the individual interest of legislators, gender differences increase

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⑤ Implications for gender quotas?

- Replicate this analysis in the Upper House exploiting the introduction of a gender quota
- Obtain similar results

- ① Motivation
- ② Institutional Setting
- ③ Data
- ④ Empirical Strategy
- ⑤ Results
- ⑥ Extensions
- ⑦ Conclusion

Amendments as the Main Form of Initiative and Policymaking

- Work of legislators consist **in producing and voting the law**
 - Amendments, bills and votes
- Amendments as the main form of initiative
 - consist of **deletion, modification or addition of articles** included in an existing bill
 - An amendment is **inevitably examined** whereas a bill is not
 - Strong party **discipline** on votes
- Scholars have recognized amendments as the main form of parliamentary initiative (Knapp and Wright 2006, Avril and Gicquel 2004)
- **Main outcome:** Initiation of an amendment by a legislator

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Sources: Lower House Website

- All the **amendments are recorded from 2002 until 2017**
 - Contains all the information: date, author, co-sponsors, content, bill's reference, outcome ...
- **Web scraped the data** to build an analyzable dataset
 - 207,559 amendments from the Lower House
- **Matched with information on parliamentarians:** sex, age, political inclination, electoral score, demographic information on the constituency,...
 - Parliamentarians elected in 2002, 2007 and 2012

Identifying Women-Related Amendments: Procedure

- **Problem:** amendments are not classified by topic
- **Hypothesis:** an amendment on women's issues will effectively mention women
- **Solution:** classify amendments based on the information they contain
 - Build a dictionary containing references to women
 - **Use 3 keywords** : "Wom", "Gender", "Sex"
 - Leads to an exhaustive definition
 - Restrict to "wom" in robustness
- Apply this dictionary on amendments to classify
 - **Use the bill's title and the motivation** Example
 - If an amendment contains one of these words, it is classified as related to women
- Classification leads to:
 - 3,744 women-related amendments in the Lower House (1.89%)

Validity of the Classification

- **Manual Screening:** Read the 3,744 amendments classified as women-related in the Lower House
 - 86% directly mention women's issues
 - About 10% referred to a profession occupied mostly by women such as nurse

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	305	equality wom men	1024	wom men	
2	126	workers part time	571	part time	
3	97	access wom men	393	men wom	
4	91	equal access wom	338	equality wom	
5	78	delegation rights wom	271	equality professional	

Notes: the data comes from all the amendments produced in the Lower House during the period 2002-2017. It is restricted to amendments identified as related to gender issues with a dictionary-based method.

- ① Motivation
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Lower House Elections in France

- Elections occur **every 5 years**
- **Single member constituency** \Rightarrow Each legislator represents different voters
 - 577 legislators are elected in **577 constituencies**
- Two round plurality voting round system
 - Only the **most popular is elected**

Identifying the Effect of Legislators' Gender

- **Main Outcome:** Dummy that equals 1 if the legislator has initiated at least one women-related amendment
- **Pooled OLS specification:**

$$Y_{ict} = \alpha + \beta \text{Woman}_{ict} + \gamma X_{ict} + \epsilon_{ict} \quad (1)$$

- i, c and t correspond resp. to the legislator, constituency and time level
 - X contains controls at the individual (age, incumbency status, electoral score, party affiliation) and constituency level (female labor force participation)
-
- **Identification Issue:** women are more likely to be **elected in more gender-friendly constituencies**

Disentangling Identity from Constituents' Preferences

① Fixed-Effect specification

$$Y_{ict} = \alpha + \beta \text{Woman}_{ict} + \gamma X_{ict} + \mu_c + \epsilon_{ict} \quad (2)$$

- i is the subscript for the legislator level and c for a constituency
- But unobservables could vary over time undermining the causal interpretation

② Regression-Discontinuity specification

- **Focus on close race** between top male and female candidates
 - Victory within a small margin can be considered as **random**
- **Build running variable X_i : female's score - male's score**
 - Defined at the constituency level
 - Positive if a woman wins
 - Negative if a woman loses

$$Y_i = \alpha + \beta \mathbb{1}\{X_i > 0\} + \gamma f(X_i) + \epsilon_i \quad (3)$$

