The Changing Relationship between Gender and Corruption*

Preliminary Version: This paper is under active development. Results and conclusions may change as research progresses.

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Abstract

Greater representation of women in government is strongly associated with less corruption in that government among democracies. However, we find that the empirical association between women's representation and corruption has declined over the last forty years. We probe the etiology of this decline using instrumental variables analysis. Our results indicate that the causal impact of increased women's representation on reducing corruption remains stable. However, the negative effect that corruption has on women's representation has grown weaker during this period.

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Scholars have known that greater representation of women in government strongly associates with less corruption in that government since Dollar, Fisman and Gatti (2001) and Swamy et al. (2001) first reported the finding at the turn of the twenty-first century. Later research established that the relationship was limited to democracies, causal, and bi-directional: more women in government reducing corruption but greater corruption in government reducing women's representation (Esarey and Schwindt-Bayer, 2019). The policy implications are exciting as efforts to make government more representative and to fight corruption in that government could be mutually-reinforcing.

We report a troubling finding: the empirical association between women's representation and corruption among democratic countries has steadily declined over the last forty years. Why is the relationship between women's representation and corruption shrinking? The answer is of critical importance to scholars and policy-makers. For political scientists, this decline may indicate a change in the causal structure of the relationship between gender and corruption. If women are intrinsically more resistant to corruption than men due to socialization into different values or gender roles (Sung, 2003; Wängnerud, 2020), this may mean that women's values are changing as society changes. If women are more risk-averse than men (Eckel and Grossman, 2008; Barnes and Beaulieu, 2018; Esarey and Schwindt-Bayer, 2019), this may indicate that corruption is becoming less risky. If corruption networks exclude outsiders (including women) to minimize their exposure (Goetz, 2007; Sundström and Wängnerud, 2014; Bjarnegård, 2013), the decline may mean that corrupt officials are adapting to enable their continued activities. And for policy-makers, the decline raises the disappointing possibility that increasing diversity and fighting corruption may no longer be synergistic activities.

To answer this question, we use instrumental variable regression models estimated year-over-year among democratic countries to determine the strength of the effect of women's representation in the legislature on corruption *and* the effect of corruption on women's rep-

resentation. If our instruments are valid, concerns about simultaneity and confounding are obviated by the approach; we use six different instruments for each model to ensure that our results are not sensitive to this choice. We find that the effect of women's representation on corruption has remained relatively stable over the last forty years. However, the effect of corruption on women's representation has fluctuated, becoming on average weaker over this time frame.

Data

Our data set is compiled from two sources: the Quality of Government data set (QoG, Teorell et al., 2021) and the Varieties of Democracy data set (V-Dem, Coppedge et al., 2021*b*). Table 1 depicts the summary statistics for key variables from this data set. Although the original data set covers 199 countries, this shrinks to a maximum of 118 because we only study those country-years whose value for the V-Dem Electoral Democracy index is higher than the midpoint (0.5) for the studied year. Similarly, the base data set spans the years 1980 to 2020, but not all key variables are available for every year.

Our core measure of corruption is the V-Dem political corruption index (Coppedge et al., 2021*a*, p. 296). We chose this measure because it is available for the full time span we study, is based on the assessment of country experts with detailed knowledge, and comprehensively covers all types of government corruption (including both petty and grand corruption). To study the robustness of our findings to this choice, we repeat our analyses with three other measures: the Bayesian Corruption Index (BCI, Standaert, 2015), Transparency International's Corruption Perceptions Index (CPI, Transparency International, 2020), and the World Bank's Control of Corruption governance indicator (WBGI, The World Bank Group, 2020).[1] We re-scaled all corruption measures to range from 0 (least corrupt) to 100

[1]See appendices A and B for availability over time and descriptions of these measures.

(most corrupt) for ease of interpretability and comparison. Our key independent variable is the percentage of the lower chamber being female (Coppedge et al., 2021*a*, p. 156).

Table 1: **Summary Statistics**

	N	mean	min year	max year	# countries
VDEM Corruption	3148	32.295	1980	2020	118
WBGI Corruption	1927	47.971	1996	2019	116
BCI Corruption	2579	42.535	1984	2017	115
CPI Corruption	2072	48.596	1995	2020	116
Wom. in Parliament	3139	16.835	1980	2020	118
Wom. Labor Force %	2663	42.442	1990	2020	116
Wom., Business, & Law Idx	3000	73.417	1980	2019	117
Gender Eq. Civil Liberties	3120	1.816	1980	2020	118
Fertility Rate	2940	2.585	1980	2018	117
Civil Society Org. Wom. Particip.	3148	1.732	1980	2020	118
Women's Secondary School %	2227	86.745	1980	2019	107
Impartial Public Admin.	3148	1.381	1980	2020	118
Transparent Laws & Enf.	3148	1.75	1980	2020	118
Media Corruption	3148	1.527	1980	2020	118
Gov't Media Censorship	3148	1.793	1980	2020	118
Political Stability	1927	0.267	1996	2019	116
Ethnolinguistic Frac. (1985)	2531	0.413	1985	2020	97

Figure 1 illustrates the declining relationship between corruption and women in parliament between 1980 and 2020. The plots show the slope coefficient for a bivariate regression predicting corruption using the proportion of women in the lower house of parliament in each year for which data is available. On average, this bivariate relationship is shrinking over time and that the turn of the twenty-first century was a high point for the strength of this relationship.

We use the following instrumental variables (IVs) in concert with two-stage least-squares regression (2SLS) to isolate the effect of women's representation in the legislature on corruption:

1. **Ethnolinguistic fractionalization in the year 1985.** From the QoG data set, the ELF

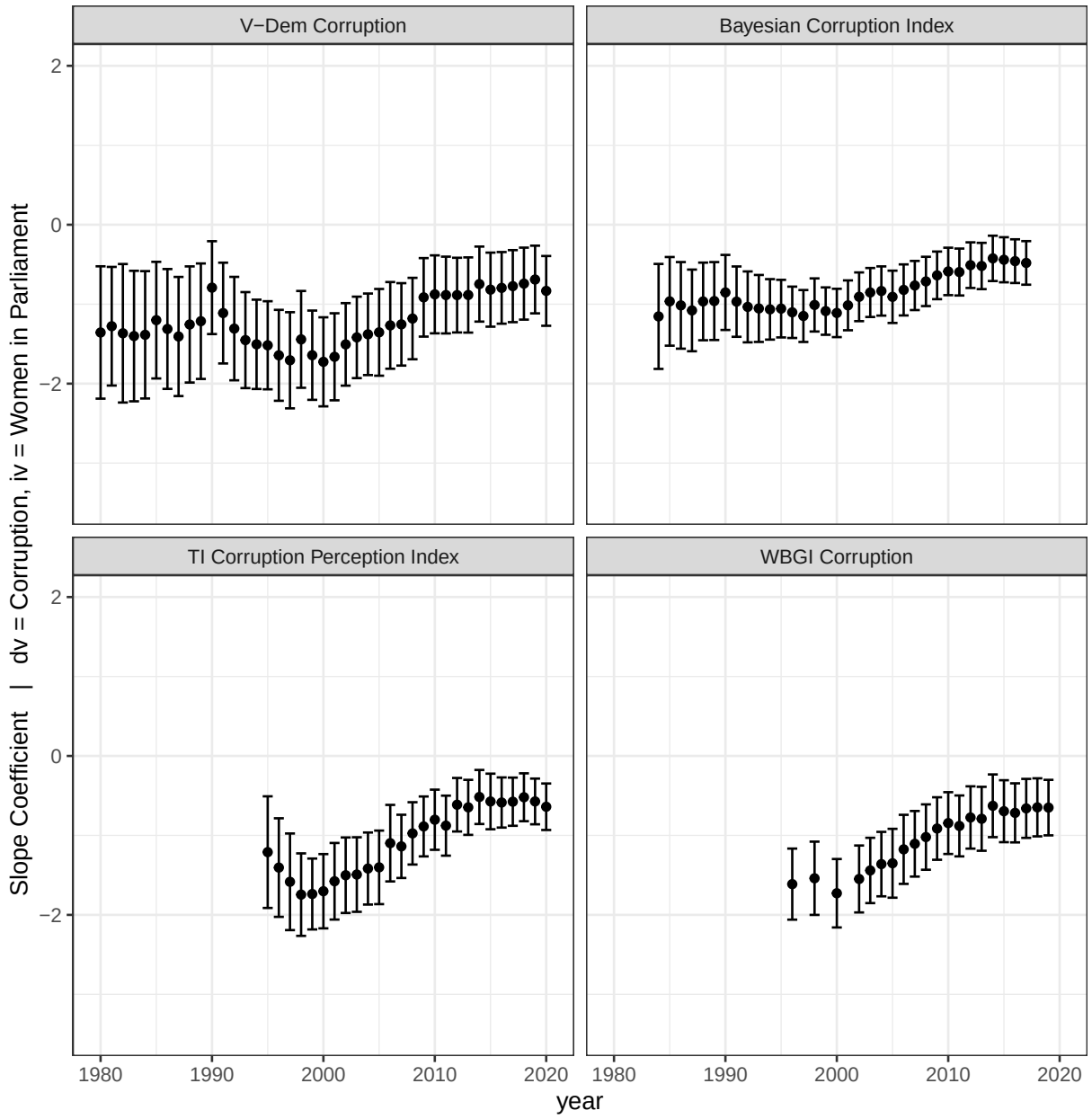

Figure 1: **The changing relationship between gender and corruption among democracies.** Each panel studies the relationship between a measure of corruption (named at the top of each panel) and the proportion of women in the lower house of the legislature. The dot reports a slope coefficient from a bivariate regression in the year indicated on the x-axis, with the magnitude of the slope on the y-axis and 95% confidence intervals represented by barred lines.

variable measures the "probability that two randomly selected people from a given country will not belong to the same ethnolinguistic group" (Teorell et al., 2021, p. 482). This variable increases corruption by decreasing cooperation among ethnic groups competing for government resources. It is used as an instrument for corruption by Mauro (1995) and Esarey and Schwindt-Bayer (2019).

