

Explaining Women's Legislative Underrepresentation in Post-Soviet Democracies

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Abstract

With the fall of the Soviet Union, women's legislative representation in post-Soviet states collapsed. Is it the case that—like women candidates in consolidated democracies—women candidates in post-Soviet states who run, win? Or do women candidates in consolidating democracies face overt voter discrimination? Research from Western democracies also shows that women candidates can capitalize on gender dynamics and gain electoral advantage by highlighting feminine strengths. Can women candidates in post-Soviet states capitalize on gender dynamics that are unique to democratizing contexts—the association with men and corruption—to gain electoral advantage? We answer these questions using a survey experiment conducted in Ukraine, a post-communist country characterized by the lowest levels of women's legislative presence in Europe and high levels of corruption. We find little evidence of voter bias, and mixed evidence that anti-corruption platforms benefit Ukrainian women candidates relative to men. We conclude by discussing the role that parties and elites play in (dis)incentivizing women's political engagement.

There is a growing consensus that — at least in democracies such as the United States, Canada, and Western Europe — “when women run, women win” (Lawless 2015, p. 353). Furthermore, studies of gender dynamics in consolidated democracies show that even though women¹ are stereotyped, women candidates can “use voters’ dispositions toward gender as an asset” by stressing their strengths on issues that confirm gender trait stereotypes (Herrnson et al. 2003, p. 244). Most research on gender dynamics in electoral democracies focuses on consolidated democracies. Very little work considers whether women who run for office in transitional democracies win, or whether women candidates in transitional democracies continue to face overt discrimination at the polls.

In particular, little attention has been paid to women candidates in post-Soviet republics. With the fall of the Soviet Union — where quotas had guaranteed women’s political presence — women’s legislative presence in former Soviet states collapsed (Sundstrom 2010; Thames 2018). Today, women’s representation post-communist Europe falls below the regional averages in Western Europe, the Americas, Africa, or Asia. There are also reasons to believe that what counts as salient gendered strengths differ in unconsolidated democracies. In transitional democracies, issues related to corruption or political instability tend to be at the forefront of voters’ minds and have a distinct gender dimension. For instance, research from Latin America reveals that women candidates are often regarded as outsiders capable of bringing political reform (Morgan and Buice 2013). The existing literature on gender and politics leaves a number of important questions unanswered: Do

¹A note on terminology: We use the concepts of “man” and “woman” inclusively to refer to the continuums of culturally-contingent masculine and feminine characteristics and behaviors (“gender roles”) often associated with sexes and the continuums of male and female physiological attributes (“sexes”). Using the term woman inclusively to refer to these sets of overlapping concepts is sometimes written as women+ and includes any persons identifying as women regardless of their physiological attributes or the gender roles they play. This concept is inclusive of, for instance, women, Two-Spirit, non-binary, and transwomen who self-identify as women. We also use the term man inclusively in a similar sense to refer to any persons identifying as men.

voters in post-Soviet states overtly discriminate against women candidates? In corrupt contexts where women are political outsiders, does the belief that women politicians fight corruption increase support for women candidates?

In the first section of this paper we review existing research on the causes of women's political underrepresentation in both consolidated and unconsolidated democracies, and outline our expectations. In the second section, we describe our experiments. We embedded a randomized survey experiment in two separate waves of data collection in Ukraine in 2015 and 2016. The second wave replicates the first to increase the validity of our findings. In the experiment, we asked respondents to indicate their willingness to vote for a set of hypothetical candidates who are said to be fighting corruption in Ukraine and randomized respondents' exposure to pictures of women or men candidates.

In the third section, we present our results. We find that, like in the United States, Ukrainian voters on average do not discriminate against women candidates. With respect to whether anti-corruption messaging works better for women candidates, we find no evidence that voters who believe gender equality reduces corruption prefer women candidates. However, we do find some evidence that voters who believe that Yulia Tymoshenko (a high profile politician) fights corruption prefer women candidates, but only in the second wave of the experiment — after Tymoshenko's party transitioned out of power. In the fourth section, we discuss the implications of our findings for women's political representation in Ukraine. We highlight the central role political parties and elites play in women's legislative underrepresentation in post-Soviet states. We draw on public opinion data that we collected while conducting our experiments which shows that voters in Ukraine in general agree that political parties are the main cause of women's legislative underrepresentation. We conclude with suggestions for increasing women's representation in Ukraine and other post-Soviet democracies.

Women’s Political Representation

Women’s representation is required for just and legitimate political decision-making. Justice requires that citizens are included in political practices — such as voting, representing, or deliberating — to influence collective decisions that affect them (Young 2011; Warren 2017; Beauvais 2018). There is a well-theorized link between inclusion and democratic legitimacy (Fung 2013; Young 2000; Warren 2017). As Mansbridge (1999, p. 651) explains, when women candidates descriptively and substantively represent women, they remind citizens that “certain features of one’s identity do not mark one as less able to govern.” The feeling of inclusion created through representation “in turn makes the polity democratically more legitimate in one’s eyes” (p. 651).

A substantial body of empirical research supports the normative intuition that women’s descriptive inclusion in political office substantively impacts women’s inclusion in the polity. There is strong evidence that empowering women’s political representation improves policy-making processes: women representatives tend to be more congenial, more cooperative, and less hierarchical in decision-making than men (Tolleson-Rinehart 1991). Women decision-makers are also more likely to engage in cross-party cooperation to promote women’s interests (Swers 2002). With respect to policy outcomes, women representatives tend to promote policies that disproportionately impact women (Burrell 1996; Bratton 2005; Gerrity et al. 2007; Thomas 1994). Women’s political representation also has symbolic, role model effects that empower women citizens (Lawless 2015; Pitkin 1967; Burrell 1996). For instance, the presence of women representatives can boost women’s political efficacy (Alexander and Andersen 1993; Reingold and Harrell 2010; Atkeson 2003), political interest (Hansen 1997), and knowledge of legislators’ substantive records (Jones 2014).

While women’s equal political representation is clearly a laudable goal, in the absence of quotas women tend to be underrepresented in legislatures. Both external constraints — such as unequal access to campaign funds — or more subtle internal processes — such as cultural norms and stereotypic expectations — can function to exclude women from

political practices and reinforce gender injustices (Young 2000). There is strong evidence that explicit and implicit attitudes (Mo 2015) and stereotype activation (Bauer 2014) shape political behavior. Earlier research on the gender gap in American politics tended to focus on how voters' internalized dispositions — voters' explicit prejudice against women candidates — functioned to exclude women from elected office. However, more recently, “overt discrimination has fallen out of favor as an explanation for women's absence from electoral politics” (Lawless 2015, p. 352).

As Lawless (2015) explains, Americans' attitudes toward women in politics have evolved: few Americans endorse the idea that women are not suited for politics, and nearly all Americans indicate they would vote for a qualified woman if she was nominated by their political party. Furthermore, growing evidence shows that when women run for U.S. Congress they win at the same rates as men (Lawless and Pearson 2008; Carroll 1994; Cook 1998; Fox 2000; Anastasopoulos 2016). Research from other consolidated democracies also show that women do not suffer an electoral penalty (Sevi et al. 2019). The legislative underrepresentation of women in consolidated democracies can be explained by the tendency for parties to place women candidates in more competitive races (Thomas and Bodet 2013), and by a gender gap in political efficacy and motivation (Lawless and Fox 2005, 2010).

Women Candidates in Post-Soviet Democracies

The Soviet Union espoused an official doctrine of gender equality, and in the early days of the founding communist state efforts were made to enhance women's social and political status (Racioppi and See 1995; Sundstrom 2010). After 1917 revolution, Bolshevik revolutionaries created the *Zhenotdel* (women's department) in the Communist Party. Inspired by Marx and Engels's writings, the Bolshevik revolutionaries legalized abortion and modernized family law to promote gender equality. However, these idealistic efforts were short lived. In 1930, Stalin declared the woman problem “solved” and closed the *Zhenotdel*. During this period, “feminist views were silenced” (Racioppi and See

1995, p. 821) and independent women’s organizations were banned across Soviet states (Stockemer 2007). The only women’s organizations permitted were the official network of small women’s councils (zhensoveti) and official Soviet Women’s Committee (SWC) (Sundstrom 2010, 2002). Despite officially supporting gender equality, the Communist Party also promoted pro-natalist policies and actively reinforced the stereotypical view that women should be mothers and caregivers (Racioppi and See 1995; Pop-Eleches and Tucker 2017; Thames 2018).

Furthermore, even though quotas ensured women enjoyed relatively high parliamentary representation — reserving approximately one-third of national deputy’s seats for women — women ultimately exerted little political influence in Soviet regimes. As Stockemer (2007, p. 479) explains:

“Claims for equality and quota systems that gave women considerable numerical representation were strictly for symbolic purposes. Legislatures themselves had very little influence on decision making — the decisions were made in the top echelons of party and state power, where women remained virtually absent. Very few women occupied party leadership or central committee leadership positions and no women ever entered the politburo in even one of the countries.”

Quotas in Ukraine ensured that women held not only a third of the seats in Ukraine’s Verkhovna Rada (parliament), but quotas further guaranteed that women held approximately half of the seats oblast and local councils (Hrycak 2007). Despite this, “the vast majority of women who were party members remained crowded at the bottom of the political system” (p. 160). Despite token representation, women in Ukrainian politics — like women in other Soviet states (Sundstrom 2010; Stockemer 2007; Racioppi and See 1995) — “were confined to minor offices and, in fact, wielded little authority and experienced few opportunities for upward mobility” (Hrycak 2007, p. 160).

After the collapse of the Soviet Union, quotas were abolished and women’s representation in formerly communist countries dropped to just below 8% by 1995 (Matland and Montgomery 2003; Connolly and Ó Beacháin Stefańczak 2015). As shown in Figure 1,

women’s representation in post-Soviet countries continues to lag, even relative transitional democracies in the global south. Thus far, Thames’s (2018) analysis of the impact of post-communist Ukraine’s electoral systems on women’s legislative underrepresentation represents the only effort to test whether explicit prejudice prevents women from winning seats in a post-soviet republic. While Thames (2018) finds that institutions do matter for women’s representation — women were more likely to be nominated and win seats under proportional representation (PR) than in single-member district (SMD) elections — Thames finds little evidence that women candidates are discriminated against at the polls under any electoral system.