- $\mathbb{1}\{X_i > 0\}$ is a dummy that equals 1 if a woman wins

Internal Validity Tests

- ① No evidence of vote share manipulation McCrary
- ② Supporting evidence that confounders are continuous at the threshold
 - 3 sets of characteristics: demographics, elections, preferences for politicians' gender

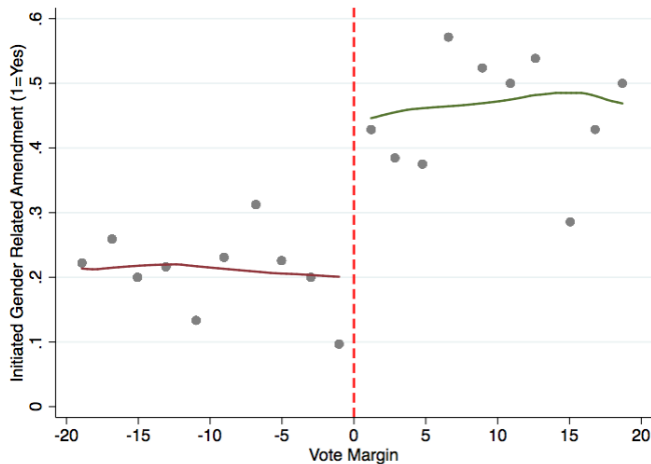
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Limited Gender Differences in Overall Parliamentary Activity

Specification	(1) Pooled OLS	(2) Fixed Effects	(3) Polynomial	(4) Regression Discontinuity LLR IK	(5) LLR CCT	(6) LLR CCT/2
<i>Panel A - Dep. Variable : 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 - Dep. Variable: At Least One Authored (1=Yes)</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 "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).

Women Are Twice More Likely to Initiate Women-Related Amendments



Notes: The data comes from the French Lower House during the period 2002-2017. There are 10 bins on each side of the cutoff.

Women Are Twice More Likely to Initiate Women-Related Amendments

<i>Dep. Var.: At Least One Women-Related Amendment Initiated (1=Yes)</i>							
Specification	(1)	(2)	(3)	(4)		(5)	(6)
	Pooled OLS	Fixed Effects	Polynomial	Regression Discontinuity LLR IK		LLR CCT	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. 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).

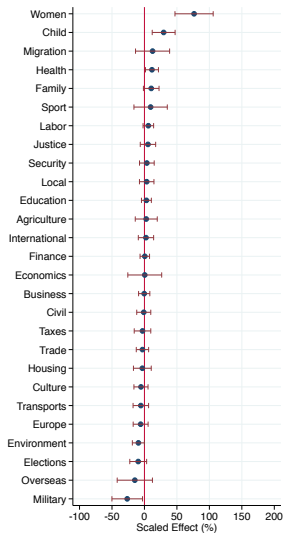
Heterogeneity

Co-Sponsorship

Extension to Other Topics

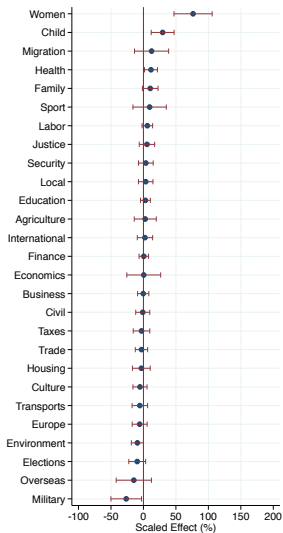
- **Twofold objective**
 - ① Are women's issues the key topic on which women are more active ?
 - ② Are there gender differences in involvement on other topics ?
- **Dictionary-Based Methods** Topics
 - Define a **list of 27 topics**: usual government ministries
 - **Manually Classify the 10,000 most recurring words** into 27 topics

Extension to Other Topics: Authorship Analysis

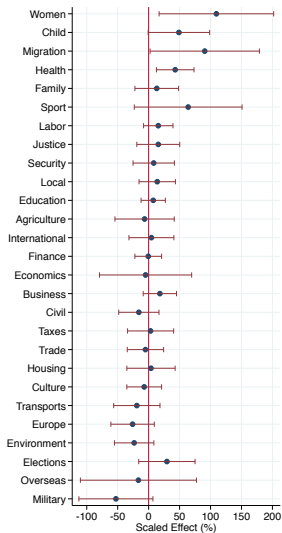


(a) Specification: Pooled OLS

Extension to Other Topics: Authorship Analysis



(c) Specification: Pooled OLS



(d) Specification: RDD mixed-gender close races

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Extensions

① Investigate the mechanisms

- Constituents' preferences: does not appear to drive the results
- Political Parties' strategies vs Individual Interest: Restrict the sample to cases more likely to represent individual interest and find that gender differences increase when we move closer to individual interest