2. **Government media censorship.** From the V-Dem data set, this variable measures whether "the government directly or indirectly attempt[s] to censor the print or broadcast media" (Coppedge et al., 2021*a*, p. 199) on a 0-4 scale, 0 being the highest level of censorship. A free press is strongly linked to decreased corruption because it can hold officials accountable and coordinate citizens and officials on low-corruption behavior (Stapenhurst, 2000; Brunetti and Weder, 2003).

3. **Media corruption.** From the V-Dem data set, this variable measures whether "journalists, publishers, or broadcasters accept payments in exchange for altering news coverage" (Coppedge et al., 2021*a*, p. 203) on a 0-4 scale with 0 being the highest level of corruption. As with censorship, this variable measures the degree to which the media holds the government accountable for corruption.

4. **Impartial public administration.** From the V-Dem data set, this variable measures "the extent to which public officials generally abide by the law and treat like cases alike, or conversely, the extent to which public administration is characterized by arbitrariness and biases (i.e., nepotism, cronyism, or discrimination)" (Coppedge et al., 2021*a*, pp. 175-176) on a 0-4 scale with 0 being the lowest level of impartiality. This is a measure of the rule of law, which we believe is necessary but not sufficient for low corruption (Uslaner, 2008).

5. **Transparent laws and enforcement.** From the V-Dem data set, this variable measures whether "laws of the land [are] clear, well publicized, coherent (consistent with

each other), relatively stable from year to year, and enforced in a predictable manner" (Coppedge et al., 2021*a*, p. 175) on a 0-4 scale with 0 being the lowest level of transparency and predictability. As with impartial administration, we believe this measure of rule of law is necessary but not sufficient for low corruption in government.

For 2SLS to be valid, each IV must cause changes in corruption but not women's representation (*except* through its effect on corruption); this assumption is called the "exclusion restriction" (Angrist and Pischke, 2009, pp. 153-155). If all six instruments lead to similar conclusions, we can be reasonably certain that our results are insensitive to violation of this exclusion restriction.

To isolate the effect of corruption on women's representation, we use the following IVs for the proportion of women in the lower house of parliament:

1. **Female secondary school enrollment.** From the QoG data set, this variable measures "Total female enrollment in secondary education, regardless of age, expressed as a percentage of the female population of official secondary education age" (Teorell et al., 2021, p. 578). Greater secondary school enrollment of women provides a greater pool of potential candidates for office, as explained by Esarey and Schwindt-Bayer (2019) who also use this instrument.

2. **Women's participation in the labor force.** From the QoG data set, this variable measures "female labor force as a percentage of the total" (Teorell et al., 2021, p. 593). As with secondary school enrollment, this instrument is also used by Esarey and Schwindt-Bayer (2019) as a measure of the pool of suitable and interested female candidates for office.

3. **Women, business, and the law index.** From the QoG data set, this variable "measures how laws and regulations affect women's economic opportunity" (Teorell et al., 2021, pp. 624-625) on a 1-100 scale, 100 being the highest value. The components of the

index are scores on "Going Places, Starting a Job, Getting Paid, Getting Married, Having Children, Running a Business, Managing Assets and Getting a Pension." With greater opportunity to participate in the economy, women will presumably have greater access to the resources, connections, and experience necessary to successfully run for office.

4. **Gender equality in respect for civil liberties.** From the V-Dem data set, this variable measures whether "women enjoy the same level of civil liberties as men" (Coppedge et al., 2021*a*, p. 211) on a 0-4 scale with 0 being the highest degree of inequality in civil liberties. We believe that having the same access to the public sphere as men is necessary, if not sufficient, for women to attain office.

5. **Women's participation in civil society organizations.** From the V-Dem data set, this variable measures whether "women [are] prevented from participating in civil society organizations" (Coppedge et al., 2021*a*, p. 195) on a 0-4 scale, with 4 being the greatest level of participation. As for the equal civil liberties instrument, this variable measures women's access to the public sphere which we believe is required for women to attain political office.

6. **Fertility rate.** From the V-Dem data set, this variable measures "the mean number of children that would be born to a woman over her lifetime if (a) she were to experience the current age-specific fertility rates through her lifetime, and (b) she were to survive through the end of her reproductive life" (Coppedge et al., 2021*a*, p. 360). High fertility rates represent a barrier to women's representation in that childbearing is time-consuming and can reduce women's control over their own lives and careers.

As before, we compare results for all six instruments to verify ensure robustness to violations of the exclusion restriction.[2]

[2]We also investigated using the percentage of female journalists (Coppedge et al., 2021*a*, p. 201) as an

IV/2SLS results

Figure 2 shows our 2SLS estimates of the causal impact of women's representation on corruption for every year between 1980 and 2020 using the V-Dem Political Corruption index. Each point is the marginal effect (ME) of a 1 percentage point increase in women's share of the lower house of parliament on corruption score for country data available in that year; the bars are 95% confidence intervals around that estimate. We also report the linear rate of change for this ME over time in the inset panel, with stars indicating the level of statistical significance.

For all six instrumental variables, an increase of 1 percentage point of women's share of the legislature is estimated to cause somewhere between a 2 to 5 point decrease in corruption score on a 100 point scale. This relationship is nearly always statistically significant at the 5% level (whenever the CI bars do not overlap zero in the plot). In general, this relationship does not change appreciably over time: the change in ME is substantively small and not consistently in the same direction depending on the instrument chosen to estimate the causal relationship. Four of the six estimates of change over time are statistically significant, but two are negative and two are positive; the others are indistinguishable from zero. F-statistics for the first stage of these regressions are reported in Appendix C; most are over the threshold of 10 recommended by Staiger and Stock (1997) with the notable exception of the fertility rate and labor force participation instruments which over closer to 5-8 over the span of the data. Results for our alternative measures of corruption, shown in Appendix Figures E through G, generally support the conclusion that this relationship is not weakening over time: 11 out of 18 models show either no statistically significant trend in the ME over time or

instrument for the percentage of women in the lower house of parliament; results are shown in Appendix Figure 6. These estimates were highly inconsistent with the literature and our other findings. This instrument might violate the exclusion restriction; e.g., corruption might influence whether media positions are open to women.

