

# The Electoral System and Women's Legislative Underrepresentation in Post-Communist Ukraine

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## Abstract

In comparison with the global average of democratic countries, Ukraine's parliament, the *Verkhovna Rada*, remains well below average in terms of women's legislative representation. This article attempts to explain why Ukraine's record is so poor by examining the impact of different electoral systems. Since the first post-Communist election in 1994, Ukraine has used three different electoral systems—majoritarian SMD, MMM, and closed-list PR. By examining the impact of these different systems on women's representation, we can test for the effect of different institutions on representation while holding political culture constant. The empirical results find that PR systems consistently nominated more women and elected more women than did other, majoritarian systems did. In addition, there is little evidence of gender bias against female candidates in either PR or SMD elections.

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# 1 Introduction

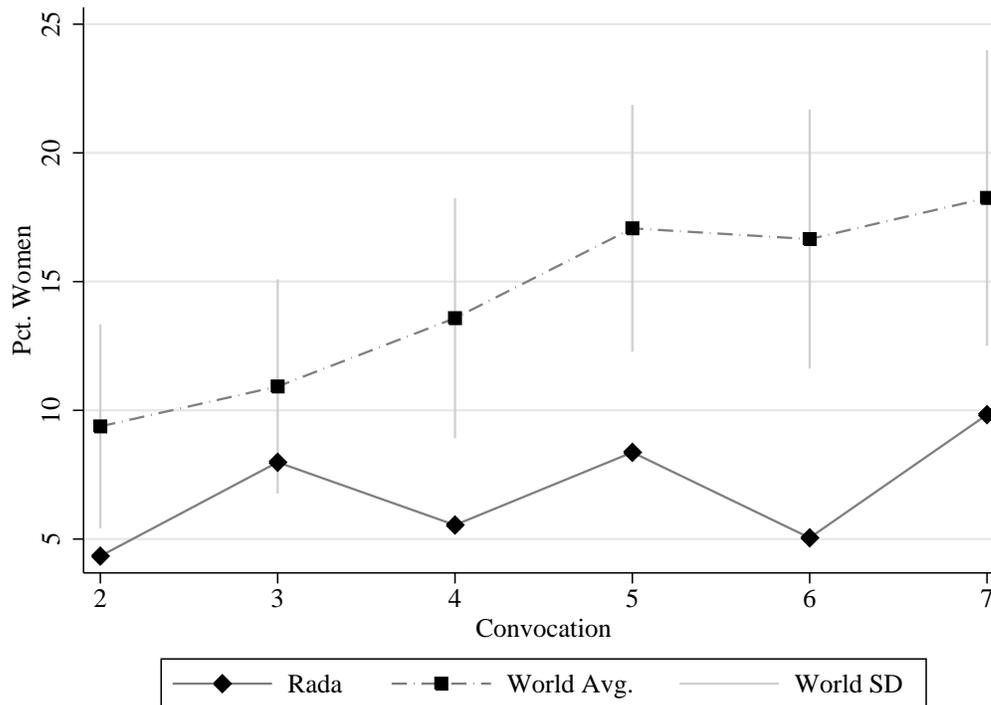
In 2010, then Ukrainian Prime Minister Mykola Azarov stated his opinion on the role of women in politics:

Some say our government is too large, others that there are no women—there’s no one to look at during cabinet meetings. They’re all boring faces. . . With all respect to women, conducting reforms is not women’s business (quoted in Martsenyuk (2012)).

On the one hand, this may simply represent his personal opinion about the role of women in Ukrainian politics. Although, one cannot escape the irony of the comment given that Ukraine’s previous prime minister, Yulia Tymoshenko, had just completed her second stint in office. On the other hand, the success of Yulia Tymoshenko notwithstanding, this comment may reflect a broader belief that politics is a “man’s” business. Ukraine has a weak record of women’s representation. The World Economic Forum ranked Ukraine 97th out of 136 countries in terms of women’s political empowerment in 2013 (Hausmann et al. 2013). Since the first, post-communist election in 1994, Ukraine’s parliament, the *Verkhovna Rada*, never surpassed 10 percent of its members, well below the global average, see figure 1.

What explains the weak representation of women in the post-Communist Rada? The existing literature on women’s representation in political science suggests several potential answers. Some scholars point to social and economic factors such as wealth or women’s labor force participation (e.g., Thames and Williams 2013; Norris 1985; Rule 1987; Matland 1998; Salmond 2006). Wealthier countries tend to elect more women than do poorer ones. Those nation’s with a higher percentage of women’s labor force participation also tend to elect female legislators at higher rates. Other scholars point to institutional factors such as gender quotas (e.g., Tripp and Kang 2008; Thames and Williams 2013; Krook 2009). Some quotas reserve a certain number of seats in the legislature for women, while others require a certain number of women to be nominated by political parties. In some cases, these quotas

Figure 1: Pct. Women in the Rada, 2nd-7th Convocation



require women to be placed in certain list positions.

For some, a country's poor record of women's descriptive representation can be explained, in part, by a political culture that does not support women's equality (e.g., Norris 1987, 1993; Bystydzienski 1995; Roberts, Seawright, and Cyr 2013). Some countries simply lack the values supportive of women's integration into politics broadly, and legislative politics specifically. These values create an atmosphere in which women may not only avoid seeking elective office, but also receive little support for their candidacies if they do compete for office.

Another line of research focuses on the impact of electoral institutions (e.g., Lakeman 1976; Norris 1985; Rule 1987; Darcy, Welch, and Clark 1994; Matland and Studlar 1996; Matland 1998; Kenworthy and Malami 1999; Reynolds 1999; Salmond 2006; Thames and Williams 2010). This literature finds that certain types of electoral institutions, such as closed

list proportional-representation (PR) systems, tend to be correlated with greater women's representation than others, such as single-member district (SMD) systems or others with high levels of personal vote incentives. The argument rests on the logic that some electoral institutions create strategic incentives for the inclusion of women. In closed-list PR systems, for example, party leaders often exert significant control over nominations, allowing them to better balance their lists with female candidates with little opposition. Thus, they can include women in order to appeal to those voters interested in electing women. In systems where party leaders have weaker control, such balancing is often resisted by entrenched interests.

These two different arguments raise an interesting question—can an electoral system that tends to improve women's representation, such as closed-list PR, overcome the impact of culture that does not support women's inclusion? One of the difficulties with understanding how institutions and culture work to impact women's representation is finding the best research design to assess their relationship. Salmond (2006) rightly points out that large-N quantitative studies are necessary to understand women's representation. Yet, operationalizing culture in such studies is often complicated (Salmond 2006). It is difficult to find proxy measures for it, such as women's labor force participation, that are not correlated with other factors. Survey data is helpful, but it is often limited in scope. In addition, cultural values tend to change slowly, meaning they are highly correlated across time.

Understanding the impact of electoral systems is difficult as well. Typical measures used to operationalize electoral systems, such as district magnitude, may be incomplete. In addition, electoral systems tend to be stable over time, since electoral reform is infrequent at best.<sup>1</sup> Increases in women's representation over time are not easily explained by institutions that stay constant. Roberts, Seawright, and Cyr (2013) adopts a novel approach of using changes in electoral system to predict the level of women's representation, finding

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<sup>1</sup> Using Lijphart's definition of electoral system change, one study found that of 125 countries that held democratic legislative elections between 1946 and 2000, 57 used the same system throughout the period (Golder 2005).

little impact and claiming that cultural norms play a more significant role than previously understood. The study did not, however, control for culture directly.