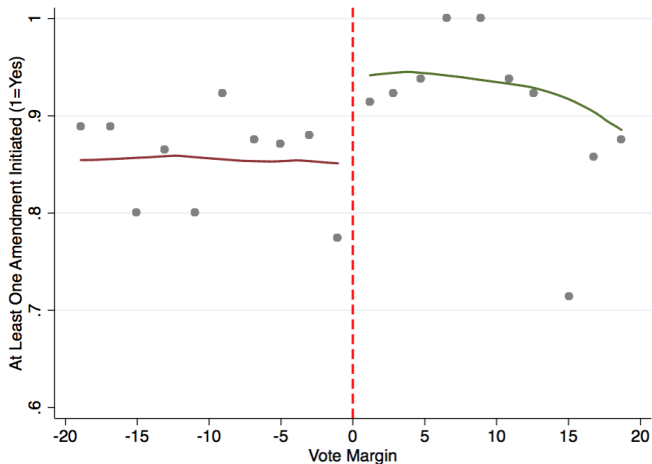
② Implications for gender quotas?

- Exploit the introduction of a gender quota in the Upper House
- Obtain similar results
- Suggest that gender quotas increase the prevalence of women's issues

Conclusion

- **Main results**
 - **As compared to their male counterparts, female legislators**
 - initiate and co-sponsor twice more amendments related to women's issues
 - **Women's issues constitute the key topic** where women are more active relatively to men
 - Followed by health and child issues whereas men are more active on military issues
 - Evidence that this is driven by **individual interest**
 - Evidence that **gender quotas increase the prevalence of women's issues**
- **From a public policy perspective**
 - Suggest that the underrepresentation of women in politics biases policymaking
 - Suggest that gender quotas lead to a shift in policymaking
- **Future research**
 - Simple method that can be extended to alternative settings and alternative dimensions of identity

Limited Gender Differences in Overall Parliamentary Activity



Notes: The data comes from the French Lower House during the period 2002-2017. There are 10 bins on each side of the cutoff.

Identifying Women-Related Amendments

Back

- Problem: **Amendments are not classified by topic**
- Information available: bill's title, content and motivation

Example of Amendment on the Lower House website

ART. 18 BIS N°58

ASSEMBLÉE NATIONALE
23 juin 2014

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

Coremizator	
Gouvernement	

REJETÉ

AMENDEMENT N°58

présenté par

Mme Rachuy, Mme Gulgot 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. ».

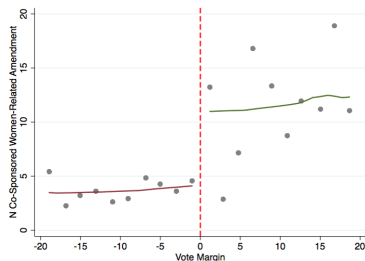
EXPOSÉ SOMMAIRE ← **Presentation**

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.

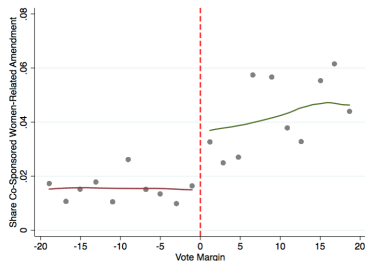
Notes: This figure comes from the Lower House website at <http://www.assemblee-nationale.fr/14/amendements/2043/AN/58.asp>.

Women Co-Sponsor Twice More Women-Related Amendments

Back



(e) Outcome: N Co-Sponsored per Year



(f) Outcome: Share Co-Sponsored

Notes: The data comes from French Lower House during the period 2002-2017. There are 10 bins on each side of the cutoff.