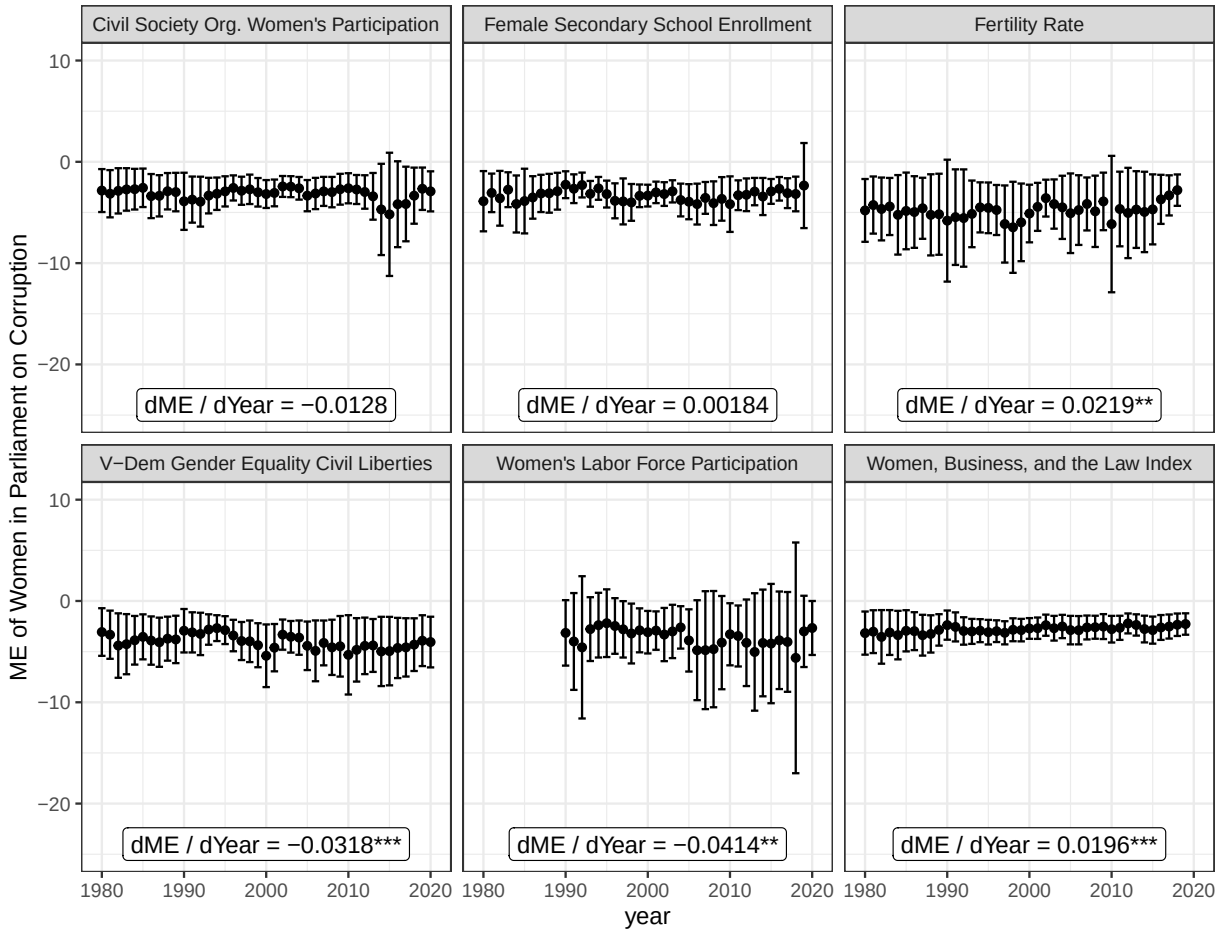

Figure 2: **The causal impact of women's representation on corruption over time.** Each panel studies the causal impact of the proportion of women in the lower house of the legislature on the V-Dem Political Corruption Index using a different instrumental variable (indicated at the top of the panel). The dot reports a slope coefficient from a bivariate two-stage least-squares regression in the year indicated on the x-axis, with the magnitude of the slope on the y-axis and 95% confidence intervals represented by barred lines. The trend over time is indicated in the label at the bottom of each panel, with stars indicating statistical significance from a simple linear regression predicting the coefficient using year (* = $p < 0.1$, ** = $p < 0.05$, *** = $p < 0.01$, all two-tailed).

that the relationship is getting stronger. Of those models showing weakening trends, many show *prima facie* evidence of curvilinearity; this could indicate fluctuation but not consistent change over time.

On the other hand, Figure 3 shows that the effect of corruption on the share of women in the legislature is getting smaller (that is, closer to zero) over time. All six instruments report a statistically significant drift in the direction of zero over time. For example, when using the V-Dem transparent laws and enforcement index as an instrument for corruption, the ME of a one point change corruption on women's representation drops by over one quarter compared to its initial value in the early 1980s. A one point increase in corruption decreases women's share of the lower house in the legislature by just over 0.25 percentage points, but by the late 2010s this effect is just under 0.2 percentage points. This change is somewhat larger or smaller depending on the instrument chosen, but is always negative and always statistically detectable at conventional levels. First-stage F-statistics for these models, shown in Appendix H, are generally well above the threshold of 10 set by Staiger and Stock (1997) with the exception of a few time periods for the ELF and media censorship instruments. Models using alternative measures of corruption (reported in Appendix Figures I through K offer mixed support for this conclusion: seven of 18 models indicate a statistically significant weakening trend and three more show an insignificant weakening trend, but the remainder show strengthening (with two showing statistically significant strengthening). A substantial proportion of the plots show some form of curvilinear change in the ME over time: three of ten plots showing weakening appear to be curvilinear, while five of eight plots showing strengthening appear to be curvilinear.

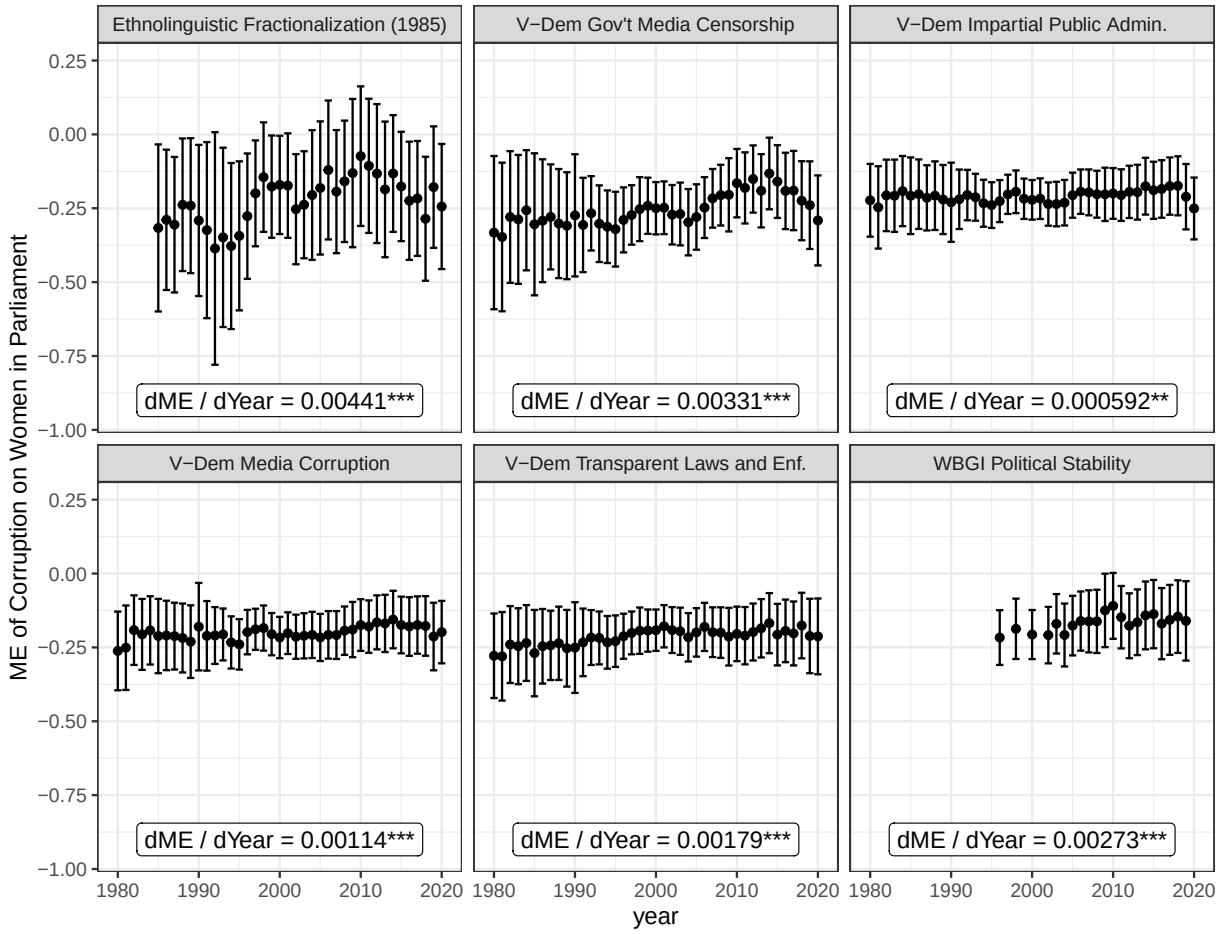

Figure 3: **The causal impact of corruption on women's representation over time.** Each panel studies the causal impact of the V-Dem Political Corruption Index on the proportion of women in the lower house of the legislature using a different instrumental variable (indicated at the top of the panel). The dot reports a slope coefficient from a bivariate two-stage least-squares regression in the year indicated on the x-axis, with the magnitude of the slope on the y-axis and 95% confidence intervals represented by barred lines. The trend over time is indicated in the label at the bottom of each panel, with stars indicating statistical significance from a simple linear regression predicting the coefficient using year (* = $p < 0.1$, ** = $p < 0.05$, *** = $p < 0.01$, all two-tailed).

Conclusion

What does it mean that the relationship between corruption and women in government has gotten smaller over the past 40 years? From a policy perspective, it is reassuring to know that the negative effect of women's representation of corruption has remained stable, and that corruption networks are not adapting to greater women's representation. If networks were effectively adapting, we would expect the effect of representation on corruption to be shrinking in tandem with the effect of corruption on representation. It is not.

One possible explanation for our results is that, by reducing corruption in government, increased women's representation over the last 40 years has made corruption networks sparser and less effective. If these networks are less effective, they will not only be less capable of exploiting public office for private gain; they will *also* be less effective at excluding women from public office to protect their corrupt interests. While this is likely not the only possible explanation for what we observe, it is consistent with prior findings from the literature linking greater participation by women to lower corruption in democracies (Correa Martínez and Jetter, 2016; Jha and Sarangi, 2018; Esarey and Schwindt-Bayer, 2019). It is also consistent with the field's common understanding that corruption is a systemic phenomenon, not an individual one (Andvig and Moene, 1990; Aidt, 2003).

It is important to note that the changes in women's representation that we study in this paper took place over 40 years. Such a gradual change may have a different effect on corruption than a quick exogenous increase in women's representation (such as the kind imposed by gender quotas for public office requiring some proportion of legislative seats to be occupied by women). The effect of quotas on corruption is possibly distinct from the effect of long-term gradual change and should be examined separately before policy implications are drawn from the present study.

We believe that the next step in testing this theory is to determine whether the level of

corruption prevalent in a state is associated with the marginal effect of increased corruption on decreased women's representation. If we are correct, there will be a strong, negative causal relationship between corruption and participation by women in government among corrupt states, but a smaller (or possibly non-existent) relationship among relatively clean states. This would suggest that increases in women's representation over time could push states into a self-reinforcing equilibrium of low corruption and high women's representation.