This article takes advantage of the opportunity provided us by the uniqueness of the Ukrainian case. Since its independence from the Soviet Union in 1991, Ukraine has used three different electoral systems—a SMD majoritarian system, a mixed-member majoritarian system (MMM), and a closed-list PR system. This variation in electoral system allows us to test the impact of different electoral institutions while holding cultural and other socio-economic factors constant. Using data from all elections between 1994 and 2012, I find that women were both more likely to be nominated and to win seats in PR elections in comparison to SMD elections. In addition, I find little evidence of a gender bias in either election. Thus, even though Ukraine has a political culture that is not supportive of women’s representation, we see important variation created by the electoral system and weak evidence of gender bias across all systems. These results support the contention that as in many countries, one of the main obstacles to women’s representation is created by parties unwilling to nominate women in majoritarian elections.

The rest of the article will continue as follows. First, I will review the existing research on how political culture impacts women’s representation. Second, I will explain why some feel that PR systems are correlated with higher levels of women’s representation. Third, I will discuss how we can gain leverage on understanding the relationship between culture, electoral systems, and women’s representation by examining a single-country that features significant electoral reform. Here I will develop my hypotheses about the relationship between the electoral system in Ukraine and women’s representation. Fourth, I will use electoral data from 1994-2012 to demonstrate the impact of different electoral systems on women’s representation in the Rada. Finally, I will conclude with a discussion of the significance of the empirical results.

## **2 Culture and Women's Legislative Representation**

There is strong evidence that countries featuring patriarchal, traditional political cultures have lower levels of women's legislative representation than do other countries with more egalitarian political cultures. The idea is relatively straightforward—if a society has cultural values that do not support the inclusion of women in politics and gender equality, women are going to be underrepresented politically. Empirical studies of the impact of political culture on women's representation support this conclusion (Norris 1985; Inglehart and Norris 2003; Yoon 2004; Paxton and Hughes 2007). Research also suggests that certain religions are less supportive of women's equality. Countries with these religions, Catholic countries for example, tend to elect fewer women (Rule 1987; Reynolds 1999; Tripp and Kang 2008; Kenworthy and Malami 1999).

Potentially, a nation's cultural values could impact women's representation in several different, mutually reinforcing pathways. First, it is possible that women themselves opt out of the political process. Women may not feel that running for office is an activity they are free to select, even if they wanted to run for office. This may explain, in part, why women are less ambitious in terms of seeking office (Fox, Lawless, and Feeley 2001; Fox and Lawless 2010, 2004). If this point of view is held by many in a country, in particular women, then we would expect a much smaller pool of women available to stand for office that would translate into fewer women being elected to office.

Cultural values may also impact the attitudes of elite views of women in politics as well. Even if there are more than enough women who aspire for office, elites, in particular party elites, may simply not regard them as fit for office. In other words, the patriarchal values of elites may undermine the equality of women in the political arena. Fox and Lawless (2010, 2004) finds that in the U.S. case, women are less likely to be encouraged by parties to run for office. McElroy and Marsh (2009) notes a similar phenomenon in Ireland. Thus, parties simply do not support women as potential candidates nearly as much as they do men,

depressing the number of female candidates.

Finally, the view that women should not be involved in politics may extend to voters. It is possible that in some societies, voters simply discriminate against women. Thus, women may run for office, but the voters' unwillingness to support them because of their cultural values means that few women will be elected. To make matters worse, the existence of a cultural bias against women's representation may reinforce negative elite stereotypes, making it unlikely that they will support female nominations. Yet, empirical studies of voting find little evidence of a gender voting bias. Several studies in different contexts find that gender does not have an independent, negative effect on voters' choices (McElroy and Marsh 2009; Darcy, Welch, and Clark 1994; Welch and Studlar 1986; Seltzer, Newman, and Leighton 1997; Black and Erikson 2003; Borisyuk, Rallings, and Thrasher 2007; Dolan 1998; Smith 2001; McElroy and Marsh 2011; Brians 2005; Pippa Norris 1992; Murray, Krook, and Opello 2012). Thus, there is evidence voters do not, on average, vote against female candidates based simply on gender.

### **3 Electoral Systems and Women's Legislative Representation**

The main thrust of the literatures on electoral systems and gender is that closed-list PR systems, on average, promote women's representation better in comparison to other systems (e.g., Lakeman 1976; Norris 1985; Rule 1987; Darcy, Welch, and Clark 1994; Matland and Studlar 1996; Matland 1998; Kenworthy and Malami 1999; Reynolds 1999; Salmond 2006; Thames and Williams 2010). The perception is that the potential costs for party leaders to nominate women is lower in these systems in comparison with other, particularly majoritarian systems (Lakeman 1976; Darcy, Welch, and Clark 1994; Matland 1998; Salmond 2006). In these systems, party leaders typically have significant control over nominations to the

list; therefore, they can create a list that includes women without risking the ire of powerful, entrenched incumbents. This flexibility allows them to compete better for the votes of those who want to support female candidates. In fact, research shows that parties in such systems are more likely to adopt gender quotas in order to compete better with other parties adopting similar rules (Thames and Williams 2013).

In majoritarian systems, however, parties have weaker control over candidates, meaning party leaders cannot as easily nominate female candidates. Parties in such systems must cater to strong, entrenched interests to maximize seat share. Majoritarian systems often create significant incumbency advantages that reduce the incentive for parties to force powerful incumbent out to replace them with new, potentially female, candidates. Consequently, parties may feel that nominating women could undermine their vote share.

Even among parties in similar systems, we do see variation in female nominations by party. For some, this variation is explained by ideology. Ample research suggests that party ideology is a strong predictor of the nomination of female candidates (Kunovich 2003; Paxton and Kunovich 2003; Caul 1999; Caul Kittilson 2006). Often, “left” parties tend to nominate women more than other types of political parties.

In addition, some research suggests that parties are more likely to nominate women when women hold critical positions in the party hierarchy. In Canada, Cheng and Tavits (2009) found that women were more likely to run when the local party presidents were women as opposed to men, though this finding may depend on the party (Tremblay and Pelletier 2001). Evidence that male party elites prefer nominating male candidates may also discourage representation (Niven 1998). Other research has found a positive correlation between women’s legislative representation and the number of women in key party positions (Caul 1999; Caul Kittilson 2006).

## 4 Electoral Systems in Context

Should we expect certain electoral systems to increase women's representation in a society whose culture is not supportive of women? Increasingly, electoral systems specialists understand that the impact of electoral rules on political outcomes is highly contextual. Several works find evidence that the impact of electoral systems is contingent upon societal factors (Moser 2001*b*; Clark and Golder 2006; Mozaffar, Scarritt, and Galaich 2003; Neto and Cox 1997; Filippov, Ordeshook, and Shvetsova 1999; Ordeshook and Shvetsova 1994). Thus, theoretically, it should no surprise that our expectations of the impact of electoral systems may be dependent upon the cultural context within which these institutions exist.