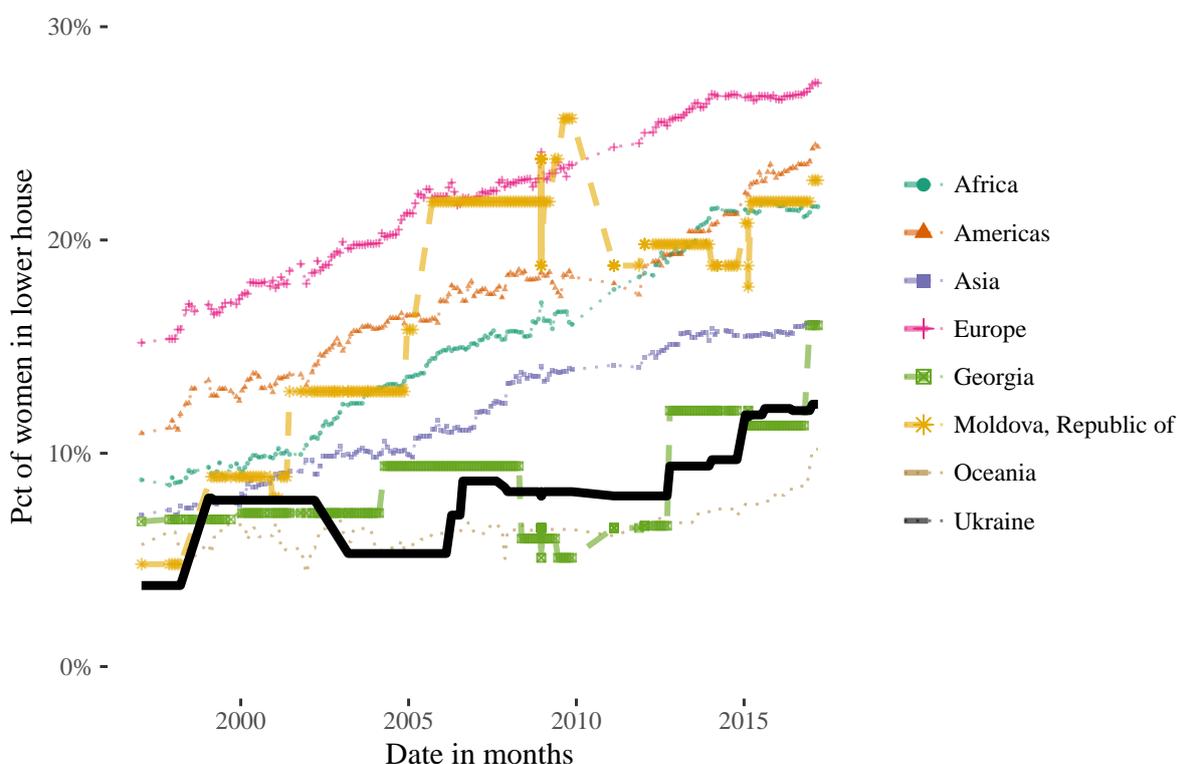


Figure 1: Data are scraped from The Inter-Parliamentary Union’s (IPU) website and formatted into time-series cross-sectional data.

However, other than Thames (2018), nearly all research on post-Soviet states explains women’s legislative underrepresentation by reference to “societal resistance to the idea of women as political leaders” (Moser and Scheiner 2012, p. 210). Most scholars point to patriarchal gender norms as the cause of women’s electoral troubles in the former Soviet bloc (Wilcox et al. 2003; Connolly and Ó Beacháin Stefańczak 2015; Moser and

Scheiner 2012). Relatedly, many scholars suggest that the rejection of Western feminism has hampered efforts to achieve gender equality in post-communist countries (LaFont 2001; Einhorn 2002; Funk and Mueller 2018; Jaquette and Wolchik 1998). Drawing on this literature, we conducted experiments in Kiev, Ukraine to test whether:

H1 On average, respondents will rate women political candidates less favorably than men candidates.

Ukraine offers a good case to examine gendered electoral dynamics in post-Soviet states. According to the 2014 Global Gender Gap Report, Ukraine is one of the lowest-ranked countries in the world with respect to women’s political empowerment. The Global Gender Gap Report ranked Ukraine 105 out of 142 countries in terms of women’s political empowerment and 118 in terms of the number of women in parliament around the world.² Even compared to other post-communist countries, Ukraine has a poor track record when it comes to women’s political representation. Ukraine currently has the lowest levels of women’s representation in all of Europe, falling approximately 20 percentage points behind the Europe-wide average of women’s legislative representation. If voter discrimination is driving women’s underrepresentation in post-communist democracies, we should expect to find this mechanism at work in Ukraine.

Furthermore, Ukraine provides a useful case to identify whether what counts as a gendered policy strength in unconsolidated democracies can increase support for women candidates. Voters develop trait stereotypes of the gender of politicians (Huddy and Terkildsen 1993), and research in the United States reveals that women are associated with traits such as “compassion” (Shapiro and Mahajan 1986; Kahn 1996). Even though women are stereotyped, research from consolidated democracies shows that women candidates can “use voters’ dispositions toward gender as an asset” (Herrnson et al. 2003, p. 244). In the United States, women candidates who stress their strengths on issues that confirm gender trait stereotypes — often, compassion issues such as child or health care

²See <http://reports.weforum.org/global-gender-gap-report-2014/economies/#economy=UKR>.

— garner more electoral support. Less is known about whether women candidates in consolidating democracies can capitalize on gender dynamics by running on issues that are salient in democratizing contexts, although there is some research showing that women are viewed as less corrupt than men (Dolan 2010, p. 72). Evidence from Latin America also suggests that “support for women in leadership is higher among those who are frustrated with the status quo and see female candidates as outsiders with the potential for overturning entrenched hierarchies and reforming failed institutions” (Morgan and Buice 2013, p. 660).

Ukraine is a highly corrupt country, ranking 131st place out of 176 countries on Transparency International’s Corruption Perception Index.³ Confirming findings from other contexts (e.g., Dolan 2010, p. 72), public opinion polls reveal that Ukrainians tend to view women politicians as less corrupt than men politicians (Thames 2018). We identify whether:

H2 On average, respondents who agree that women’s equal representation in government reduces corruption will be more supportive of women candidates.

Another way to identify the perception that women are more adept at fighting corruption moderates voters’ willingness to vote for women candidates is to consider citizens’ evaluations of a well-known woman leader, Yulia Tymoshenko. Tymoshenko became an icon of the Orange Revolution — organized in response to perceived political corruption in the 2004 Ukrainian election — and became the first woman to serve as Prime Minister of Ukraine in 2005 (Hrycak 2007; Zhurzhenko 2014). During this time, Tymoshenko “evoked a broad variety of cultural connotations” including “the Marianne⁴ of the Ukrainian revolution and a woman-warrior fighting the dark forces of evil” (Zhurzhenko 2014, p. 265). However, since then Tymoshenko has spent time in jail on corruption charges and “a significant part of Ukrainian society perceives Tymoshenko not as a solution, but a part

³<https://www.transparency.org/country/UKR>.

⁴Marianne is the personification of the French Revolution and is featured on the logo of the French government.

of the problem of corruption” (Zhurzhenko 2014, p. 282).⁵ We hypothesize that:

H3 On average, respondents who endorse the statement that Yulia Tymoshenko fights corruption will be more supportive of women candidates.

Methods

In collaboration with the National Democratic Institute of International Affairs (NDI) we conducted a survey experiment in Kiev, Ukraine to test our hypotheses. Data was collected from two independent (non-panel) survey waves of a nationally representative sample, the first one carried out at the end of 2015 and the second six months later, during the summer of 2016.⁶ In the Kyiv Sample in Wave 1, 466 respondents completed the study (rated all three candidate vignettes); 225 respondents completed the man candidate treatment and 225 respondents completed the woman candidate treatment. In the Kyiv sample in Wave 2, 337 respondents completed the study (rated all three candidate vignettes); 179 respondents completed the man candidate treatment and 158 completed the woman candidate treatment. For more information about the survey and the political context of data collection, see Appendix B.⁷

In the first wave, we carry out a randomized experiment only among the sampled

⁵It should be noted that work by the — now imprisoned — Paul Manafort for Tymoshenko’s political rival helped secure Tymoshenko’s conviction. Many Ukrainians believe Tymoshenko’s imprisonment was politically motivated and continue to see her as a symbol of democracy. Tymoshenko was released from jail during the Euromaidan Revolution in 2014.

⁶NDI commissioned and funded the research. The nationally representative survey data used discussed below, were also part of a research effort that was commissioned and funded by NDI. NDI agreed to share the data with the authors, who collaborated on the project design. The analysis and conclusions are those of the authors, not NDI’s.

⁷See Appendix D for descriptive statistics and balance tables and Appendix E for a discussion of differential item-non response by treatment group.

individuals within the Ukrainian capital Kyiv. In the second wave of data collection, we again ran the experiment in Kyiv, but also conducted the study on a large part of the nationally representative sample outside of Kyiv. We generally present the findings from Kyiv, but we show results from outside of Kyiv in Wave 2 in the Appendices as robustness checks, and also reference these findings in the text.⁸ In both rounds, the survey results examined in the paper were carried out with face-to-face interviews and data was recorded on tablet devices (see Appendix B).

Experimental Treatment and Outcome Measure

The experimental treatment is the exposure to a set of three pictures of fictional candidates in randomized order (either three fictional women or three fictional men candidates) with the same prompt repeated for each candidate. There are a range of ways researchers can cue candidate gender, such as by using feminine- versus masculine-sounding candidate names (Sapiro 1981), by using gendered pronouns (Barnes and Beaulieu 2014), or by asking respondents to judge images of actual politicians (Lawson et al. 2010; Carpinella and Johnson 2013; Johns and Shephard 2007; Carpinella et al. 2016). We choose to use images because seeing pictures should make the process of evaluating candidates more salient to survey respondents.