Women Co-Sponsor Twice More Women-Related Amendments

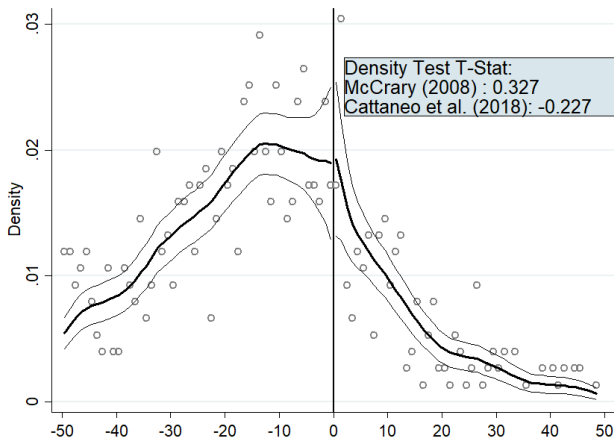
Back

Specification	(1) Pooled OLS	(2) Fixed Effects	(3) Polynomial	(4) <i>Regression Discontinuity</i> LLR IK	(5) LLR CCT
Panel A <i>Dep Variable: N Women-Related Amendments 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
Panel B <i>Dep Variable: Share Women-Related Amendments 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.

Internal Validity Test: No Evidence of Manipulation

Back



Notes: The data comes from the 2002, 2007 and 2012 Parliamentary Elections.

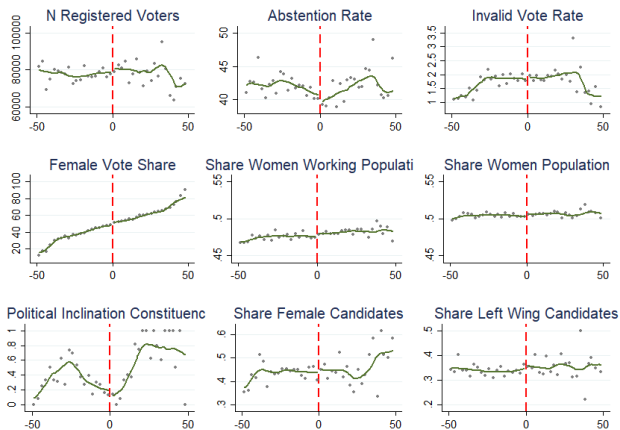
Internal Validity Test: Continuity Assumption

Back

- **4 sets of confounders**
 - ① **Preferences for the gender** of politicians (female vote share)
 - ② **Demographic** characteristics (share of women working and total share of women in the population)
 - ③ **Election** characteristics (N Registered voters, Abstention rate, invalid vote rate)
 - ④ Characteristics of the **pool of candidates** (Political inclination and share of women among the candidates)

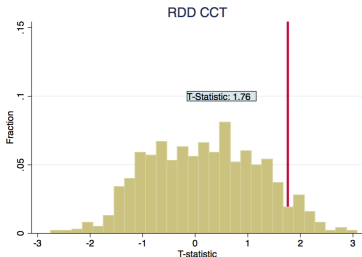
Testing the Continuity Assumption

Back

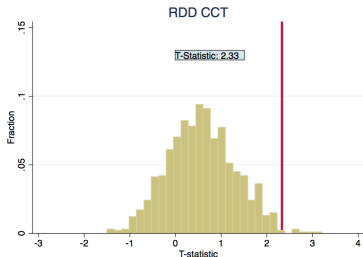


Notes: The data comes from the French Lower House during the period 2002-2017.

Placebo Test - Random Sample of Amendments



(g) Outcome: Share Co-sponsored



(h) Outcome: At least One Initiated

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 a mixed-gender close race elections using the CCT bandwidth to compute the bandwidth. The outcome is respectively the share of co-sponsored amendments (a) and a dummy equals to 1 if the legislator has initiated at least one amendment related to the random sample of amendment drawn. There are 500 samples constituted of 4,421 randomly drawn amendments.

	<i>Dep. Var.: At Least one Gender-Related Amendment Initiated (1=Yes)</i>					
	(1) Cross- Section	(2) Fixed Effects	(3) Cross- Section	(4) Fixed Effects	(5) Cross- Section	(6) Fixed Effects
Woman (1=Yes)	0.21 (0.20)	0.26 (0.24)	0.25*** (0.05)	0.28*** (0.08)	0.14*** (0.04)	0.17*** (0.05)
Woman*Age	-0.00 (0.00)	-0.00 (0.00)				
Woman*Left			-0.13** (0.07)	-0.13 (0.10)		
Woman*Incumbent					0.07 (0.06)	0.13** (0.07)
Age	-0.00*** (0.00)	-0.00** (0.00)	-0.00*** (0.00)	-0.01*** (0.00)	-0.00*** (0.00)	-0.00** (0.00)
Left (1=Yes)	0.02 (0.02)	0.01 (0.05)	0.05* (0.03)	0.04 (0.05)	0.02 (0.02)	0.02 (0.04)
Incumbent (1=Yes)	-0.01 (0.02)	-0.00 (0.03)	-0.01 (0.02)	-0.01 (0.03)	-0.03 (0.02)	-0.03 (0.03)
Observations	1663	1663	1663	1663	1663	1663
Constituencies	597	597	597	597	597	597