Based on the existing literature on women's representation, one would expect that electoral systems may either reinforce or conflict with the existing political culture. For example, an SMD system coupled with a patriarchal culture would mutually reinforce each other to undermine women's representation to a greater extent than in other types of systems. Conversely, one could imagine that a high district magnitude closed-list PR system in a country with an egalitarian political culture could reinforce each other to produce extremely high levels of women's representation.

The more problematic question is what happens when the culture and the electoral system produce conflicting incentives? For example, in countries with a SMD system and egalitarian culture, what should we expect? On the one hand, if we believe the impact of culture to dominate, then we would expect that electoral institutions cannot overcome the impact of that culture to produce a more egalitarian legislature. On the other hand, electoral systems may be able to ameliorate the negative impact of culture by creating positive incentives for women's inclusion.

One of the difficulties with this type of research question is that developing a research design to find such differences is complicated. Salmond (2006) points out the benefits to using large-N quantitative methods to study women's representation. Cross-sectional

time-series approaches that allow us to understand women's representation across both time and space provide beneficial results, in particular since it is easier to generalize from these studies.

Yet, large-N quantitative studies also pose challenges, in particular when we try to assess the impact of culture. How should we control for cultural values in such studies? One potential solution is to use data sets such as the World Values survey. These data do have limitations concerning both their geographical and temporal coverage. Other regional sources, such as the Latinobarómetro or European Social Survey are useful, but again are limited to those regions. A regional approach to these questions is useful and important; however, this often means we focus on areas, such as advanced industrial democracies, rich in data to the exclusion of data poor regions.

Another approach is to measure culture with proxies. For example, researchers use socio-economic variables such as wealth and female labor force participation, women's education levels, or years since universal suffrage (Salmond 2006; Rule 1987; Reynolds 1999; Kenworthy and Malami 1999). Salmond (2006, p. 180) points out that such proxies are "blunt instruments" at best, which could vary for a host of other reasons that have nothing to do with the level of gender equality in a society. Thus, they may not be able to measure well differences between countries based on culture alone.

Of course, measuring electoral systems is complicated as well. One of the most common measures of electoral system is district magnitude. The finding that PR systems are better for women's representation is often based on empirical results that show a positive correlation between district magnitude and women's representation. While district magnitude is an important measure, there is significant variation among systems even when controlling for district magnitude. Carey and Shugart (1995) highlights how differences in rules governing ballot access, how votes are pooled, and for whom votes are cast. The impact of district magnitude will vary based upon differences in these rules. Simply using a PR dummy

variable also raises problems since it cannot distinguish between different levels of district magnitude or other electoral rules.

One potential solution to the difficulty of isolating the effects of electoral systems in context is to adopt a research design that holds one variable constant across time while another variable changes. In one large-N study, Roberts, Seawright, and Cyr (2013) tests whether changes in electoral system rules lead to changes in women's legislative representation. The study found that electoral system changes explained little, suggesting that changes in culture or socio-economic factors were the most likely cause of increases in women's representation. The study did not, however, include measures of political values.

I propose a different approach—examine the impact of different electoral systems within one country. While this approach sacrifices the advantages offered by large-N studies, namely generalization, it does allow us to distinguish better the impact of the electoral system from culture or other socio-economic effects. One difficulty with this approach, however, is that it requires a case where there is sufficient electoral system change over a short period of time. With little or no electoral system change, we cannot test for the impact different electoral systems. Moreover, a short time frame makes the assumption of holding culture constant more realistic. While there may be other cases that fit these qualifications, one that does is post-Communist Ukraine. An examination of women's representation in post-Communist Ukraine between 1994 and 2012 gives us the opportunity to understand how different electoral systems affect women's representation in a country whose political culture was an obstacle to women's representation.

For many, former Prime Minister Azarov's comment is an example of the traditional, patriarchal political culture in Ukraine that undermines women's participation in political life (e.g., Galligan and Clavero 2008; Hrycak 2011; LaFont 2001; Hrycak 2010, 2006, 2005; Galligan and Clavero 2008; Rubchak 2012; Hankivsky and Salnykova 2010). In part, the underrepresentation of women can be traced to the legacies of the Soviet past

(Galligan and Clavero 2008; Hrycak 2011; LaFont 2001). During the Soviet period, the Rada contained a significant number of women, 33 percent. This number was the result of a quota instituted by the Communist Party (Hrycak 2011). Yet, the existence of the quota did not reflect the position of women within Soviet Ukraine. The Communist Party did provide women with access to higher education and employment at rates significantly higher than in the past. In addition, the Soviet state guaranteed equality and provided social services beyond those offered by many western states (LaFont 2001). However, the Communist Party also actively reinforced the stereotypical view of women as mothers and nurturers (Hrycak 2001). Consequently, women were seen as both “producers” whose role was to help build communism while simultaneously being responsible for having and rearing children while also keeping house.

The legacies of the Soviet period certainly explain, in part, why traditional stereotypes of women as homemakers and child bearers remain common in post-Communist Ukraine. For many, the role of women in society remains limited to domesticity and child bearing (Hrycak 2010, 2006, 2005; Galligan and Clavero 2008; Rubchak 2012; Hankivsky and Salnykova 2010). This view of women has direct implications for how women are perceived politically. Politics is viewed as a masculine arena in from which women are to be excluded (Hrycak 2010; Galligan and Clavero 2008). Consequently, many Ukrainians view women’s rights through the lens of motherhood and not equality (Hrycak 2001).

Survey data on Ukrainian attitudes towards women and politics shows a continuation of these stereotypes. In one 2012 survey, 40 percent of Ukrainian adults preferred male candidates over female candidates for public office (Lake, Gotoff, and Pondel 2012). Over 77 percent believed that men were more involved than women in political life (Lake, Gotoff, and Pondel 2012). A plurality of those surveyed believed that a party’s decision to include women’s issues in their platform or the presences of women’s organizations within the party made no difference in their voting decisions. Female candidates did maintain advantages

on certain issues such as child care, health care, and education, as well as being seen as less corrupt than their male counterparts (Lake, Gotoff, and Pondel 2012). Yet, one of the obstacles to women's participation in politics is the widely held belief a women play a central, vital role in the household (Lake, Gotoff, and Pondel 2012).

Given these values, it is, perhaps, no surprise that women are weakly organized. During the Soviet period, there were few if any organized, women's groups outside of the Communist Party's control. Thus, women's autonomous political organization prior to the end of communism remained low. In the wake of the end of communism, many women's organizations did form in Ukraine (Hrycak 2005). However, many of these groups focused on nationalist demands for an independent Ukraine, nation building, and traditional views of women's roles as opposed to equality (Hrycak 2006, 2010). Many actively distanced themselves from western-notions of feminism (Rubchak 2012; Hankivsky and Salnykova 2010).

To make matters worse, women remain outside the power structures of most Ukrainian political parties. Many parties are based on patron-client networks that were built around critical economic and business elites (Hrycak 2005). Women have limited access to the patronage networks, economic, and political positions that lead to significant political influence (Moser 2001*a*). Without women in critical party positions or having access to such resources, women's organization within and outside of parties cannot pressure them to nominate more women and adopt policies that benefit women's interests (Moser 2001*a*).

The literature on political culture in Ukraine paints a dreary picture of women's political participation. The cultural values held by many are antithetical to the broad participation of women in politics. Thus, one could argue that the low number of women in the Rada is a direct results of these cultural values.