Respondents are randomly assigned either the woman or man candidate treatment.⁹ Because we are comparing respondents' evaluations of sets of pictures of women and men candidates, it is important that the fictional candidates in each set are otherwise comparable. Each woman/man pair is approximately the same age, ethnicity, and has the same hair color (with the exception of the oldest pair in which the man is bald and the woman

⁸We did not run the experiment on the entire nationwide sample because we did not have the tablet technology to deploy the survey for all respondents using the tablet

⁹We ask each respondent to rate only one gender (to rate three pictures of men, or three pictures of women. This is to prevent respondents from anchoring their ratings of one gender in their ratings of the first gender they see.

candidate has dyed hair).¹⁰ We compared each matched pair of respondents' similarity on a range of characteristics, including attractiveness, using the face++ machine learning API (See Appendix C). The fictional candidates are photographed against the same plain background and the images are cropped, so that the fictional candidates are the same size. The fictional candidates are also wearing the same type of clothes.¹¹ Figure 2 displays the pictures of the fictional candidates.

The candidates in the vignettes are introduced as lawyers who decided to get involved in politics to fight corruption. Law is a typical professional background for many Ukrainian politicians. Telling respondents the profession of the candidate helps address a potential confound: that women and men come from different professional backgrounds, which, in turn, could affect candidate evaluation. For each of three pictures of candidates, we tell the respondent that:

This person has said “I am a lawyer, but I decided to get involved in politics to fight corruption.” On a scale of 0 to 10, zero being “I would never vote for this person” and ten being “I would absolutely vote for this person,” how likely would you be to vote for this person?

¹⁰We were able to vary age, but otherwise all of the candidates featured are cis-gender and white (it should be noted that Ukraine is almost homogeneously white). This allows us to control for confounding factors related to perceptions of gender queer identities and race/racism. The question of intersectionality in racially homogeneous and sexually conservative countries is an interesting topic for future research.

¹¹Women MPs' attire varies more than men's in the Ukrainian parliament, but biographical photos depict women and men wearing clothes similar to those in our pictures. These clothes are also not affiliated with a particular political party. See Appendix C.1 for images of current MPs dressed similarly to our hypothetical candidates.



Figure 2: The three sets of pictures of women and man candidates

We use three different sets of images to try to control for the possibility that any one pair of images drives the findings. In our main analysis, we operationalize Y as the average of all three ratings. That is, the average treatment effect is measured by taking the difference between the average ratings for women candidates and men candidates.¹²

Analysis

To operationalize **H1**, we estimate the intent to treat (ITT) effect using distributional tests and t -tests of differences in means to see if, on average or in terms of each matched pair, respondents evaluate women and men candidates differently. As in models for subsequent hypotheses, we also estimate the ITT using regressions with robust standard errors.¹³ In the regression models we control for the order of picture exposure and a vector of demographic controls, which include: age , age^2 , which capture the non-linear effect

¹²Note that there is another possible ways to operationalize the outcome variable: since each picture of a woman candidate was paired with a picture of a comparable man candidate, we can think of three separate Y variables, namely the three separate ratings of each pair of candidates. We show these results in more detail in Appendix [F](#).

¹³We show these results in Appendix [G](#).

of age, the gender of the respondent `respondent (woman)`¹⁴ =1, 0 otherwise), whether the respondent identifies as ethnically Ukrainian (`ethnic ukrainian` = 1, 0 otherwise), whether the respondent completed the survey in Ukrainian (`survey in ukrainian` =1, 0 in Russian), and whether the respondent has greater than high school education (`High+` =1 , 0 otherwise).¹⁵

To operationalize **H2**, we elicit respondents’ beliefs about this issue by asking the following question:¹⁶

If there was an equal balance of men and women in elected office, in your opinion, would there be less corruption?

We code responses as either “Don’t know”, “Yes”, or “No.” We pool “Don’t know” and “No” as the reference category¹⁷ and use the following specification with the same vector controls we use as a robustness check on **H1**.

$$Y_i = \alpha + \beta_1 \text{Treatment}_i + \beta_2 \text{Women Less Corrupt}_i + \beta_3 \text{Treatment}_i \times \text{Women Less Corrupt}_i + \theta \mathbf{X}_i + \varepsilon_i$$

To test **H3**, how views about Yulia Tymoshenko moderate differential candidate eval-

¹⁴The survey interviewers’ coded respondents gender (man or woman) based on the interviewer’ perceptions of respondents’ physiological (“sexed”) characteristics, as is common in face-to-face and phone surveys.

¹⁵It may be possible that there is a small effect we cannot statistically detect. We put bounds on the size of the effect we can rule out using a Two One-Sided *t*-test (Rainey 2014). See Appendix F.

¹⁶As in most survey opinion questions, we cannot rule out that there might be social desirability bias in the answer to this question, but we think it unlikely. In the Ukrainian context, it is not clear that any of the answers are the socially desirable one. Moreover, we give the respondents the option of saying they do not know.

¹⁷Results are substantively the same if we do not pool “DK” and “No”.

uations, we leverage the following question that was asked about multiple politicians including Tymoshenko:

In your opinion, which of the following leaders, if any, are genuinely committed to fighting corruption? [Yulia Tymoshenko]

In this question, as in the previous, we code “Yes” as 1 and “Don’t Know” or “No” as 0. We then test **H2** using the following equation, again with the same vector of controls:

$$Y_i = \alpha + \beta_1 \text{Treatment}_i + \beta_2 \text{Tymoshenko Anti-Corruption}_i + \beta_3 \text{Treatment} \times \text{Tymoshenko Anti-Corruption}_i + \theta \mathbf{X}_i + \varepsilon_i$$

Results

Mirroring findings from Western democracies, we find there is no significant difference in voters’ explicit prejudice towards women candidates in either wave of data collection. Although men candidates appear to be rated slightly higher than women, there is no statistical difference in either the distributions (using boot-strapped Kolmogorov-Smirnov tests (Sekhon 2011)) or the mean evaluations of men and women candidates (using *t*-tests) at the traditional ($p < .05$) level of significance.¹⁸ Robustness checks using regression based analysis and the sample outside Kyiv also reach the same conclusions (see Appendix G).¹⁹

¹⁸While there may be a small negative effect of the women candidate photos, we provide statistical evidence that this effect, if it exists, is less than one unit on the ten-point scale. See Appendix F.

¹⁹There is also no differential effect by respondent gender, as shown in Appendix G. That is to say, women respondents do not rate women candidates more highly than men respondents.

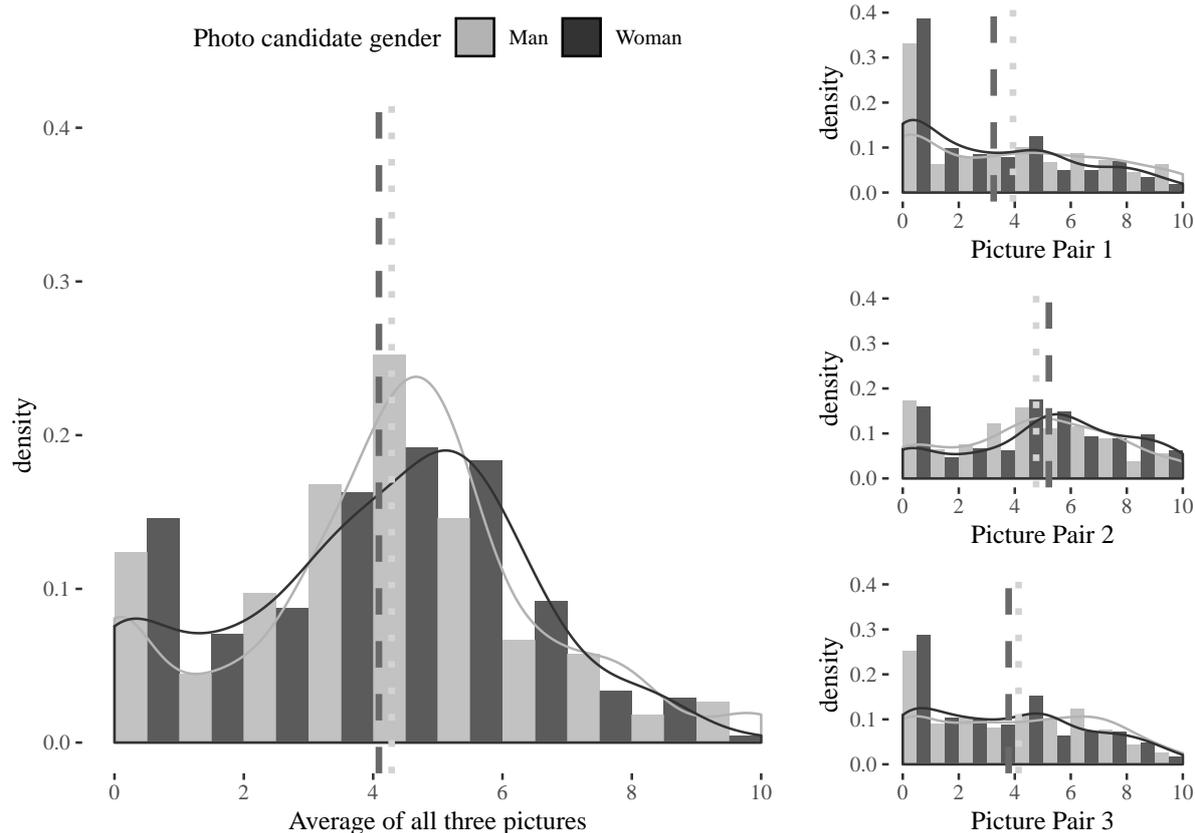


Figure 3: The distributions of the outcome variable for Wave 1 of the study. Dashed lines show means.

However, it does appear that, when rating candidates, a notable proportion of respondents will give women candidates the lowest possible rating (a zero), but this is not the case for men candidates (as seen in Figures 3 and 4). This pattern remains consistent across both waves. Both model-based predicted probabilities and the difference in proportions between the treatment and control groups in the data reveal that respondents give all three women candidates a zero rating between one and 1.5 percentage points more frequently than they did to the three men candidates.