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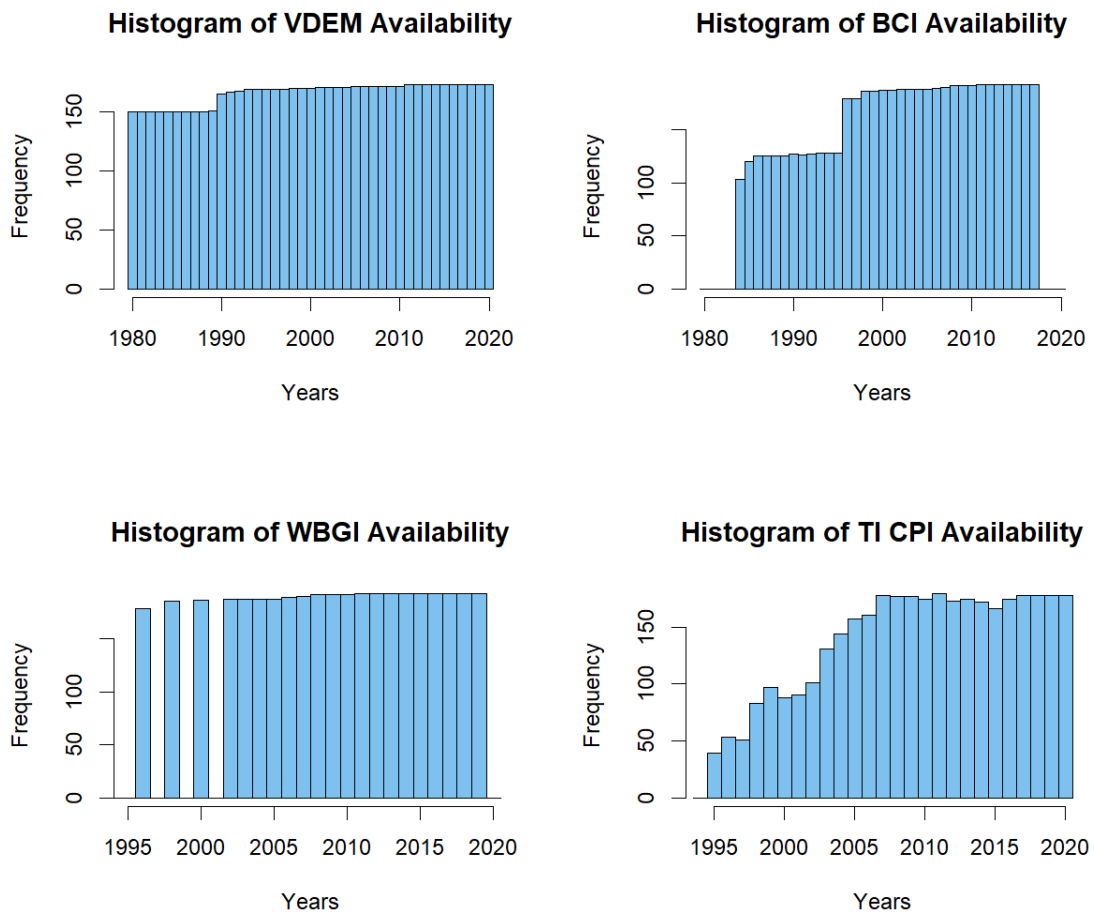
Online Appendices and Supporting Information

Contents

A Dependent Variables' Availability Over Time

Figure 4: **Availability of Corruption Measures by Year**



The availability of each of the four corruption measures during different time periods, ranging from 1980 to 2020.

B Descriptions of Frequently-Used Corruption Measures

The descriptions in this section are identical to descriptions in the online appendix of Dalton and Esarey (2021); these papers were written at the same time using (some of) the same variables.

1. *Varieties of Democracies (V-Dem)*[3]

   The V-Dem project as a whole constructs 470 democracy measures created from subjective, expert-led assessments that score how well governments are performing relating to democratic ideals. One of their products is a measure of overall corruption in a country-year. This composite measure is created from averaging four other sub-indicators of corruption: (i) the public sector corruption index, (ii) the executive corruption index, (iii) a measure of legislative corruption, and (iv) a measure of judicial corruption. These four measures are in turn created from expert assessments of corruption in the corresponding sector of government. The resulting composite measure of overall corruption ranges from 0 to 1, with 0 indicating low corruption, and is available from 1980 to 2020.

2. *Bayesian Corruption Index (BCI)*[4]

   The BCI is an index of perceived overall corruption (abuse of public power for private gain) within a country. It is constructed from 17 different surveys from countries' inhabitants, business executives, and governments. The BCI expands upon the number of sources used by the WBGI and CPI and is available over a larger time span than either of these two measures, but the measurement models used by the BCI and WBGI are broadly similar. Unlike the WBGI, the BCI's measurement model accounts for variation over time to avoid discrepancies in corruption measurements and prevent selection bias. The BCI ranges between 0 (least corrupt) to 100 (most corrupt) in countries and is available from 1984 onward.

3. *World Bank Group's Worldwide Governance Indicators (WBGI)*[5]

   The WBGI is created from 30 data sources from a variety of surveys, organizations, and governments. It utilizes a Unobserved Components Model (UCM) to construct six aggregated indicators of governance and estimate margins of error for each indicator. Of the six indicators, our interest is in their measure of *control of corruption*, defined by Kaufmann, Kraay and Mastruzzi (2010, p.4) as "the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as 'capture' of the state by elites and private interests". The WBGI ranges from -3 (least control over corruption - highly corrupt) to 3 (most control over corruption - least corrupt), and is available for 1996, 1998, 2000, and 2002-2020.

4. *Transparency International's Corruption Perceptions Index (CPI)*[6]

[3]Information about the V-Dem has been paraphrased from Coppedge et al. (2021).
[4]Information about the BCI has been paraphrased from Standaert (2015).
[5]Information about the WBGI has been paraphrased from Kaufmann, Kraay and Mastruzzi (2010).
[6]Information about the CPI has been paraphrased from Transparency International (2016) and Transparency International (2020)

The CPI is an extremely influential indicator of corruption widely used by scholars and policymakers.[7] It is constructed from averaging at least three (but as many as thirteen) different corruption scores taken from perception-based surveys and assessments of corruption in a given country. The CPI targets corruption in the public sector within a country and compiles relevant data from multiple, independent sources. The CPI standardizes the corruption scores from these sources to the same scale, then averages the scores. Finally, the standard error and confidence interval for each country's CPI value is calculated to account for any variation in the sources. The CPI ranges from 0 (most corrupt) to 100 (least corrupt), and is available from 1995-2020.

[7] According to Galtung (2006, p. 106), "The impact of the CPI has been considerable. It has been credited as a factor that gave the issue of corruption 'greater international prominence' (Florini, 1998).... The CPI has facilitated a qualitative shift in the journalistic writing and public discourse on corruption.... This interest and awareness of the CPI extends well beyond the business and financial press."

C First Stage F-statistics Plot: Women in Parliament's Effect on Corruption

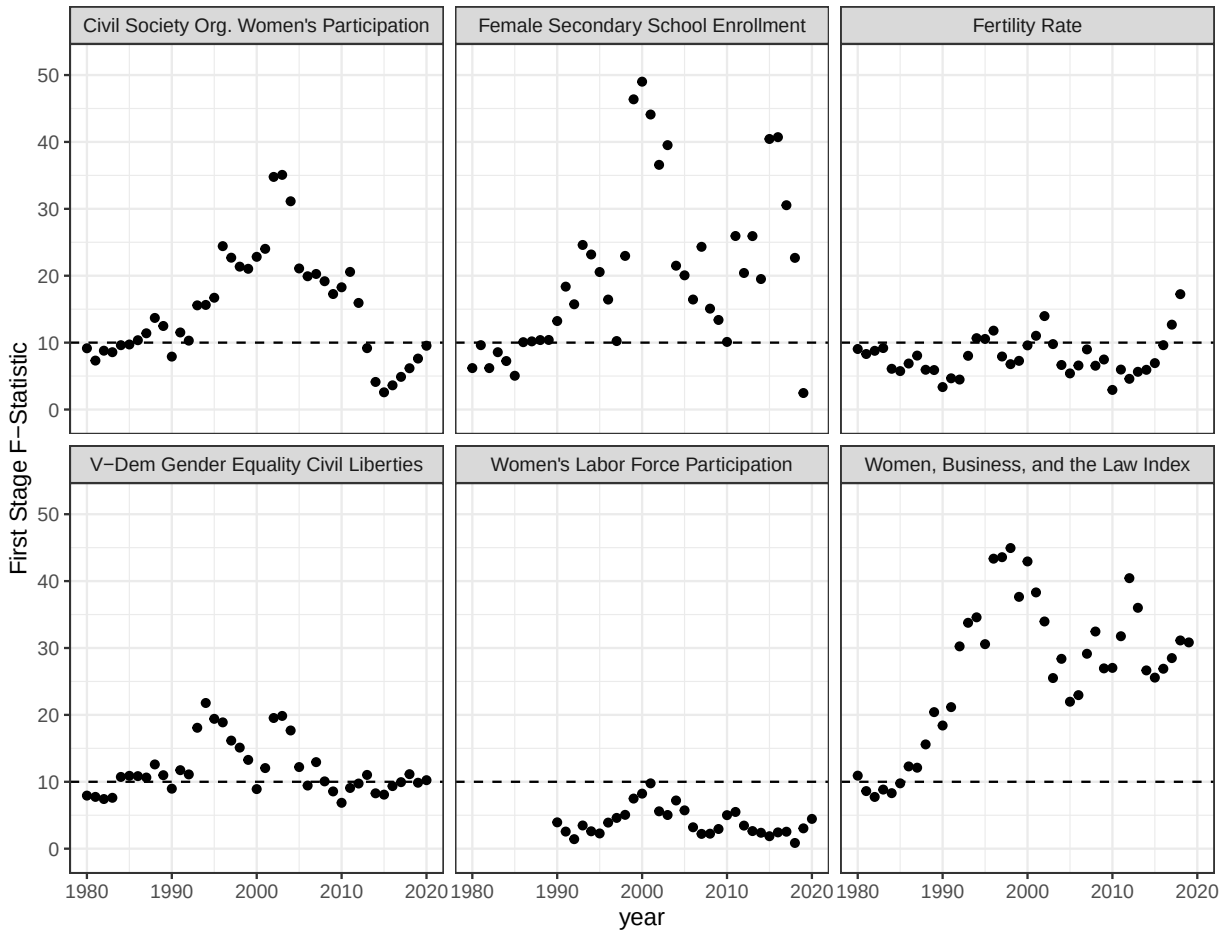


Figure 5: **First stage F-statistics for IV/2SLS models in Figure 2.** Each dot indicates the F-statistic corresponding to the year and instrumental variable indicated in Figure 2. The conventional minimum of 10 recommended by Staiger and Stock (1997) is indicated by a dashed line.