The question then becomes whether the electoral system reinforced or overcame these tendencies. Table 1 lists the electoral systems by Rada Convocation from 1990-2012. In

Table 1: Electoral Systems in Post-Communist Ukraine

<i>Electoral Rule</i>	<i>District Magnitude</i>	<i>PR Threshold</i>	<i>Election Years</i>	<i>Convocation</i>
SMD Majoritarian	1	-	1990, 1994	1st, 2nd
MMM	225 (PR) , 1 (SMD)	4 pct.	1998, 2002	3rd, 4th
Closed-List PR	450	3 pct.	2006, 2007	5th, 6th
MMM	225 (PR) , 1 (SMD)	5 pct.	2012	7th

Note: The 1st Convocation was elected prior to the end of Communism.

the initial post-Communist election in 1994 for the 2nd Convocation, Ukraine employed an SMD majoritarian system. It switched to an MMM system, with a PR tier for the next two elections in 1998 and 2002. Ukraine changed again to a pure, closed-list PR system for the 2006 and 2007 elections before returning to the MMM system in 2012.<sup>2</sup>

This amount of change offers us the advantage of comparing the election of women across multiple elections with multiple systems in a relatively short period of time. We can compare the results of four different SMD elections (the 2nd, 3rd, 5th, and 7th Convocations) with five different PR elections (3rd, 4th, 5th, 6th, and 7th Convocations). We can compare the results of both pure systems as well as mixed systems. For some, mixed-member systems represent a “natural experiment,” allowing us to compare the effect of different electoral systems in the same place at the same time (e.g., Moser 2001*b*). Others argue that “contamination” between the tiers complicates this approach (Herron and Nishikawa 2001). In this study, however, we can compare not only within mixed systems, but also between mixed and pure systems to determine whether differences in electoral systems created different patterns of women’s representation.

The rules used to govern Ukrainian PR elections remained relatively similar across the period. Each election was a nationwide, closed-list election in which seats were distributed based on proportional electoral formulas. There were differences in the electoral thresholds

<sup>2</sup>The causes of Ukraine’s significant electoral system change is beyond the scope of this paper, see Herron (2004); Whitmore (2004); Birch (1995); Arel and Wilson (1994); Birch (1997); Bojcun (1995); Wilson and Birch (1999); Herron (2007); Christensen, Rakhimkulov, and Wise (2005); Protsyk (2003).

and the number of seats, see table 1. In terms of list formation, Ukrainian electoral law allowed officially registered parties to provide lists of candidates for the PR election. By law, these lists were approved by each party's highest organizational body. However, the central party leaderships maintained significant control over the formation of these lists (Herron 2002).

There was some variation in the SMD electoral systems used in Ukraine. While the SMD elections in the MMM system were broadly similar to each other, the 2nd Convocation was selected using an SMD majoritarian system. If no candidate received a majority of votes in the first round, the two candidates receiving the most votes would compete in a second round. The candidate with the most votes would win the seat. Few candidates won seats outright in the initial 2nd Convocation election, leading to many second round contests. The remaining SMD elections were all conducted using the plurality rule for the 3rd, 4th, and 7th Convocations.

One of the defining characteristics of Ukrainian SMD elections is the number of non-partisan candidates who won seats. In 1994 general election, independents won over 60 percent of the vote, winning over 60 percent of the seats. Independents won 49 percent of the seats in the 1998 general election, and 40 percent in 2002. In the 2012 general election, the percentage of independent candidates winning seats in the general election fell to 19 percent. Most of these deputies would eventually join a parliamentary party in the Rada (Thames 2007).

The number of independents in the election was, in part, caused by electoral laws that specifically allowed non-partisan nominations. Parties were given the right to nominate candidates and they did. However, "voter" groups or blocks were also allowed to nominate candidates as well. Thus, candidates could get on the ballot with no party ties.

The success of independents was also due to the fact that parties were often not necessary for electoral success. D'Anieri (2007, p. 174) writes that "The weakness of political parties

is a central problem in Ukraine.” This is not a uniquely held opinion. Much of the research on Ukraine during this period posits that like many post-Soviet political systems, Ukraine has suffered from weak, poorly institutionalized political parties (e.g., Wilson and Bilous 1993; Moser 1999; Diuk and Gongadze 2002; Kuzio 2003; Protsyk 2003; Whitmore 2004; D’Anieri 2007). The social cleavages that formed the basis for party politics in many countries remained “de-politicized” throughout the Soviet period (Birch 2000, p. 12). Civil society was also weak (D’Anieri, Kravchuk, and Kuzio 1999). Without strong civil society organizations, Ukrainian society remained weakly organized, undermining collective action. Most of the parties lacked strong, institutionalized ties to voters. Party organizations were often anemic. Elections often featured high levels of volatility. Many voters simply distrusted political parties. Bojcun (1995, p. 240) writes that parties were “equated by many with state instruments of domination and vehicles for personal gain.” The weakness of party ties to voters meant that parties were often the vehicles for individual politicians, such as the president, or regional interests, to push their interests (Whitmore 2004; Matsuzato 2005; Kubicek 2000; D’Anieri, Kravchuk, and Kuzio 1999; Way 2005).

The strength of Ukrainian patronage networks and the weakness of political parties meant that for some candidates parties were not necessary. The patronage networks could offer candidates economic and political resources necessary to win elections. Thus, they provided an alternative to traditional political parties we see in other contexts.<sup>3</sup> The ability to win elections without partisan attachment highlights how important personal vote coalitions were to SMD candidates.

Given the different electoral system configurations in Ukraine and the extant literature, what should we expect in terms of women’s representation? I look at two different metrics—the number of female electoral candidates and the number of female elected deputies. If

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<sup>3</sup>In the Russian case, both Hale (2006) and Smyth (2006) demonstrate how regional economic and political elites provide alternatives to political parties. While there are differences between the Russian and Ukrainian context, the ability of non-party elites to compete with political parties is similar in both contexts.

parties can better balance their candidate nominations in PR elections, then it is likely that:

*H<sub>1</sub>*: The percentage of female candidates will be higher in PR elections than in SMD elections.

This hypothesis is the logical extension of the existing arguments concerning the benefits of PR systems for women's representation.

We should also expect that different electoral systems should elect women at different rates. Thus, I hypothesize that:

*H<sub>2</sub>*: A higher percentage of women will be elected in PR elections than in SMD elections.

Again, given the findings of the electoral systems literature, we should expect more women to be elected in PR elections.

Isolating why PR systems advantage women is also an important question. Much of the focus on the literature argues that parties are simply more likely to nominate women in PR than in SMD systems. Thus the source of the problem is party nomination strategies and not necessarily voter bias. As mentioned previously, the existing research finds little evidence of wide-spread discrimination against female candidates by voters. If the issue is one of nominations, and voter discrimination is unlikely, then we would expect that:

*H<sub>3</sub>*: Female candidates are not more or less likely to win seats in either type of election, PR or SMD.

The rest of this article will test these hypotheses.