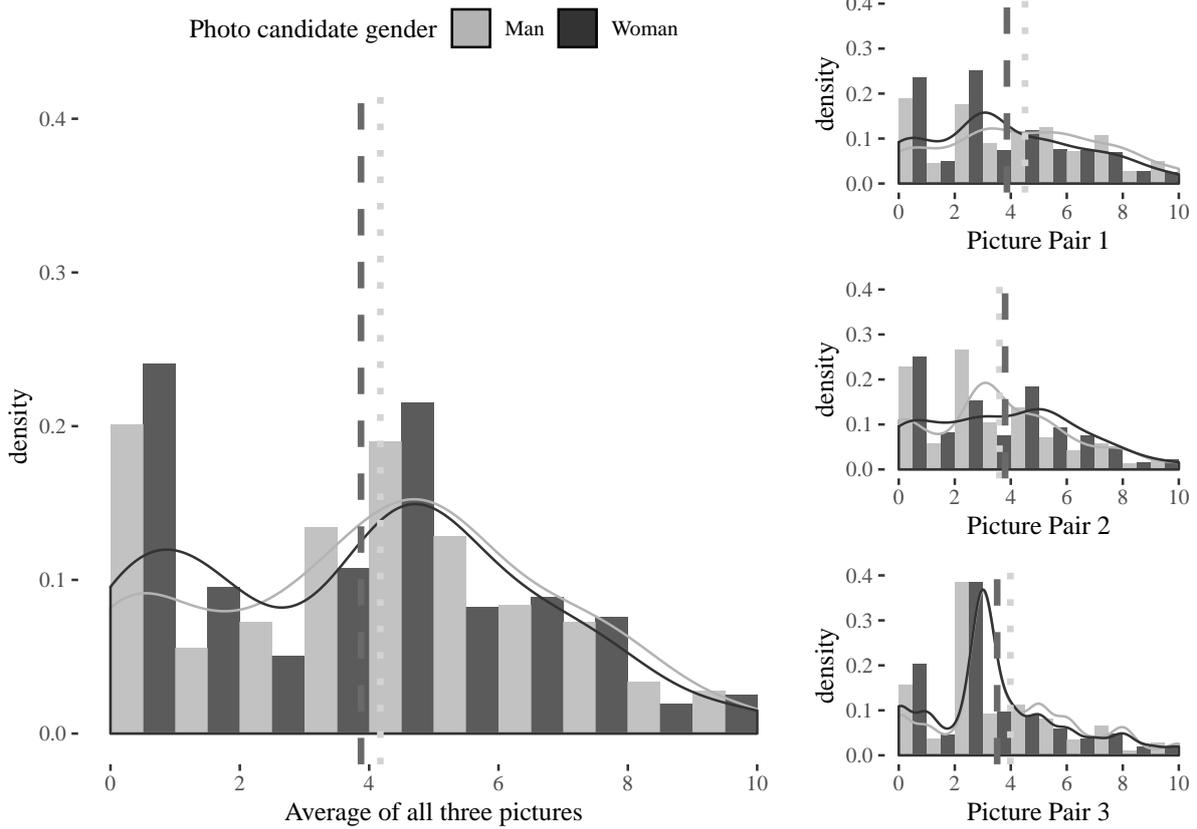


Figure 4: The distributions of the outcome variable for Wave 2 of the study. Dashed lines show means.

When we posed our question about increased women’s representation in Waves 1 and 2, (32%, 46%) of respondents thought increased women’s representation would lead to less corruption, and (42%, 36%) did not. There was also a high degree of uncertainty, with (25%, 17%) of the respondents saying they did not know.²⁰ However, the belief that women’s representation leading to less corruption did not appear to correlated with increased propensity to vote for women candidates. As shown in Figure 5, there is no significant difference in the evaluation of men and women candidates between respondents who agreed that equal gender representation reduces corruption and those who did not.

²⁰We report the percentages for the respondents who completed the experimental treatment. The increase in belief about women representatives being less corrupt between Waves 1 and 2 may be the result of a large number of programs implemented to promote gender equality.

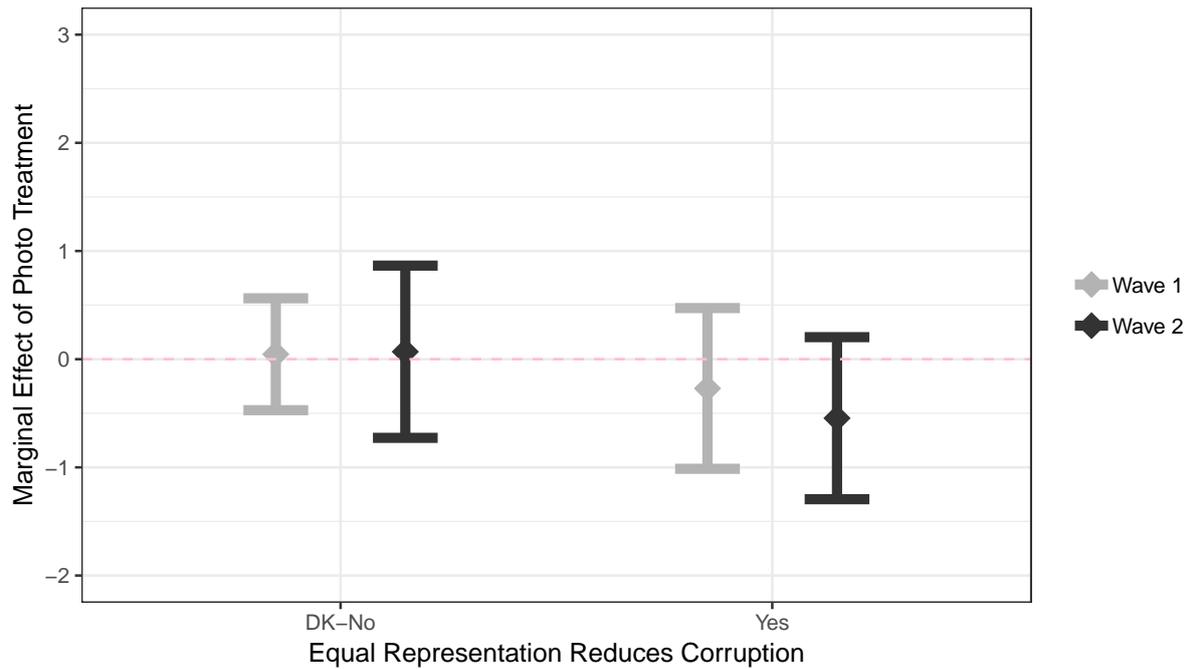


Figure 5: Marginal Effects Plots for women's representation reduces corruption

We also do not find any clear evidence that the belief that Yulia Tymoshenko is a fighter against corruption conditions views about women candidates more generally (H3).²¹ As seen in Figure 6, in wave 1 there is no effect of receiving pictures of women candidates. In wave 2, the marginal effect of receiving pictures of women candidates for those who believe Tymoshenko fights corruption is large and positive, but fails to reach conventional levels of statistical significance ($p=0.08$).²²

²¹In waves 1 and 2 (18%, 29%) of respondents said Tymoshenko was a fighter against corruption.

²²The effect is still positive, albeit smaller and not-statistically significant for the non-Kyiv sample in wave 2.

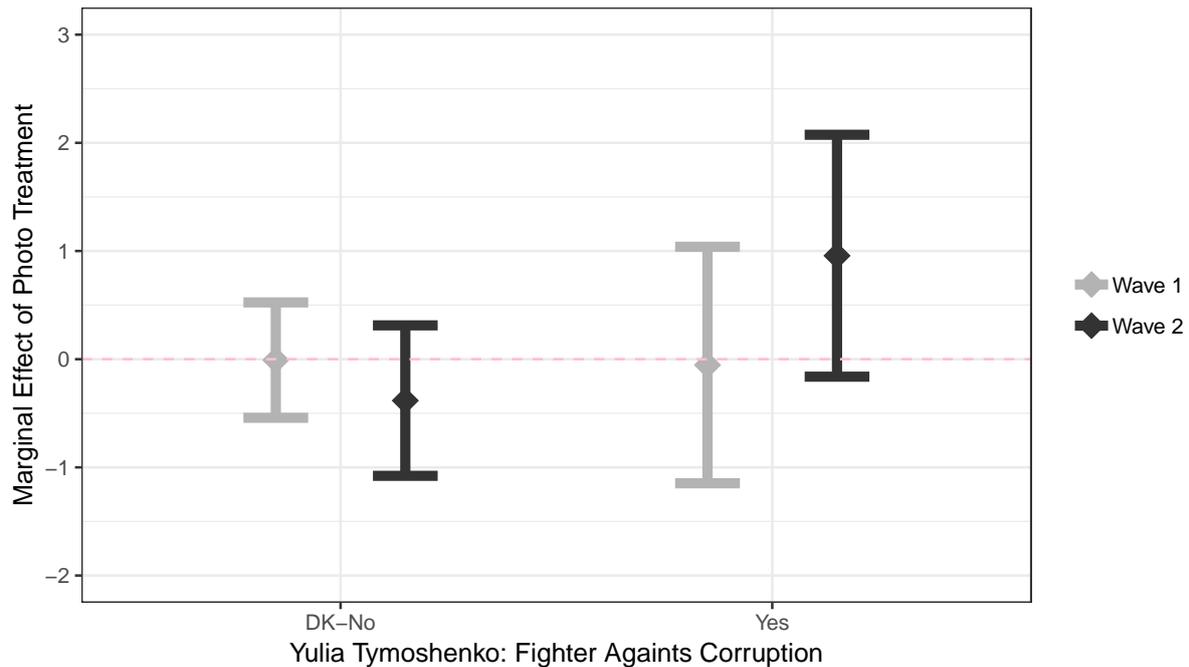


Figure 6: Marginal Effects Plots for Yulia Tymoshenko Corruption Perception

Discussion

For the most part, our experimental research from Ukraine suggests gender dynamics in post-Soviet democracies are similar to Western democracies in that “when women run, women win” (Lawless 2015, p. 353).²³ Our research contradicts common-sense assumptions that women’s dramatic underrepresentation in post-Soviet countries is due to patriarchal prejudice among voters. In line with Thames’s (2018) cross-sectional research, we find little evidence that, on average, voters are biased against women candidates. However, we find some evidence that a small proportion of respondents always gave women candidates the lowest possible ranking (0 out of 10) whereas this was not the case for men candidates. While not statistically significant, this finding warrants further investigation with larger sample sizes because the phenomenon underlying this finding could potentially hurt female candidates in very close electoral races.