D Impact of Women in Parliament on Corruption: IV Analysis with Female Journalists Instrument

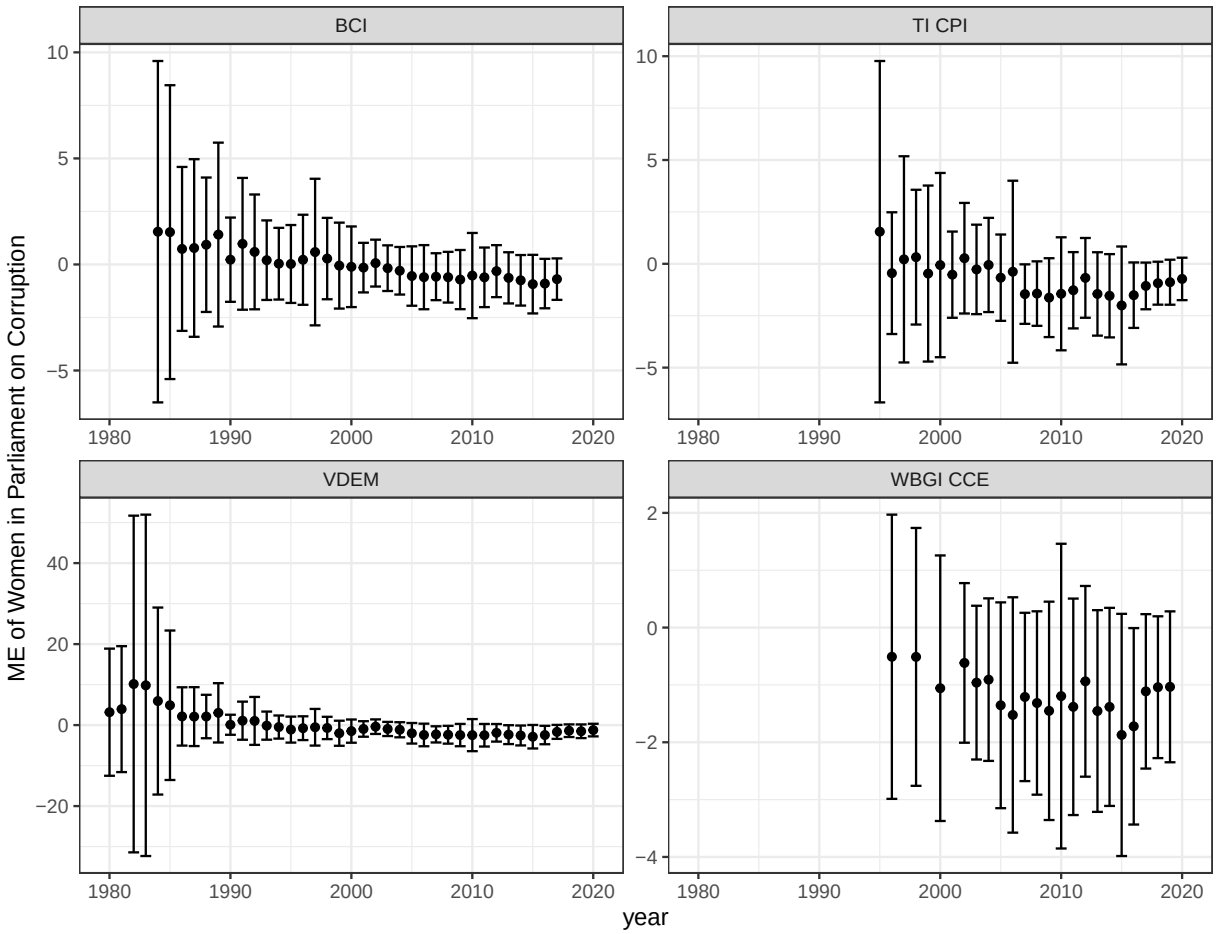


Figure 6: **The causal impact of women's representation on corruption over time estimated using the percentage of female journalists as an instrument.** Each panel studies the causal impact of the proportion of women in the lower house of the legislature using the dependent variable indicated at the top of the panel. All models use the percentage of journalists in the print and broadcast media who are women (from the V-Dem data set) as the instrument. The dot reports a slope coefficient from a bivariate two-stage least-squares regression in the year indicated on the x-axis, with the magnitude of the slope on the y-axis and 95% confidence intervals represented by barred lines. Each regression includes countries for which the V-Dem Electoral democracy index is greater than its midpoint of 0.5 in that year. The corruption variable is re-scaled from 0-100 with 0 indicating the lowest level of corruption.

E Impact of Women in Parliament on Corruption (BCI)

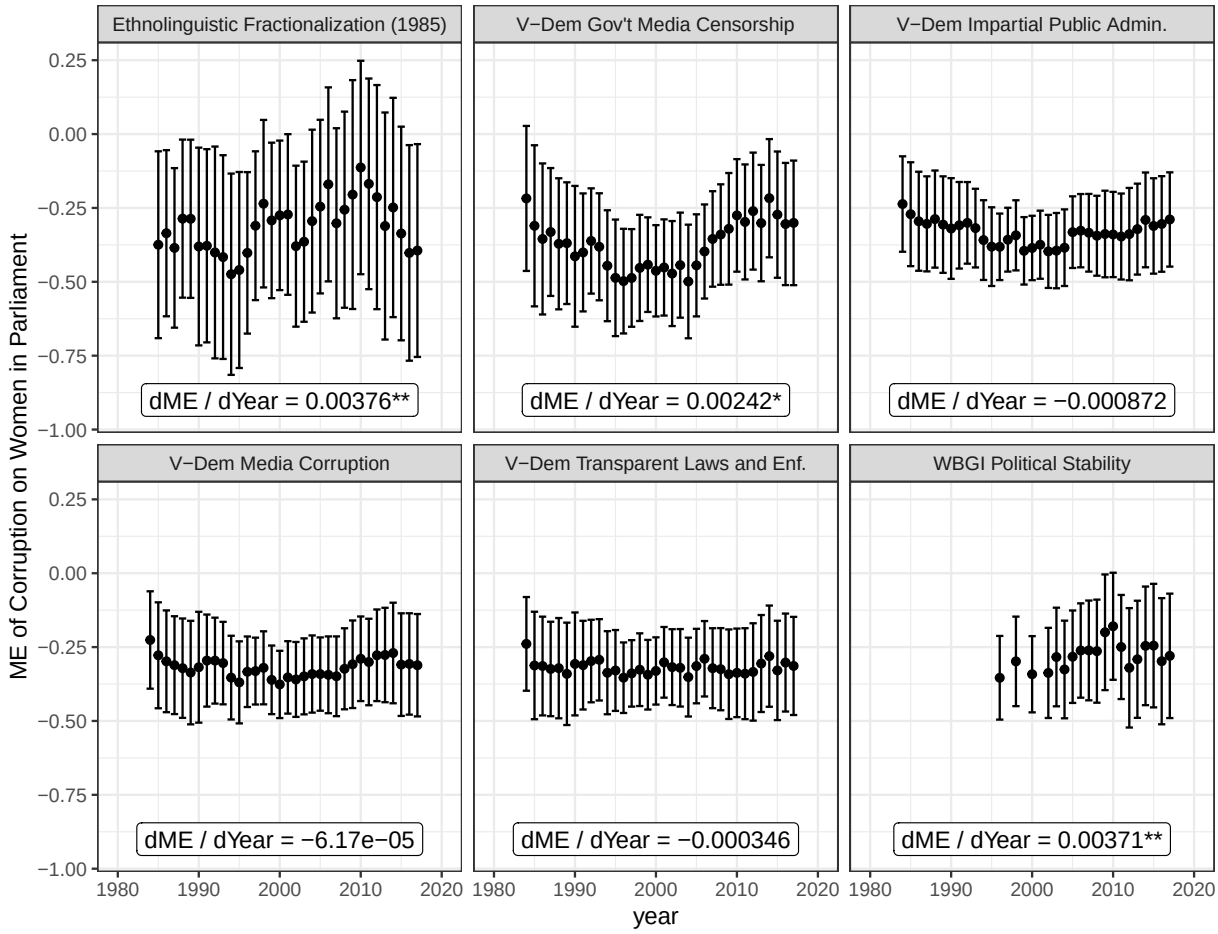


Figure 7: **The causal impact of women's representation on corruption over time, Bayesian Corruption Index DV.** Each panel studies the causal impact of the proportion of women in the lower house of the legislature on the Bayesian Corruption Index using a different instrumental variable (indicated at the top of the panel). The dot reports a slope coefficient from a bivariate two-stage least-squares regression in the year indicated on the x-axis, with the magnitude of the slope on the y-axis and 95% confidence intervals represented by barred lines. The trend over time is indicated in the label at the bottom of each panel, with stars indicating statistical significance from a simple linear regression predicting the coefficient using year (* = p < 0.1, ** = p < 0.05, *** = p < 0.01, all two-tailed). Each regression includes countries for which the V-Dem Electoral democracy index is greater than its midpoint of 0.5 in that year. The corruption variable is re-scaled from 0-100 with 0 indicating the lowest level of corruption.