## 5 Women's Legislative Representation in Post-Communist Ukraine

To test my arguments, I created a dataset of all SMD, MMM, and PR elections in Ukraine between 1994-2012. This period covers the 2nd through 7th Convocations of the Rada.<sup>4</sup> The data include by-elections as well as repeat elections.<sup>5</sup> Figure 2 plots the percentage of female candidates across the 2nd through the 7th Convocation by election type—PR or SMD (see table 1). The 2nd Convocation was elected with a majoritarian SMD system, so there were no PR election results. The 5th and 6th Convocations were elected with pure, closed-list PR systems; therefore, there are no SMD results. Elections for the 3rd, 4th, and 7th Convocations used similar MMM systems, featuring both PR and SMD elections.

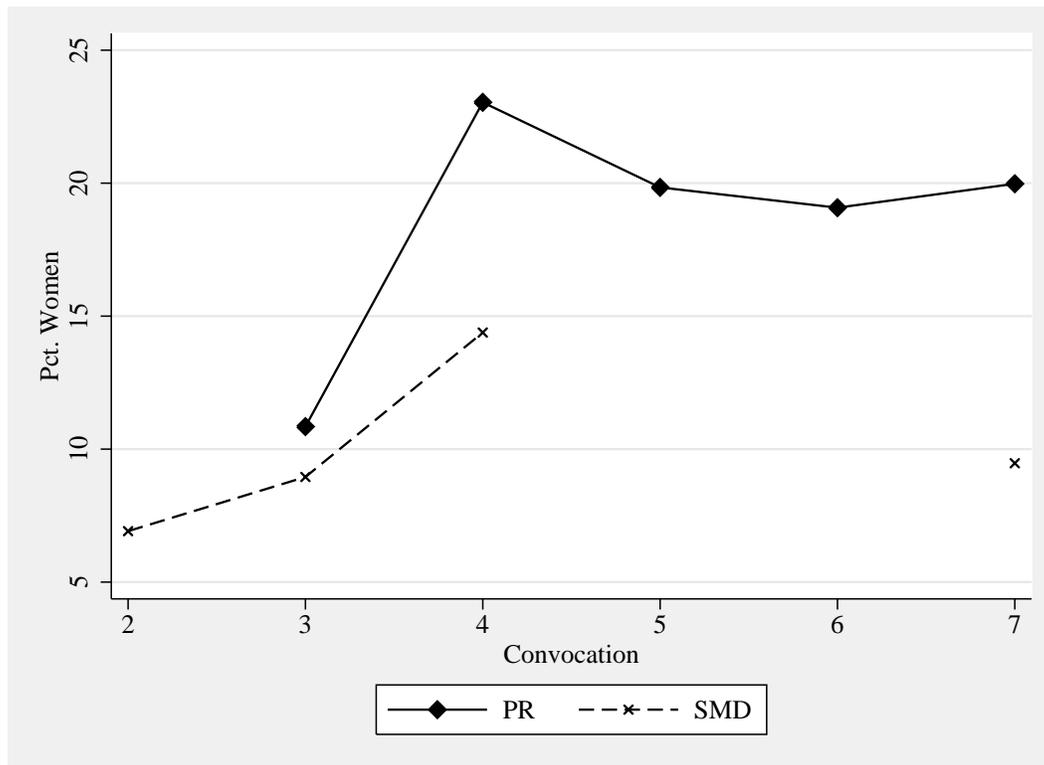
The data in figure 2 provide support for  $H_1$ —more women were nominated in the PR elections than in SMD elections. The figure plots the number of women nominated in each type as a percentage of seats elected in that election. For the MMM systems, the percentage of women represents the percentage of women elected as a percentage of seats in each tier. In the initial post-Communist elections for the 2nd Convocation, women represented only 6.9 percent of all candidates. The percentage of women candidates did increase in subsequent SMD elections—8.9 percent for the 3rd Convocation and 14.4 percent for the 4th Convocation. The percentage, however, fell in the 7th Convocation to 9.5 percent. With the exception of the 3rd Convocation, women formed a higher percentage of candidates in every PR election. In fact, the weakest percentage of female candidates was in the 3rd Convocation—10.8 percent. After the 3rd, the percentage of female candidates never fell below 19 percent in all subsequent PR election. For the 4th Convocation, the percentage of female PR candidates reached its zenith—23 percent of all candidates. The data provide

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<sup>4</sup>The data were obtained from the website of the Ukrainian Central Election Commission <http://www.cvk.gov.ua/>.

<sup>5</sup>“Repeat” elections are those that follow an election whose results were judged to be invalid. No invalid election results are included in the dataset.

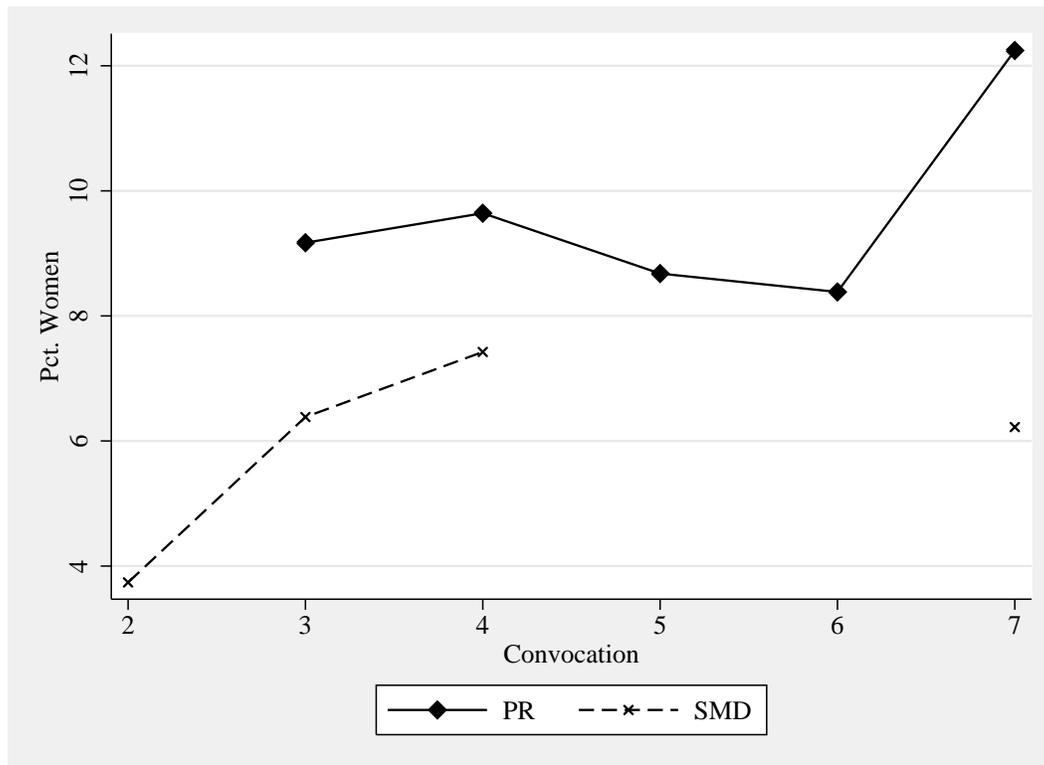
Figure 2: Women as a Percentage of Candidates by Electoral System, 2nd-7th Convocation



strong support for the contention that women were more likely to be nominated in Ukrainian PR elections than in Ukrainian SMD elections.