The American literature also shows that women candidates can “use voters’ dispo-

²³They win at the same rate as men do, all else equal.

tions toward gender as an asset” by stressing their strengths on issues that confirm gender trait stereotypes (Herrnson et al. 2003, p. 244). Although research on transitional democracies suggests that women are viewed as less corrupt than men (Dolan 2010, p. 72), we found little evidence that women candidates in Ukraine can capitalize on their status as political outsiders in a corrupt context. First, we found no evidence that respondents who agree that gender equality in the legislature reduces corruption prefer women candidates. It is also possible that the ambiguity of the question wording may be in part responsible for this null finding. Rather than asking directly if respondents’ thought *women representatives* reduced corruption, we asked about gender equality in general — question wording that may have been too abstract.

There are two factors that may prevent institutionalized corruption from benefiting women candidates in Ukraine. For one thing, cross-national research shows that increasing women’s representation is only associated with a substantively significant reduction in corruption when high electoral accountability exists (Esarey and Schwindt-Bayer 2017). In Ukraine, electoral accountability tends to be low. Another factor is that Yulia Tymoshenko — one of Ukraine’s most iconic, contemporary politicians — is viewed by many Ukrainians as highly corrupt. Indeed, as a leading woman in politics, she may shape views about Ukrainian women candidates as being no less corrupt than men.

Our findings also offer little evidence that opinions about whether Yulia Tymoshenko fights corruption condition respondents’ beliefs about women candidates’ likelihood of being corrupt more generally. In Wave 1 of the experiment, when Tymoshenko’s party was in government, we found that the belief Tymoshenko fights corruption had no effect on how respondents rate women or men candidates. However, in Wave 2 of the experiment, which was conducted *after* Tymoshenko’s party transitioned out of power, respondents who believe Tymoshenko fights corruption rate women candidates more favorably than those who do not (although this effect does not reach conventional levels of significance, $p=0.07$).

Future researchers might consider whether women political leaders who transition (or whose parties transition) peacefully out of power can increase voters’ evaluations of

women candidates more generally. Voters have elected a number of women into leadership positions in Eastern European, post-Communist states: Zuzana Čaputová (President of Slovakia since 2019), Viorica Dăncilă (Prime Minister of Romania since 2018), Maia Sandu (Prime Minister of Moldova since 2019), and Salome Zourabichvili (President of Georgia since 2018). Future studies might compare voter attitudes and behavior in these countries to identify whether the way these women leaders behave in office — and the way they and their parties transition out of office — impacts voters’ attitudes toward women candidates more generally. If notable women leaders become associated with fighting corruption in post-Soviet countries, this could encourage a preference for women candidates among voters — potentially give women candidates in post-Soviet states an electoral edge, like in some Latin American countries (Morgan and Buice 2013).

However, even if voters preferred women candidates, this preference could only help women win elections if women *run*. The problem of women’s underrepresentation in Europe’s post-communist democracies seems to largely be driven by that fact that women are less likely to run for office in the first place. In five non-panel waves of survey data collection (carried out after the experiment) respondents were asked their opinions on why they think there are so few women in politics.²⁴ We pool these five waves of data collection.²⁵ As seen in Figure 7, the results are telling: over three-quarters of respondents agreed that political parties are more likely to nominate men than women.

²⁴The survey design is the same design as the design of the experiment (See Appendix B for a description of the design. These surveys were carried out in December 2016, April 2017, July 2017, December 2017, and July 2018. In total, 27,660 respondents were interviewed in these five waves of data collection.

²⁵The results are substantively similar when looking at one wave at a time, albeit with larger confidence intervals.

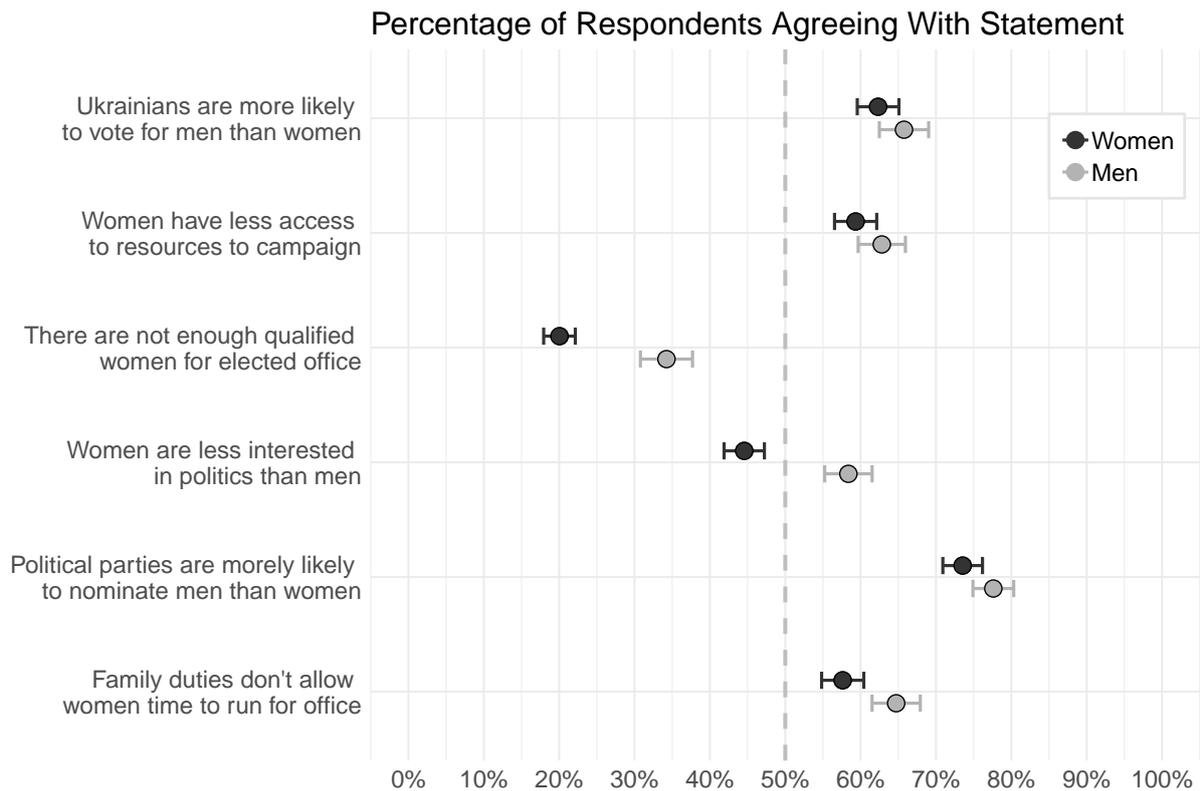


Figure 7: Nationally Representative Estimates of Ukrainian’s Views on Gender and Politics

Interestingly, even though we find no significant, substantive difference in voters’ preferences for women and men candidates, nearly two-thirds of respondents blame voter prejudice for women’s underrepresentation in politics. Women and men respondents tend to agree on the causes of women’s electoral underrepresentation, with two notable, significant disagreements. First, men respondents are significantly more likely to believe that women’s underrepresentation stems from women’s lack of interest in politics. Second, although only a minority of respondents blame women’s underrepresentation on a lack of qualified women, men respondents are far more likely to agree that there are not enough qualified women for office than women (approximately 35% and 20% agree, respectively).

Conclusion

Our experimental research adds to a small but growing body of research showing that — like women candidates in consolidated democracies — women candidates in post-Soviet states who run, win. We found little evidence that women candidates in consolidating

democracies face significant, overt voter discrimination. However, we did find a small minority of voters consistently gave women candidates (but not men candidates) the lowest score, a finding that should be investigated further in future research. It seems likely that in corrupt contexts, clientalistic politics worsen the gender gap, as “gatekeepers operating with traditional gender stereotypes” (e.g., the belief that women are less interested in politics than men) channel “most women away from prominent leadership roles” (Hrycak 2007, p. 162).

Our experiment offers no clear evidence that women candidates in post-Soviet states can capitalize on gender dynamics that are unique to democratizing contexts — the association with men and corruption — to gain electoral advantage. We found no evidence for the hypothesis that respondents who agree that gender equality in parliament reduces corruption are more supportive of women candidates. Given the relatively low levels of accountability and polarized views of Yulia Tymoshenko (and perhaps the admittedly abstract question wording), we found no evidence that women candidates can capitalize on their positions as political outsiders in the corrupt environment in Ukraine.

We also did not find any significant evidence that the belief Tymoshenko fights corruption conditions preferences for women candidates. However, our second experiment, which was conducted after Tymoshenko’s party transitioned out of power, offers suggestive evidence that respondents who believe Tymoshenko fights corruption favor women candidates (although these results did not reach conventional levels of statistical significance). Future research might consider the recent political successes of women leaders in other post-communist regimes to further clarify whether or when women political leaders who transition (or whose parties transition) peacefully out of power can increase voters’ evaluations of women candidates more generally.

Even if women elites who become associated with fighting corruption motivate a preference for women candidates, voter preferences only matter if women candidates are running. Rather than focusing narrowly on voters’ prejudices and preferences, more attention should be paid to the role institutions and parties play in empowering women’s political engagement. Thames (2018) shows that electoral institutions matter: more

women were nominated and elected under PR than SMD elections. However, even under PR, women were dramatically underrepresented in Ukrainian politics. One possible solution for promoting women's representation in Ukraine would be to revisit the use of quotas. However, barring major institutional reforms, more efforts need to be made to motivate women candidates to run in the first place.