F Impact of Women in Parliament on Corruption (WBGI)

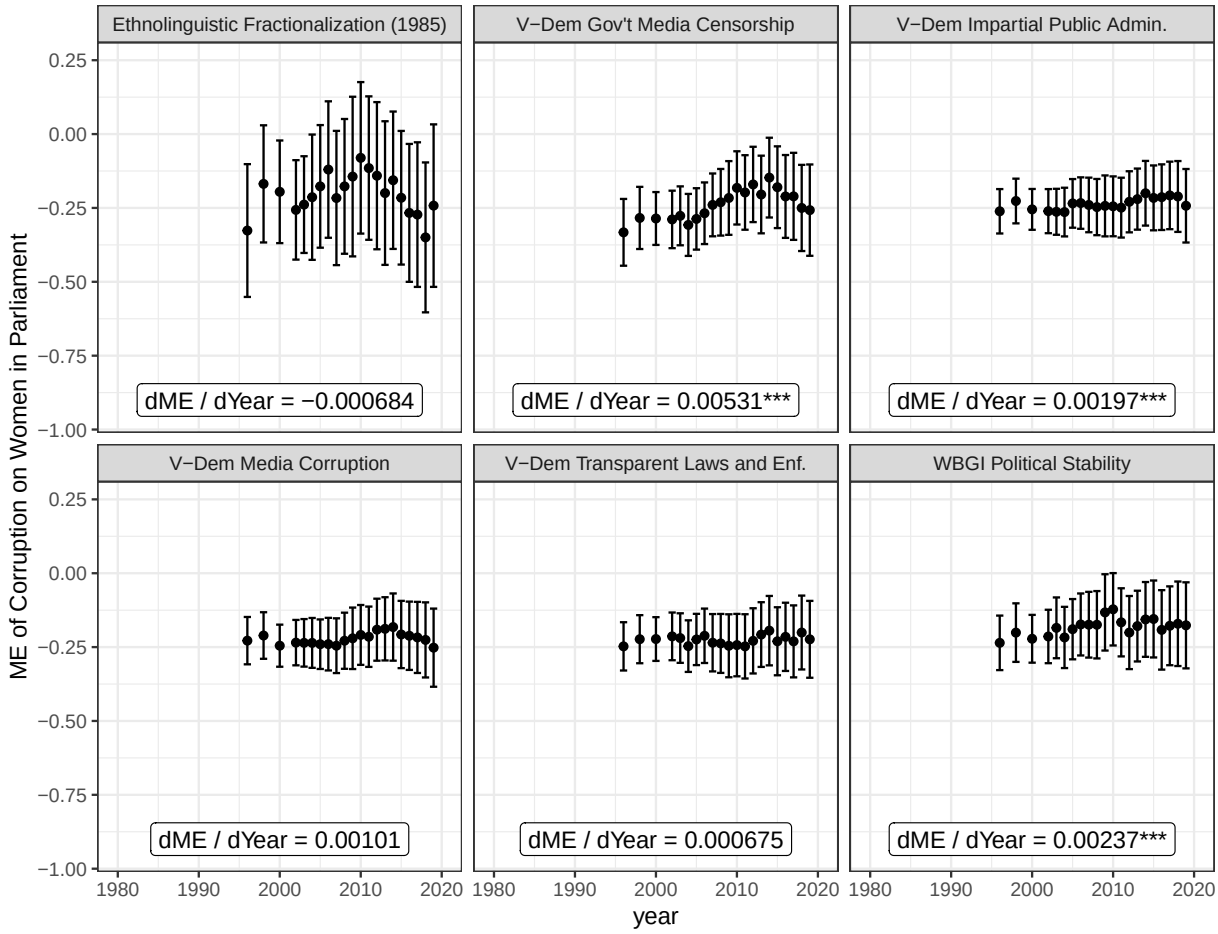


Figure 8: **The causal impact of women's representation on corruption over time, World Bank Governance Indicators Control of Corruption DV.** Each panel studies the causal impact of the proportion of women in the lower house of the legislature on the WBGI Control of Corruption measure using a different instrumental variable (indicated at the top of the panel). The dot reports a slope coefficient from a bivariate two-stage least-squares regression in the year indicated on the x-axis, with the magnitude of the slope on the y-axis and 95% confidence intervals represented by barred lines. The trend over time is indicated in the label at the bottom of each panel, with stars indicating statistical significance from a simple linear regression predicting the coefficient using year (* = $p < 0.1$, ** = $p < 0.05$, *** = $p < 0.01$, all two-tailed). Each regression includes countries for which the V-Dem Electoral democracy index is greater than its midpoint of 0.5 in that year. The corruption variable is re-scaled from 0-100 with 0 indicating the lowest level of corruption.

G Impact of Women in Parliament on Corruption (TI CPI)

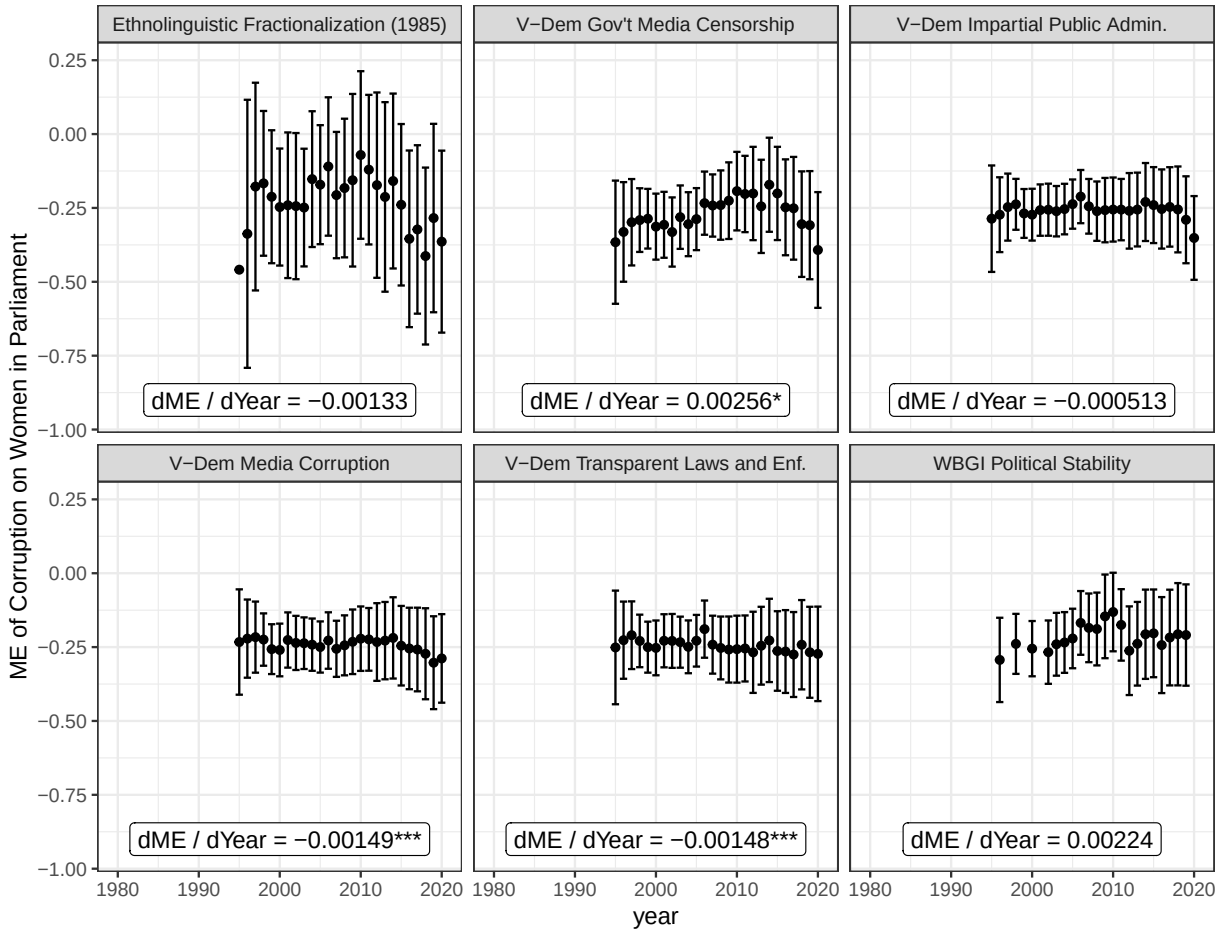


Figure 9: **The causal impact of women's representation on corruption over time, Transparency International Corruption Perceptions Index DV.** Each panel studies the causal impact of the proportion of women in the lower house of the legislature on the TI Corruption Perceptions Index measure using a different instrumental variable (indicated at the top of the panel). The dot reports a slope coefficient from a bivariate two-stage least-squares regression in the year indicated on the x-axis, with the magnitude of the slope on the y-axis and 95% confidence intervals represented by barred lines. The trend over time is indicated in the label at the bottom of each panel, with stars indicating statistical significance from a simple linear regression predicting the coefficient using year (* = $p < 0.1$, ** = $p < 0.05$, *** = $p < 0.01$, all two-tailed). Each regression includes countries for which the V-Dem Electoral democracy index is greater than its midpoint of 0.5 in that year. The corruption variable is re-scaled from 0-100 with 0 indicating the lowest level of corruption.