Did the greater number of women nominated in PR elections translate into a greater percentage of women being elected to the Rada in these elections? Figure 3 plots the the number of women elected in each tier as a percentage of seats in each tier. The data strongly support  $H_2$ —PR elections elected more women than did the SMD systems. In no election did a SMD election elect more women than a PR election. In the initial 2nd Convocation majoritarian SMD election, only 3.7 percent of seats went to female candidates. Women won a higher percentage of seats in the 3rd and 4th Convocation, winning 6.4 and 7.4 percent of seats respectively. However, the SMD election in the 7th Convocation elected fewer women, 6.2 percent of all seats. Women fared much better in PR elections. The PR election in the 6th Convocation elected the lowest percentage of women, 8.4 percent. The 7th Convocation

Figure 3: Women as a Percentage of Elected Deputies by Electoral System, 2nd-7th Convocation



elected the highest, 12.2 percent.

So far, we find that women were more likely to be nominated in PR elections and were more likely to win seats in these elections. Was the success in PR elections based primarily on nominations or, all else being equal, were women more likely to win PR seats? In other words, was there a female advantage in PR elections? In addition, is there evidence of a female disadvantage in SMD elections? I hypothesized in  $H_3$  that we should expect no gender disadvantage. To test this, I will use a series of regression models to calculate the predicted probabilities of being elected in each different convocation election. For the SMD data, I used all elections that elected a Rada deputy, including by-elections and repeat elections. For the PR data, I use all candidate lists from officially registered parties that competed in each election. The dependent variable in all models is a dummy variable, *Elected*, which indicates whether a candidate won a seat or not. I will use different models

for PR and SMD candidates and across different convocations.

All SMD and PR candidates are clustered in to different groups based on the parties that nominated them. It is highly likely that the different political parties will feature different error variances. To deal with this, I estimate Bayesian hierarchical probit models using Rstan (Stan Development Team 2014). The hierarchical approach allows me to deal with these different error variances. I use uninformative priors for all coefficients. I use a weakly informative half-Cauchy prior for the random intercepts (Gelman 2006). For each model, I calculated 4 chains with 2,000 iterations apiece and a burn-in of 1,000 per chain.

My primary independent variable is *Gender*, which codes all female candidates as “1.” A positive correlation with the *Elected* dependent variable would indicate an electoral advantage for women. A negative correlation with the *Elected* dependent variable would indicate an electoral disadvantage for women.

In all models, I include several control variables at both the individual level of analysis, the candidate, and the group level of analysis, the political party. The SMD models pool different types of elections. For the 2nd Convocation elections, I created four variables *2nd Round General Election*, *2nd Round By-election*, *1st Round General Election*, and *1st Round By-election*. I exclude the *2nd Round By-election* variable as the reference group. For the remaining elections, I created a dummy variable, *Byelection*, to differentiate them from the general elections. Invalid elections were not included. I coded each candidate with the party that nominated them. However, I created a “Minor Party” category for all parties that nominated 5 or fewer SMD candidates. I also included a category for independent, unaffiliated candidates. I coded all candidates with the number of other candidates competing in their district (*okrug*). The greater the number of candidates, the lower the odds of winning. I created two categorical variables to control for the quality of individual candidates for all elections except those of the 2nd Convocation.<sup>6</sup> *Elected Government Official* codes as “1”

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<sup>6</sup>The 2nd Convocation elections were the first, post-Communist election; therefore, there are no candidates who stood perviously for free, fair elections. In addition, detailed candidate data with background information

all candidates who previously won elected office at any level of government. *Non-Elected Government Official* codes as “1” those candidates who previously served in un-elected government positions.

For the PR models, I also code candidates based on their previous elected and non-elected government experience. In addition, I code candidates with their list position, standardized by party and convocation—*Std. List Position*. The odds of being elected are greater for those candidates higher on a party’s list. Smaller parties tended to have smaller lists than larger parties. By standardizing, I can better compare amongst lists of different lengths.

In addition, there are party level factors in both the SMD and PR elections that may impact the likelihood of being elected from a particular party; therefore, I include a series of group-level control variables. For the SMD models, I include a variable, *Left Party*, to control for the impact of party ideology on the probability of winning. I also include the number of previous elections in which the party ran, *N. of Previous Elections*, to control for party experience. For the PR models, I include the *Left Party* and *N. of Previous Elections* variables. I also include the party’s percentage vote in the PR election, *PR Pct. Vote*. A candidate is more likely to win a seat if her party receives more votes. I include a logged version of this variable in all PR models.

Table 2 presents the parameter posterior medians and 95 percent credibility intervals for the models of SMD elections in the 2nd, 3rd, 4th, and 7th Convocations. The results show that with the exception of the 2nd Convocation SMD election, there is little evidence that women were significantly less likely to win elections. The posterior median of the *Gender* coefficient is negatively correlated with election in all specifications; however, with the exception of the 2nd Convocation model, the credibility intervals indicate that the effect is not statistically significant.<sup>7</sup>

Another way to see this is to examine the differences in the predicated probability

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is unavailable.

<sup>7</sup>Statistically significant parameters are those where 0 does not fall within the 95 pct. credibility interval.

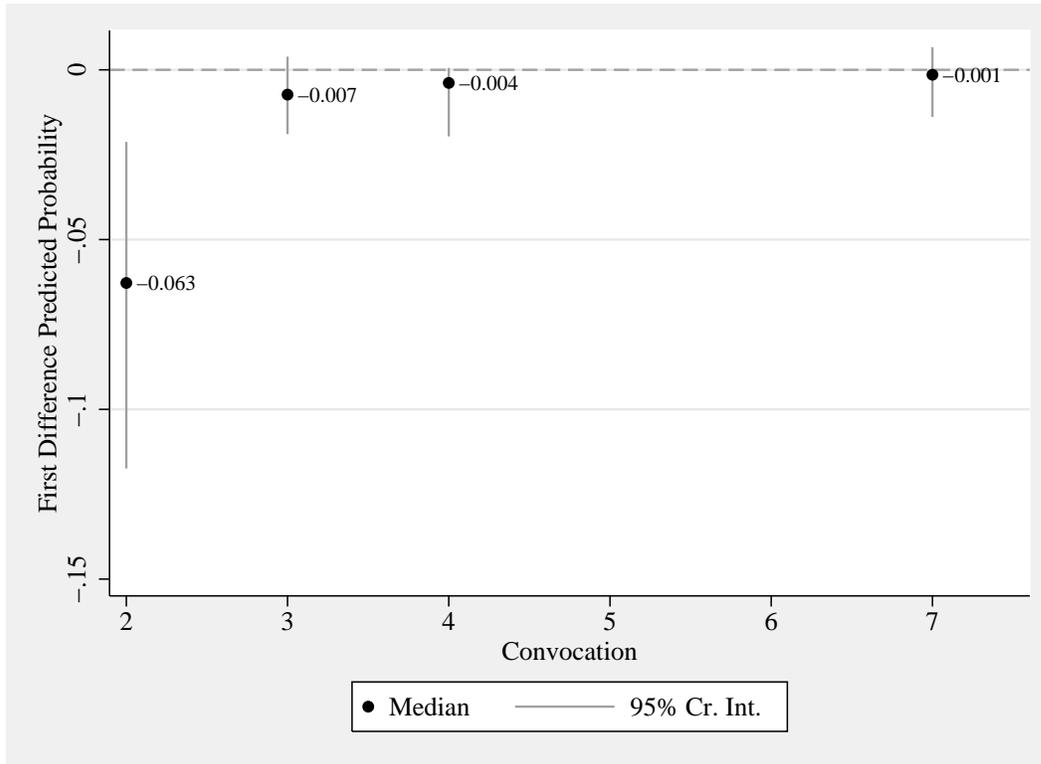
Table 2: Bayesian Estimates of Coefficients, SMD Elections