Hrycak (2007, p. 164) suggests that deepening ties with the European Union (EU) may be a powerful way to increase gender equality, because EU membership rules require member countries enact equality of opportunity legislation. Along the same lines, Sundstrom et al. (2019, p. 27) advocate for enshrining international norms that recognize women's rights as human rights in multilateral treaties, noting that "the recognition of women's rights as being part and parcel of human rights must remain central to our understanding of meaningful citizenship." Women's political engagement is necessary for just and legitimate political decision-making. Women must be represented descriptively and substantively to have a voice in decisions that affect them, so that the feeling of inclusion created through representation can increase the democratic legitimacy of the polity (Mansbridge 1999).

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Appendices

A Supplementary Information on Ukraine

A.1 Ukraine's Quotas

Ukraine has no quotas for women in Parliament on the national level, and the idea remains controversial — though it does have significant support within the population (Martsenyuk 2015). Legislation for quotas at all levels was introduced in 2013 (see Haffert 2014) but never passed. There was also a recently implemented local election law that requires that at least 30% of candidates participating in the elections must be women. However, as the International Foundation for Electoral Systems (IFES) (IFES 2015) documents, not having 30% women on the list has been found **not** to be grounds to deny registering a party's slate of candidates.

A.2 Women's Representation in Ukraine

Ukraine has changed electoral systems several times, so it is impossible to examine an unbroken time series. Birch (2003) has suggested that women politicians have fared better when Ukraine had a PR system and Thames (2018) has tested this using a Bayesian model, both have found evidence for a relationship between institutional design and women's representation; the theory that PR is causally linked with higher women's representation has found some support from the cross-national literature and within country case studies (see Paxton and Hughes 2016; Birch 2003).

The proportion of women representatives elected in single member districts (SMDs) in Ukraine's mixed-member proportional (MMP) system is much lower than the overall proportion of women's representation in the Parliament. Only four out of 198 (2%) of Ukraine's SMD representatives serving at the beginning 2017 were women. By comparison 9.5% of deputies elected in SMD districts in 1994 were women. This means that the women elected to Parliament in the 2014 elections, aside from the above-mentioned four, were elected from national lists.

A.3 Time Series of Ukrainian Women’s Representation

The IPU, the source for the cross-national data in this paper, often records data on a monthly basis, though their reporting does not always occur at equal intervals. The IPU data is the source for Esarey and Schwindt-Bayer (2017), though this data is collapsed into Country-Year data. Figure A.1 shows all of the IPU data. The data show that, in the context of women’s underrepresentation, a few bi-elections can change the percent women representation. While this may not make a large substantive difference, aggregating to yearly data obscures within legislative session variation.

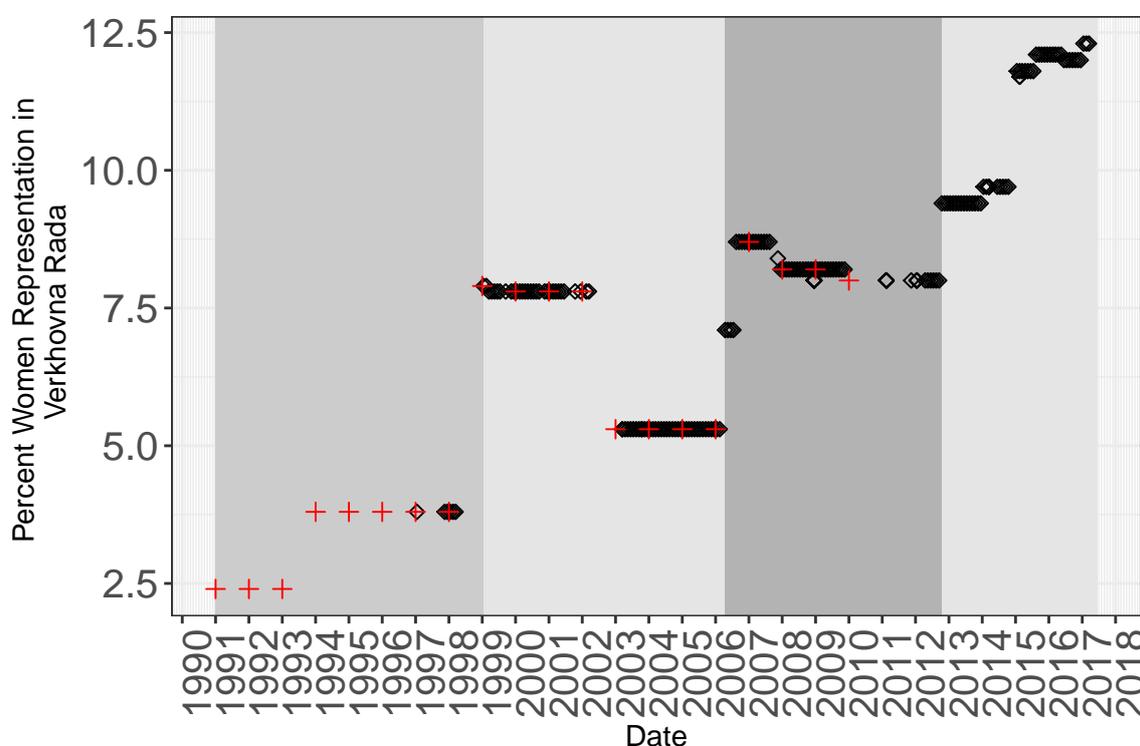


Figure A.1: Data show the collapsed (to yearly, with red plus symbols from Esarey and Schwindt-Bayer (2017)) and raw (generally monthly, with black diamonds) IPU data for Ukraine. Ukraine as changed its electoral system several times. The color in the background shows the type of electoral regime. Light grey represents an MMP system, dark grey a proportional system, and medium grey a SMP system.

B Survey Implementation and Design

Kyiv International Institute of Sociology (KIIS) carried out both waves of the face-to-face survey as part of a regular political survey, which collected independent (non-panel) samples. Both waves were carried out after the 2014 parliamentary elections (parliamentary elections occur every 5 years), and the Russian annexation of Crimea. Given the ongoing conflict in Eastern Ukraine, it is impossible to succinctly summarize all the events that occurred between the two survey waves, but key events can be viewed on *Ukraine Crisis Timeline* (<http://ukraine.csis.org/>).

Wave one was carried out between November 28, 2015 and January 5, 2016 and wave two was carried out between May 21 and June 15, 2016. The response rate for Kyiv only according to AAPOR standards was 49.8% in wave one of the experiment and 49% in wave two of the experiment.

Both waves of the Kyiv experiment were part of larger national survey. However, the gender experiment was only carried out in Kyiv. For the national survey, the target population consisted of all adults aged 18 years and older, who were residents of one of the 24 Ukrainian oblasts or the city of Kyiv. Individuals permanently institutionalized in medical facilities, military quarters, and prisons were not included in the sample. The occupied territories (Autonomous Republic of Crimea, city of Sevastopol, and occupied parts of Donetsk and Luhans'ka oblasts) and the contaminated territories around the Chernobyl Exclusion Zone were excluded from the sampling frame. Before drawing the sample population proportional to size (PPS), the populations were corrected based on the best extant estimates to account for internal and external migration as a result of the ongoing conflict in Donetsk and Luhans'ka oblasts. Those who were internally displaced were added to the populations of recipient oblasts.

The survey employed a multi-stage cluster sample technique, where each oblast was divided into two or three strata: a rural stratum and an urban stratum, with any large cities over half a million potential respondents composing a third stratum (Kyiv was its own stratum). Oversamples were also conducted in some strata, so the sample was nationally not self-weighting nationally, but was self-weighting in Kyiv. All results are

presented without survey weights for Kyiv and with weights when non-Kyiv data is used. Within strata, voting precincts were selected proportional to population size. Within voting precincts, households were selected using a random route method, and individuals within a household were selected via a Kish Grid. Individuals for the experiment were randomized on the individual level.

C Validity of Images and Image Comparisons

We used our fieldwork team to find models that were most similar in terms of attractiveness, ethnicity, age and hair color, given the model pool available. For the older couple, we chose dyed hair for the woman and baldness for the man based on assistants’ judgments.

To validate our own judgment, we ran all of the images through the face++ API (www.faceplusplus.com) to judge the attractiveness of the images along with their age, gender, and ethnicity. We find, in line with our own judgments, that each pair of images is similar and that the older pair is significantly less attractive. We do note that there is somewhat of a difference in the API’s rating of the “female beauty” of the brown-haired pair of candidates. We also note that the API misjudged the age of the bald older man candidate, likely because he is bald. The algorithm also successfully predicted the gender and race of all the candidates.

Pair	Gender	Race	Male Beauty	Female Beauty	Age
brown	Female	White	71.1	77.4	44
brown	Male	White	84.5	83.4	34
brunette	Female	White	78.1	82.0	41
brunette	Male	White	81.8	84.8	34
older	Female	White	52.7	57.9	50
older	Male	White	49.8	52.8	25

Table C.1: Results from the face++ app API, which uses machine learning to judge characteristics of images. We show the ethnicity, gender, attractiveness and, age of images

The face++ company documents their attractiveness measures in the following way:

Result of beauty analysis, including the following fields. The value of each field is a floating-point number with 3 decimal places between [0,100]. Higher beauty score indicates the detected face is more beautiful.

- male_score: male beauty score of the detected face
- female_score: female beauty score of the detected face

C.1 Verkhovna Rada Members in Similar Attire

These images are all taken from candidates official picture on the Verkhovna Rada website: <http://gapp.rada.gov.ua/radatransl/Home/deps/en>.



(a) Bakhteieva, Tetiana Dmytrivna; Opposition Bloc



(b) Katser-Buchkovska, Nataliia Volodymyrivna; People's Front



(c) Zalishchuk, Svitlana Petrivna, Petro Poroshenko Bloc



(d) Denysenko, Andrii Serhiiiovych; non-affiliated



(e) Barvinenko Vitalii Dmytrovych, Revival



(f) Burbak Maksym Yuriiovych; People's Front

Figure C.2: Politicians across the Ukrainian political spectrum wear attire similar to the attire in our hypothetical images. Moreover, this clothing does not signify one particular party or position.