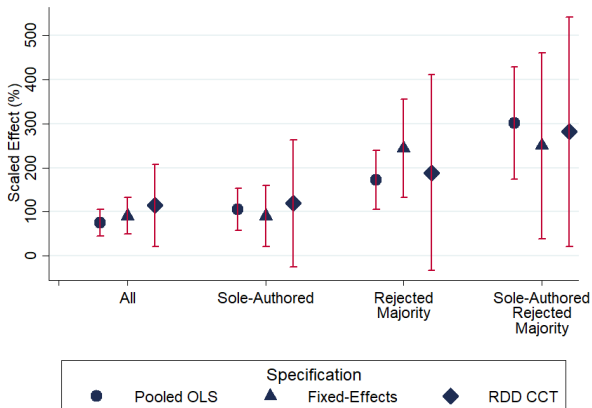
Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. The data comes from the French Lower House during the period 2002-2017. Standard errors clustered at the constituency level are given in parentheses. The "Control Mean" line designates the outcome mean for the sample of male legislators. The "Scaled Effect" line designates the impact of female legislators scaled to the mean of male legislators (Treatment Effect/Control Mean).

Dictionary-Based Methods: Examples

Details on Topic Classification

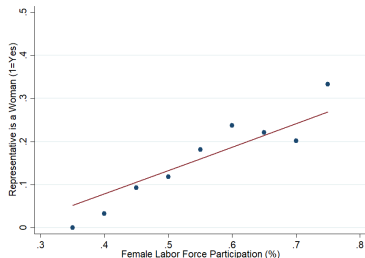
Topic	Top 10 Keywords	5 Most Frequent Bigrams	5 Most Frequent Trigrams
Health	health, care, doctor, diseases, patient, sanitar, medical, medica, handicap, medico (130)	health instit, public health, social securit, professional health, insuranc diseases	financ social securit, health private instit, person situat handicap, public servic hospital, care follow readapt
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
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

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

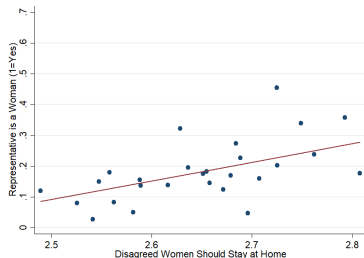


Notes: The data comes from French Lower House during the period 2002-2017. The outcome is a dummy that equals 1 if the legislator initiates at least one gender-related amendment. Each dot represents the coefficient associated to the variable *Woman* divided by the average of male legislators (scaled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

Women are elected in more gender-friendly constituencies



(i) Female Labor Force Participation



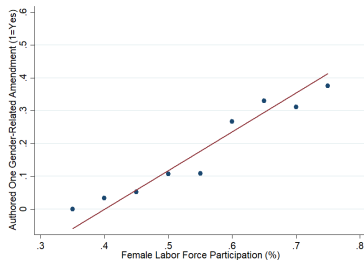
(j) Attitudes

Notes: The data comes from French Lower House during the period 2002-2017. There are 10 bins on each side of the cutoff.

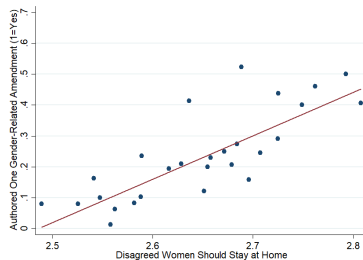
Validity of the Classification: Predictive

Back

- Positive correlation between the attitudes of constituents and the share of gender-related amendments the parliamentarians produces



(k) Female Labor Force Participation



(l) Attitudes

Notes: The data comes from French Lower House during the period 2002-2017. There are 10 bins on each side of the cutoff.

- Hold for both male and female legislators and across years

Descriptive Statistics on Topics Prevalence