<i>Independent Variable</i>	<i>2nd Con. est., (95% Cr. Int.)</i>	<i>3rd Con. est., (95% Cr. Int.)</i>	<i>4th Con. est., (95% Cr. Int.)</i>	<i>7th Con. est., (95% Cr. Int.)</i>
<b>Individual Level</b>				
Gender (1,0)	-0.430 (-0.736, -0.146)	-0.170 (-0.433, 0.069)	-0.236 (-0.517, 0.032)	-0.135 (-0.512, 0.216)
Elected Gov. Off. (1,0)		-0.196 (-0.482, 0.072)	1.273 (1.047, 1.505)	1.083 (0.832, 1.330)
Non-Elected Gov. Off. (1,0)		0.183 (-0.035, 0.383)	0.349 (0.093, 0.590)	0.137 (-0.167, 0.432)
N of Candidates	-0.082 (-0.106, -0.060)	-0.034 (-0.048, -0.019)	-0.035 (-0.051, -0.018)	-0.025 (-0.040, -0.010)
2nd Round Gen. Elec. (1,0)	-0.085 (-0.324, 0.141)			
1st Round Gen. Elec. (1,0)	-1.251 (-1.572, -0.949)			
1st Round By-Elec. (1,0)	-1.249 (-1.533, -0.986)			
By-Election		-0.187 (-0.473, 0.072)	0.219 (-0.143, 0.567)	0.004 (-1.910, 1.982)
Intercept	-0.115 (-0.496, 0.237)	-1.370 (-1.753, -1.022)	-1.802 (-2.629, -1.158)	-2.092 (-2.928, -1.466)
<b>Group Level</b>				
Left Party (1,0)	0.152 (-0.448, 0.622)	-0.319 (-0.949, 0.276)	-0.156 (-1.369, 1.063)	-0.953 (-2.558, 0.528)
N Previous Elec.		0.166 (-0.460, 0.772)	-0.173 (-0.984, 0.565)	-0.364 (-1.249, 0.286)
$\sigma_{Party}$	0.213	0.460	1.121	1.216
N	8184	4077	3191	2658

of election if we change the value of the *Gender* variable from 0 to 1. To create these predictions, I set the values of all other variables at their means and modes. Figure 4 plots the first difference medians and 95 percent credibility intervals across all models using the parameter estimates in table 2. Being a female candidate in the 2nd Convocation SMD election decreased the probability of winning by 6.3 percent. In subsequent elections, the male advantage disappears. In all cases the first difference estimate is not statistically significant; moreover, the difference itself is less than 1 percent.

In terms of control variables, there is some evidence that candidate quality matters. With the exception of the 3rd Convocation, the *Elected Government Official* variable is statistically significant and positively correlated with election. Changing the value of the *Elected Government Official* for 0 to 1, with all other variables at their means and modes, increased the probability of winning an election by 13.1 percent in the 4th Convocation and by 7.6 percent in the 7th Convocation election. In only one model, the 4th Convocation,

Figure 4: First Difference of Predicted Probability for *Gender*, SMD Elections



was the *Non-Elected Government Official* statistically significant. Being a non-elected government official increase the probability of election by only 1.2 percent, however. The number of candidates in the district election consistently undermined candidate election. In all models, the *N. of Previous Elections* variable is statistically significant and negatively correlated with election. If we increase the value of the number of candidates variable from one standard deviation below to one standard deviation above its mean in each model, the probability of election decreases by 1.5, 0.9, 0.9, and 0.7 percent in the 2nd, 3rd, 4th, and 7th Convocation elections respectively. Lastly, the group-level indicators, *Left Party* and the *N of Previous Elections* are never statistically significant, and inconsistent across convocations.

What about the PR elections? Table 3 presents the parameter posterior medians and 95 percent credibility intervals for the models of PR elections in the 3rd through the 7th Convocations. Again, we find little evidence that women were less likely to be elected from

Table 3: Bayesian Estimates of Coefficients, PR Elections

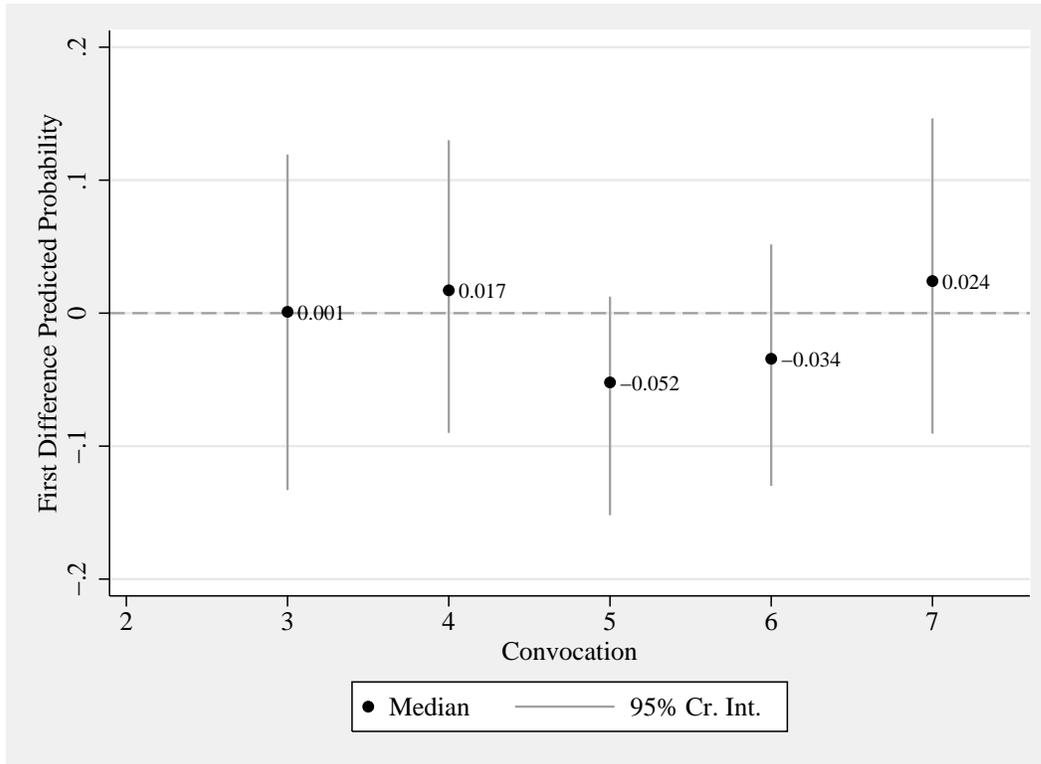
<i>Independent Variable</i>	<i>3rd Con. est., (95% Cr. Int.)</i>	<i>4th Con. est., (95% Cr. Int.)</i>	<i>5th Con. est., (95% Cr. Int.)</i>	<i>6th Con. est., (95% Cr. Int.)</i>	<i>7th Con. est., (95% Cr. Int.)</i>
<b>Individual Level</b>					
Gender (1,0)	0.005 (-0.389, 0.365)	0.071 (-0.269, 0.395)	-0.195 (-0.452, 0.041)	-0.116 (-0.378, 0.151)	0.073 (-0.259, 0.398)
Elec.Gov. Off. (1,0)	0.136 (-0.131, 0.398)	0.742 (0.442, 1.027)	0.444 (0.243, 0.647)	0.806 (0.552, 1.062)	0.234 (-0.092, 0.541)
Non-Elec. Gov. Off. (1,0)	0.009 (-0.326, 0.346)	0.129 (-0.147, 0.409)	0.205 (-0.010, 0.414)	0.152 (-0.111, 0.390)	0.192 (-0.201, 0.606)
Std. List Position	-1.402 (-1.577, -1.234)	-1.462 (-1.650, -1.281)	-1.389 (-1.516, -1.262)	-1.494 (-1.631, -1.356)	-1.573 (-1.773, -1.386)
Intercept	0.436 (-0.768, 1.716)	0.545 (-0.882, 1.772)	-0.485 (-1.802, 0.895)	-0.325 (-1.488, 0.915)	-0.245 (-1.610, 0.738)
<b>Group Level</b>					
PR Pct. Vote	1.234 (0.892, 1.699)	1.202 (0.798, 1.646)	0.837 (0.518, 1.237)	0.733 (0.459, 1.026)	0.977 (0.619, 1.418)
Left Party (1,0)	1.034 (0.329, 1.943)	-0.119 (-1.225, 1.052)	0.139 (-1.130, 1.413)	-0.273 (-1.181, 0.800)	0.103 (-1.162, 1.273)
N Previous Elec.		0.059 (-1.174, 1.282)	0.311 (-0.531, 1.170)	-0.025 (-0.623, 0.480)	0.114 (-0.248, 0.692)
$\sigma_{Party}$	0.592	0.804	0.968	0.589	0.697
N	2885	2542	5243	3565	1830