H First Stage F-statistics: Corruption's Effect on Women in Parliament

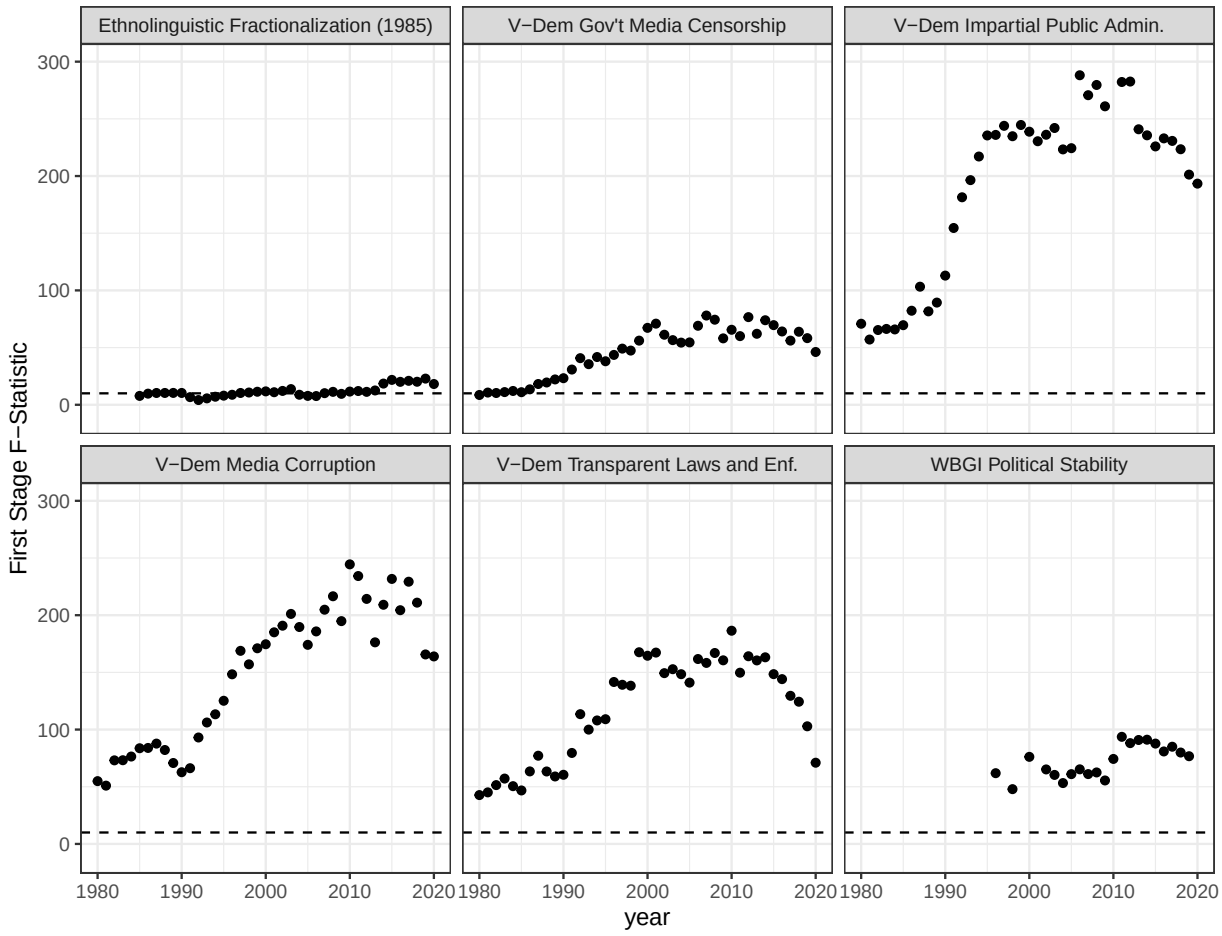


Figure 10: **First stage F-statistics for IV/2SLS models in Figure 3.** Each dot indicates the F-statistic corresponding to the year and instrumental variable indicated in Figure 3. The conventional minimum of 10 recommended by Staiger and Stock (1997) is indicated by a dashed line.

I Impact of Corruption on Women in Parliament (BCI)

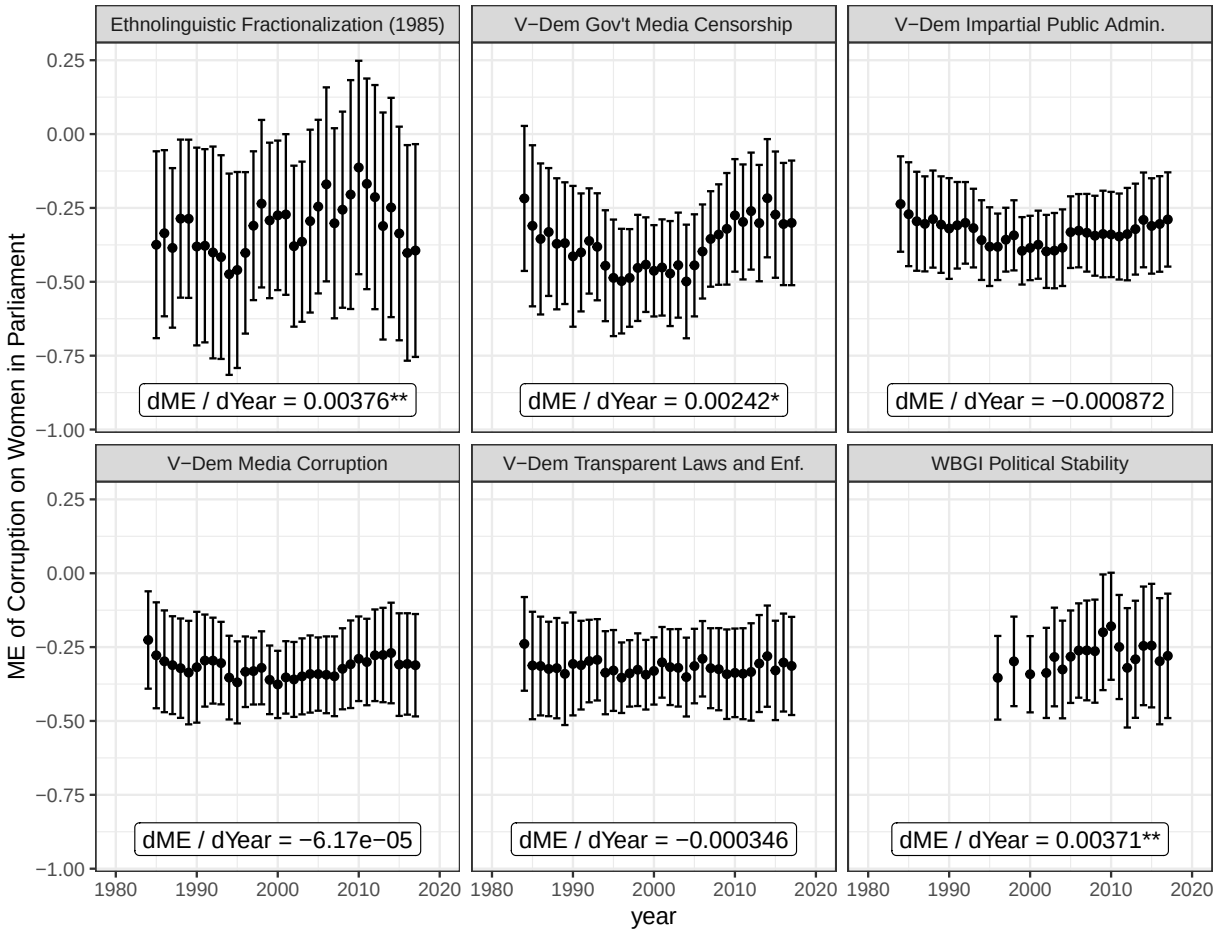


Figure 11: **The causal impact of corruption on women's representation over time, Bayesian Corruption Index DV.** Each panel studies the causal impact of the Bayesian Corruption Index on the proportion of women in the lower house of the legislature using a different instrumental variable (indicated at the top of the panel). The dot reports a slope coefficient from a bivariate two-stage least-squares regression in the year indicated on the x-axis, with the magnitude of the slope on the y-axis and 95% confidence intervals represented by barred lines. The trend over time is indicated in the label at the bottom of each panel, with stars indicating statistical significance from a simple linear regression predicting the coefficient using year (* = p < 0.1, ** = p < 0.05, *** = p < 0.01, all two-tailed). Each regression includes countries for which the V-Dem Electoral democracy index is greater than its mid-point of 0.5 in that year. The corruption variable is re-scaled from 0-100 with 0 indicating the lowest level of corruption.