D Balance Tables

	(1) 0	(2) 1	(3) Overall	(4) (1) vs. (2), p-value	(5) p-value from joint orthogonality test of treatment arms	(6) N from orthogonality test
♀ Respondent	0.63 (0.03)	0.59 (0.03)	0.61 (0.02)	0.37	0.37	466
♀ Interviewer	0.87 (0.02)	0.84 (0.02)	0.86 (0.02)	0.36	0.36	466
Age	49.78 (1.27)	48.89 (1.28)	49.32 (0.90)	0.62	0.62	466
> H.S. Ed.	0.92 (0.02)	0.90 (0.02)	0.91 (0.01)	0.64	0.64	464
Miss Cov.	0.00 (0.00)	0.01 (0.01)	0.00 (0.00)	0.17	0.17	466
Int. in Ukr.	0.31 (0.03)	0.32 (0.03)	0.32 (0.02)	0.88	0.88	466
Eth. Ukr.	0.96 (0.01)	0.93 (0.02)	0.94 (0.01)	0.15	0.15	466
Order 1	0.22 (0.03)	0.20 (0.03)	0.21 (0.02)	0.57	0.57	466
Order 2	0.07 (0.02)	0.16 (0.02)	0.12 (0.01)	0.00	0.00	466
Order 3	0.19 (0.03)	0.09 (0.02)	0.14 (0.02)	0.00	0.00	466
Order 4	0.19 (0.03)	0.26 (0.03)	0.23 (0.02)	0.08	0.08	466
Order 5	0.19 (0.03)	0.14 (0.02)	0.16 (0.02)	0.20	0.20	466
Order 6	0.15 (0.02)	0.15 (0.02)	0.15 (0.02)	0.90	0.90	466
<i>N</i>	226	240	466			

Wave 1 of survey data collection. Note that all the orders were not equally likely because of an issue with ODK, and two were out of balance.

	(1) 0	(2) 1	(3) Overall	(4) (1) vs. (2), p-value	(5) p-value from joint orthogonality test of treatment arms	(6) N from orthogonality test
♀ Respondent	0.62 (0.04)	0.56 (0.04)	0.59 (0.03)	0.24	0.24	337
♀ Interviewer	0.88 (0.02)	0.87 (0.03)	0.88 (0.02)	0.92	0.92	337
Age	45.91 (1.36)	43.40 (1.39)	44.73 (0.97)	0.20	0.20	337
> H.S. Ed.	0.94 (0.02)	0.98 (0.01)	0.96 (0.01)	0.05	0.05	336
Miss Cov.	0.00 (0.00)	0.01 (0.01)	0.00 (0.00)	0.29	0.29	337
Int. in Ukr.	0.30 (0.03)	0.26 (0.03)	0.28 (0.02)	0.39	0.39	337
Eth. Ukr.	0.91 (0.02)	0.87 (0.03)	0.89 (0.02)	0.27	0.27	337
Order 1	0.15 (0.03)	0.18 (0.03)	0.16 (0.02)	0.51	0.51	337
Order 2	0.17 (0.03)	0.21 (0.03)	0.19 (0.02)	0.41	0.41	337
Order 3	0.17 (0.03)	0.22 (0.03)	0.19 (0.02)	0.33	0.33	337
Order 4	0.12 (0.02)	0.00 (0.00)	0.07 (0.01)	0.00	0.00	337
Order 5	0.21 (0.03)	0.15 (0.03)	0.18 (0.02)	0.11	0.11	337
Order 6	0.17 (0.03)	0.25 (0.03)	0.21 (0.02)	0.05	0.05	337
<i>N</i>	179	158	337			

Wave 2 of survey data collection. Note that all the orders were not equally likely because of an issue with ODK, and three were out of balance.

	(1)	(2)	(3)	(4)	(5)	(6)
	0	1	Overall	(1) vs. (2), p-value	p-value from joint orthogonality test of treatment arms	N from orthogonality test
♀ Respondent	0.65 (0.01)	0.63 (0.01)	0.64 (0.01)	0.32	0.32	2525
♀ Interviewer	0.91 (0.01)	0.90 (0.01)	0.90 (0.01)	0.40	0.40	2525
Age	48.10 (0.47)	48.76 (0.54)	48.40 (0.35)	0.36	0.36	2525
> H.S. Ed.	0.77 (0.01)	0.79 (0.01)	0.78 (0.01)	0.16	0.16	2501
Miss Cov.	0.01 (0.00)	0.01 (0.00)	0.01 (0.00)	0.58	0.58	2525
Int. in Ukr.	0.23 (0.01)	0.22 (0.01)	0.23 (0.01)	0.56	0.56	2525
Eth. Ukr.	0.77 (0.01)	0.78 (0.01)	0.78 (0.01)	0.57	0.57	2525
Order 1	0.17 (0.01)	0.21 (0.01)	0.19 (0.01)	0.00	0.00	2525
Order 2	0.17 (0.01)	0.21 (0.01)	0.19 (0.01)	0.00	0.00	2525
Order 3	0.19 (0.01)	0.22 (0.01)	0.20 (0.01)	0.14	0.14	2525
Order 4	0.11 (0.01)	0.00 (0.00)	0.06 (0.00)	0.00	0.00	2525
Order 5	0.19 (0.01)	0.12 (0.01)	0.16 (0.01)	0.00	0.00	2525
Order 6	0.18 (0.01)	0.23 (0.01)	0.20 (0.01)	0.00	0.00	2525
rural	0.28 (0.01)	0.25 (0.01)	0.27 (0.01)	0.24	0.24	2525
<i>N</i>	1402	1123	2525			

Wave 2 of survey data collection, including the non-Kyiv-sample. Note that all the orders were not equally likely because of an issue with ODK, but two were out of balance.

E Differential Non-Response by Treatment Group

We examine treatment status by non-response to our questions about hypothetical images of candidates in both waves of the data collection, as seen in Table E.2. We classify item-non response as not giving a numerical answer to at least one of the hypothetical image questions. We find no evidence that there is a difference in non-response between our men’s and women’s photo treatment in wave one of the experiment, where the item non-response rate was lower. We do find some evidence of item non-response being different between control and treatment in wave two. To see if this driven by observables (and particularly treatment), we run logistic regression, as shown in Table E.3. There is no clear pattern of treatment or other observables driving item non-response in both waves, though there is an effect the interviewer being a woman in the second wave. Nevertheless, the effects remain substantively the same if we conduct a weighted t-test, where we weight on observables. Therefore, for ease of interpretation, we proceed with the analysis of the unweighted data.

Treat Women Photos	Wave 1	Wave 2
0.00	0.78	0.61
1.00	0.75	0.51

Table E.2: Item non-response rate for the ratings of the three experimental assigned pictures (Man or Woman)

Table E.3: Logistic regression of presence of responses for all three pictures to test for differences between treatment and control in response patterns.

	1 = Response to all three photo questions	
	Wave 1	Wave 2
Women Photo Treatment	-0.879 (1.420)	-0.809 (1.052)
Female Respondent	0.061 (0.315)	0.045 (0.258)
Age	-0.001 (0.008)	0.006 (0.007)
Corruption Important	0.279 (0.314)	0.404 (0.253)
Ed. > H.S.	0.793 (0.413)	0.366 (0.473)
Interviewer Female	-1.999 (1.032)	1.206* (0.312)
Treatment × Female Respondent	-0.392 (0.421)	-0.110 (0.351)
Treatment × Age	0.00005 (0.011)	-0.002 (0.010)
Treatment × Corruption Important	-0.311 (0.414)	-0.313 (0.347)
Treatment × Education > High School	-0.175 (0.557)	0.798 (0.837)
Treatment × Female Interviewer	1.245 (1.133)	-0.083 (0.439)
Constant	2.425* (1.211)	-1.316* (0.667)
N	602	599
Log Likelihood	-312.715	-389.048
AIC	649.431	802.095

*p < .05

F Graphs of Distributions and Differences in Means

F.1 Alternative visualization of difference in means

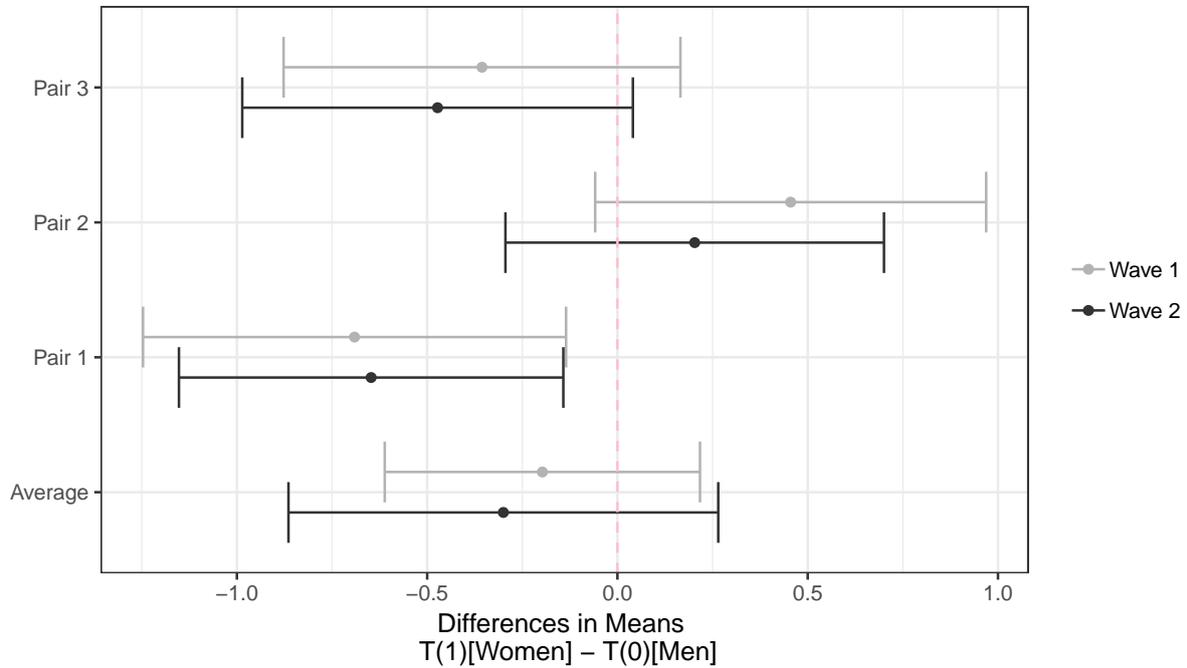


Figure F.3: The difference in means between men candidates and women candidates, where a positive number represents the women candidate being rated higher. Confidence intervals are associated with respective t -tests.