the PR list than were male candidates across time in Ukraine. We do see variation in the direction of the coefficient estimates—for the three mixed-member elections, the 3rd, 4th, and 7th Convocations, the coefficient is positively correlated with election. However, for the two pure PR systems, the 5th and 6th Convocations, the estimated coefficient is negatively correlated with election. Nonetheless, none of the coefficients are statistically significant.

Figure 5 plots the first difference medians and 95 percent credibility intervals across all models using the parameter estimates in table 3. Again, these values represent the change in the predicated probability of being elected from a party’s PR list if we change the value of the *Gender* variable from 0 to 1. The values of the remaining variables were set at their means and modes. In all cases, the first differences are statistically insignificant.

The estimates of the control variables provide a few interesting results. The impact of the *Elected Government Official* is only statistically significant for three convocations—the 4th, 5th, and 6th. Increasing the value of the *Elected Government Official* from 0 to 1 increases the probability of election by a modest 1.8, 1.4, and 2.7 percent in the 4th, 5th, and 6th Convocations respectively. Thus, even when the variable is statistically significant, the

Figure 5: First Difference of Predicted Probability for *Gender*, PR Elections



substantive impact is small. The *Non-Elected Government Official* variable is statistically insignificant in all models. The *Std. List Position* variable is statistically significant and negatively correlated in all models. Thus, as a candidate's list position increases, her chances of election decreases. The impact of list position, not surprisingly, is quite large. If we increase the value of the variable from one standard deviation below to one standard deviation above its mean, the probability of election decreases by 77.7, 77.8, 76.1, 81.7, and 85.0 percent across the 6 convocations. In terms of the group-level factors, the *PR Pct. Vote* variable is statistically significant and positively correlated with the election. Not surprisingly, candidates in parties that win more votes are more likely to win seats than candidates from smaller parties are. The *Left Party* variable is, however, statistically insignificant in all models.

## 6 Discussion of Results and Conclusion

Since the end of Communism in 1990, Ukraine has only seen modest improvements in the level of women's representation in the Rada. In fact, the Rada remained consistently below average in terms of women's legislative representation, in comparison to other democratic countries. This article sought to help understand why the Rada had so few female representatives. The existing research suggests that Ukraine lacks a political culture supportive of women's representation. Yet, Ukraine also featured 5 elections, the 3rd Convocation through the 7th Convocation, that used all, or in part, a closed-list PR system to elect the Rada. Research on the effects of electoral systems on women's representation generally finds that such systems increase women's representation in comparison with others. Did the incentives created by these systems overcome the obstacles created by Ukraine's traditionalist, patriarchal political culture? The empirical evidence presented here demonstrates that the closed-list PR elections not only featured greater female candidates, but also elected more female deputies to the Rada than other types of systems. The SMD systems used in Ukraine consistently featured fewer female candidates and elected fewer women than did the closed-list PR system. I also found little evidence of a gender bias against either female PR or SMD candidates. Thus, while holding Ukrainian cultural values constant across different electoral systems, I found evidence that differences in electoral system did, in fact, matter.

Creating a study that seeks to understand how both culture and electoral systems can impact women's representation is a complex task. Operationalizing political culture in a large-N study is difficult. There are often few good measures that cover sufficient time and space to control for culture adequately. This study held culture constant in one country in a short span of time to measure the impact of different electoral systems. If different electoral systems produced different outcomes while we hold culture, and other socio-economic factors constant, then we have strong evidence that electoral systems impact

women's representation independently. The Ukrainian case, because of its frequent electoral system changes in a short span of time, provided an excellent opportunity to test for the effect of electoral systems on women's representation. Of course, there are limitations to how much we can generalize from single-country case studies, even when they measure differences across time. Nonetheless, given the difficulties associated with controlling for political culture or even electoral systems in large-N studies, this approach provides useful leverage on an important question.

The empirical results are particularly interesting, given how they fit within broader themes within the literature on women's representation. The point is not that the Ukrainian case is without its own nuances or that the post-Communist experience might lead to differences from other states. However, the data presented here do paint a picture of women's underrepresentation that resembles those of other countries. First, there is clear evidence that women's underrepresentation in the Rada is linked to the lack of female candidates in the SMD elections. While parties seem more willing to nominate women in the PR elections, they seem unwilling to nominate them at anywhere near parity in SMD elections. Moreover, the evidence suggests that the weakness of parties in Ukraine did not aid women either. The finding that women have difficulty accessing the ballot in majoritarian systems is similar to findings in other countries. Thus, this article adds to the literature that links female underrepresentation to the nomination strategies of political parties.

Second, the empirical results found little evidence of a gender bias against female candidates in either PR or SMD elections. In terms of PR elections, men were no more likely than were women to win PR seats. Thus, there is little evidence that women were packed onto PR lists in poor positions with little hope of election. While Ukrainian voters did not directly vote for candidates, the absence of gender bias in PR elections suggests that those parties who placed women on lists were not punished for it. In addition, there was little evidence, except for the 2nd Convocation election, of gender bias against female

SMD candidates. Thus, the evidence does not suggest that voters systemically voted against women. This result is similar to that of other studies that found limited evidence of a bias against women by voters. The finding is significant because it is further evidence that in Ukraine, as in other countries, one of the main obstacles to women's representation is the behavior of parties and not the attitudes of voters.

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