J Impact of Corruption on Women in Parliament (WBGI)

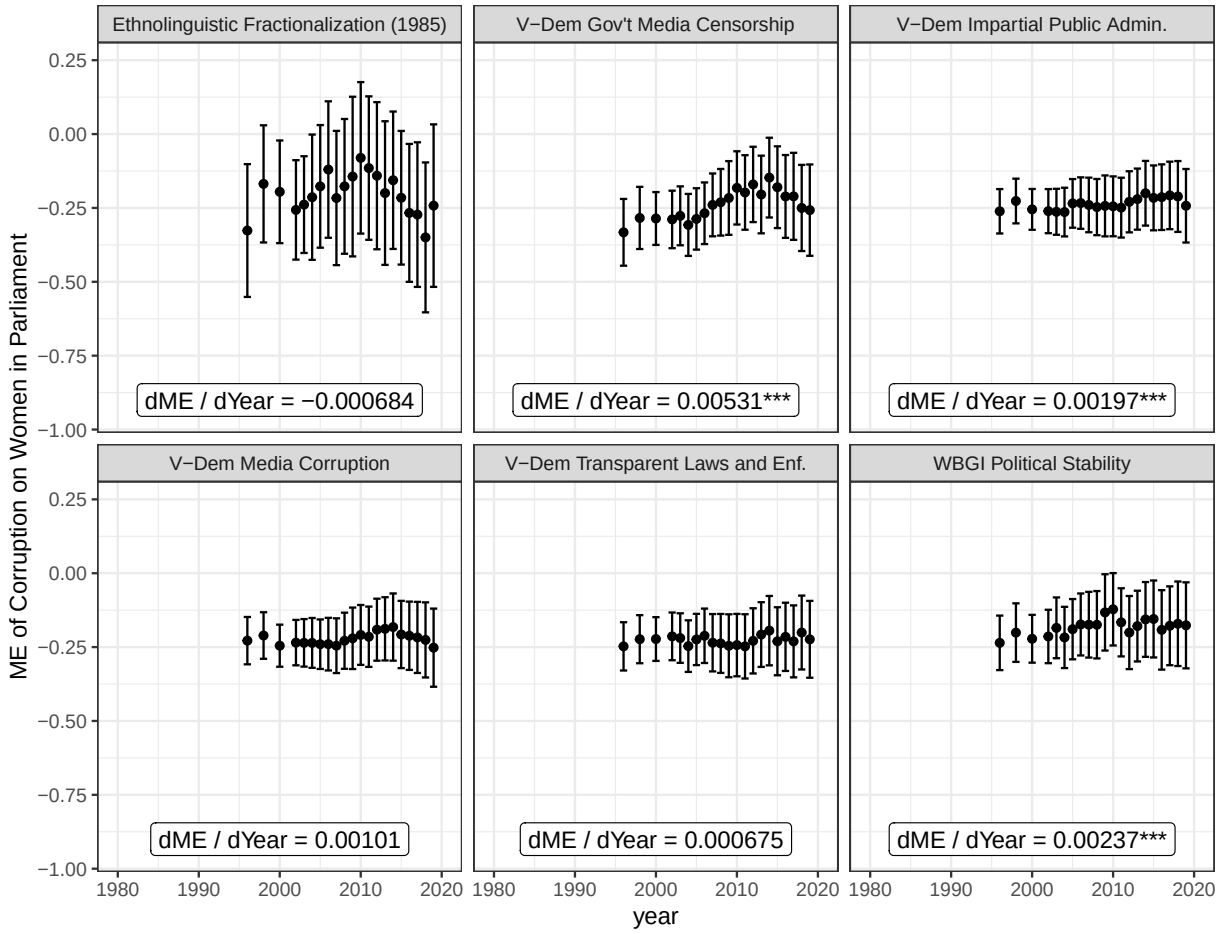


Figure 12: **The causal impact of corruption on women's representation over time, World Bank Governance Indicators Control of Corruption DV.** Each panel studies the causal impact of the WBGI Control of Corruption measure on the proportion of women in the lower house of the legislature using a different instrumental variable (indicated at the top of the panel). The dot reports a slope coefficient from a bivariate two-stage least-squares regression in the year indicated on the x-axis, with the magnitude of the slope on the y-axis and 95% confidence intervals represented by barred lines. The trend over time is indicated in the label at the bottom of each panel, with stars indicating statistical significance from a simple linear regression predicting the coefficient using year (* = $p < 0.1$, ** = $p < 0.05$, *** = $p < 0.01$, all two-tailed). Each regression includes countries for which the V-Dem Electoral democracy index is greater than its midpoint of 0.5 in that year. The corruption variable is re-scaled from 0-100 with 0 indicating the lowest level of corruption.

K Impact of Corruption on Women in Parliament (TI CPI)

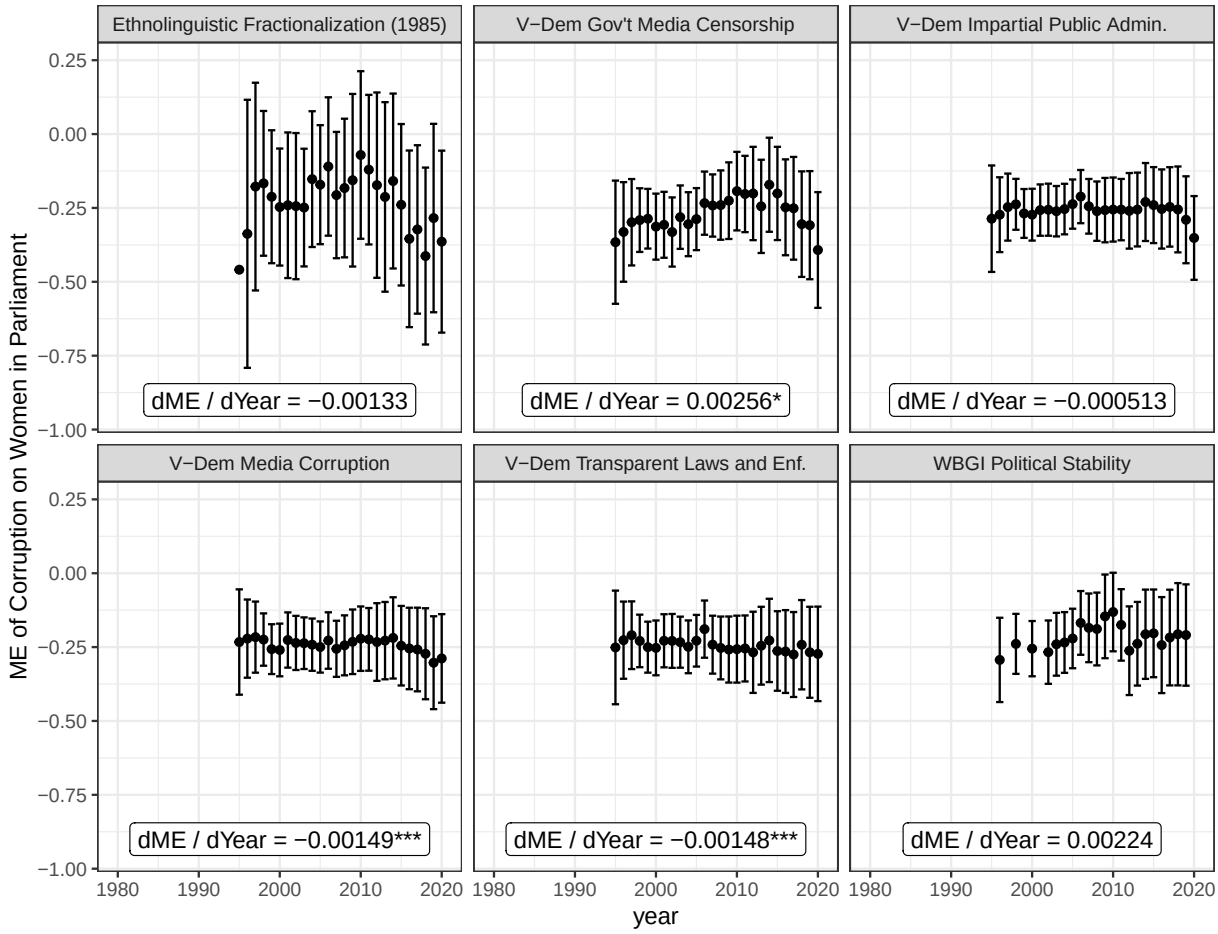


Figure 13: **The causal impact of corruption on women's representation over time, Transparency International Corruption Perceptions Index DV.** Each panel studies the causal impact of the TI Corruption Perceptions Index on the proportion of women in the lower house of the legislature using a different instrumental variable (indicated at the top of the panel). The dot reports a slope coefficient from a bivariate two-stage least-squares regression in the year indicated on the x-axis, with the magnitude of the slope on the y-axis and 95% confidence intervals represented by barred lines. The trend over time is indicated in the label at the bottom of each panel, with stars indicating statistical significance from a simple linear regression predicting the coefficient using year (* = p < 0.1, ** = p < 0.05, *** = p < 0.01, all two-tailed). Each regression includes countries for which the V-Dem Electoral democracy index is greater than its midpoint of 0.5 in that year. The corruption variable is re-scaled from 0-100 with 0 indicating the lowest level of corruption.

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