G Regression Tables

G.1 Robustness Checks Average Pic Rating

	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2
Intercept	4.29*	4.17*	2.78*	5.16*	2.84*	5.15*
	[3.99; 4.58]	[3.79; 4.56]	[0.85; 4.72]	[2.76; 7.57]	[0.90; 4.78]	[2.72; 7.58]
Female Photo = 1	-0.20	-0.30	-0.07	-0.17	-0.28	-0.13
	[-0.61; 0.22]	[-0.86; 0.26]	[-0.50; 0.36]	[-0.76; 0.41]	[-0.96; 0.40]	[-1.01; 0.74]
Female Resp.			-0.03	1.02*	-0.20	1.06*
			[-0.46; 0.41]	[0.46; 1.59]	[-0.85; 0.44]	[0.29; 1.82]
Female Photo × Female Resp.					0.34	-0.07
					[-0.50; 1.18]	[-1.20; 1.07]
Order effects	<i>No</i>	<i>No</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
Demographic Controls	<i>No</i>	<i>No</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
Num. obs.	466	337	464	336	464	336
RMSE	2.27	2.63	2.24	2.52	2.24	2.53

* 0 outside the confidence interval.

Table G.4: Coefficients from least squares models where the outcome variable is the average rating of each picture. 95% confidence intervals in brackets are shown based on robust standard errors

G.2 Robustness Checks Individual Pic Rating

	Pair 1-W1	Pair 1-W2	Pair2-W1	Pair2-W2	Pair 3-W1	Pair 3-W2
Intercept	3.32*	5.80*	3.38*	2.22*	1.88	5.17*
	[0.65; 6.00]	[3.66; 7.95]	[0.92; 5.84]	[0.28; 4.17]	[-0.45; 4.22]	[2.85; 7.48]
Woman Photo = 1	-0.56	-0.44	0.60*	0.29	-0.19	-0.34
	[-1.15; 0.02]	[-0.92; 0.05]	[0.06; 1.13]	[-0.24; 0.81]	[-0.73; 0.35]	[-0.85; 0.16]
Woman Resp.	-0.52	0.90*	0.51	0.80*	0.02	0.77*
	[-1.09; 0.04]	[0.42; 1.39]	[-0.03; 1.04]	[0.31; 1.29]	[-0.52; 0.56]	[0.26; 1.28]
Order effects	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
Demographic Controls	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
Num. obs.	491	466	489	421	483	437
RMSE	3.10	2.62	2.88	2.52	2.89	2.69

* 0 outside the confidence interval.

Table G.5: Coefficients from least squares models where the outcome variable is the average rating of each picture. 95% confidence intervals in brackets are shown based on robust standard errors

G.3 Marginal Effects by Gender

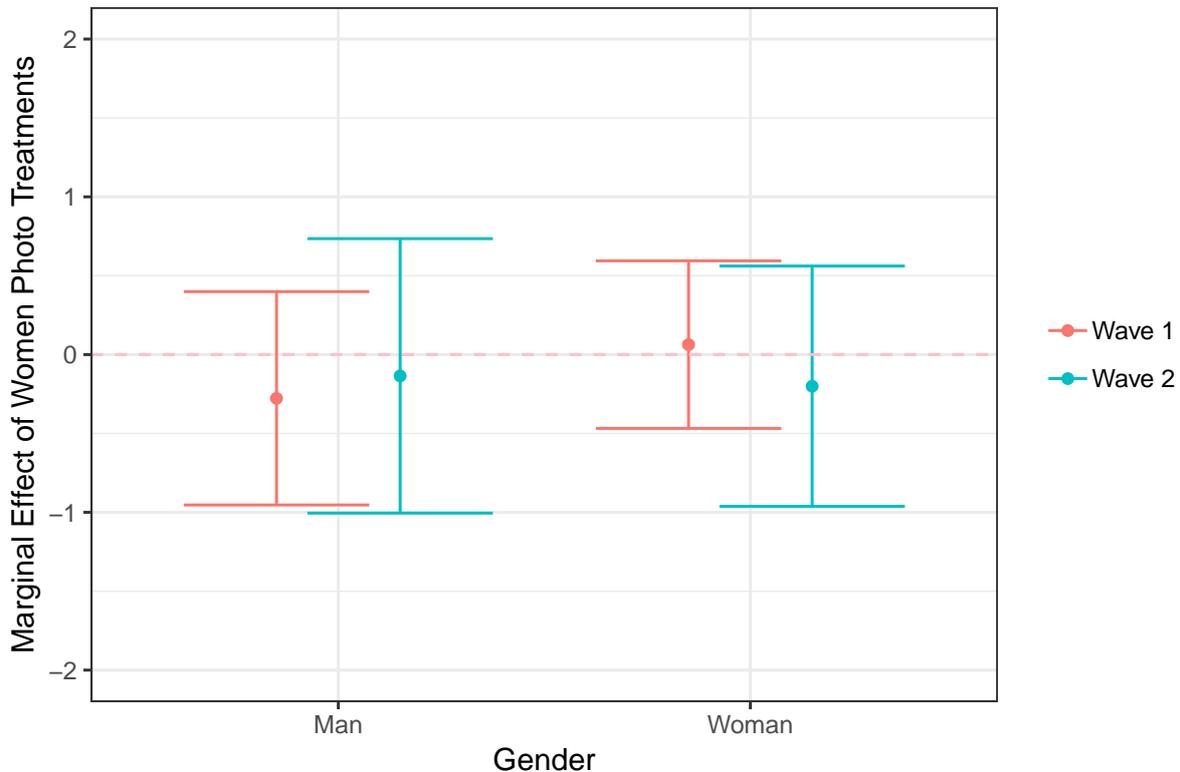


Figure G.4: Marginal Effects Plots for Gender

G.4 Negligible Effect

We can use 90% confidence intervals, which are equivalent to a Two One-Sided t -test (TOST) to put bounds on the size of effect we can reject on the basis of our study (Rainey 2014). In all of our models the effect is negative but statistically not significant. We set an effect of size 1 to statistically rule out such a large effect size.

While the scale of 0-10 has no inherent meaning, we specify that negligible effect will be less than one point on this scale. We choose one point because we are looking for effects that are large and would make gender an important consideration in the evaluation process.

Using 90% confidence intervals provides statistical evidence for ruling out the possi-

bility that effect size of the woman candidate photos is greater than one for both waves.¹ We show this finding in Figure G.5, along the 90% confidence intervals for the three regression models discussed in the paper (no covariates, a vector of demographic controls, and a vector of demographic controls and the interaction between gender of respondent and gender of candidate photos). We see in Figure G.5 that regardless of model specification, that while we cannot rule out a small negative effect size we can rule out that effect size is greater than one.

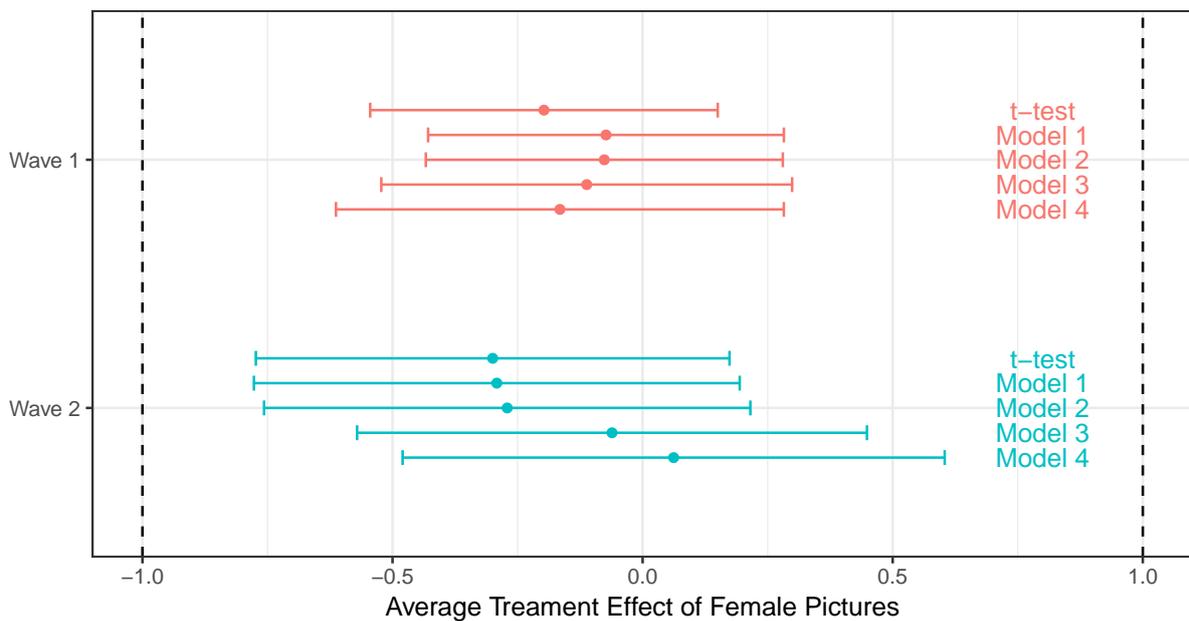


Figure G.5: The estimates are shown with 90% confidence intervals, which are equivalent to a TOST-test. Under no modeling assumptions do we see evidence to demonstrate that the treatment effect is greater than one.

¹An effect size of one is equivalent to a Glass's Δ of .44 in both rounds of the survey in Kyiv.

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