100 Years of Women's Vote in Poland: Socioeconomic Determinants of Women's Voting Behaviour.

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Abstract:

This research paper examines whether socioeconomic characteristics and opinions on gender roles consistently differentiate men and women in their choices to vote and their political preferences by applying the probit model to the Polish General Social Survey and International Social Survey Programme data. The analysis shows that despite the changing times and opinions, region, place of residence and employment status can be regarded as factors driving the voter turnout among women. The study also shows that the strongest predictors for political preferences include the type of place of residence, employment and education degree. Additionally, it finds that opinions on gender roles indicating liberal or conservative political preferences do not necessarily lead to voting behaviour consistent with those preferences. Moreover, opinions on gender roles cannot reliably be used as predictors of voting behaviour or political preferences.

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Introduction

Recent developments in Poland show signs of deterioration of democracy (Sadurski, 2018). The judicial reforms implemented by the ruling Law and Justice party (PiS) have been condemned by the European Union as a threat to the rule of law and democratic values. The reforms have been met with a backlash from the public, which in protests around the country urged the president Andrzej Duda to exercise his veto right. The dissatisfaction of Polish people with the reforms of elected representatives and with potential threats to democracy that they pose, call for a broader look into the way Polish citizens choose their representatives in the elections. Polls carried out in December of 2018 suggest that only 34% of people are satisfied with the current government, 27% are dissatisfied, 34% are indifferent and 5% have no opinion (Badora, 2018). This data indicates that there is an imbalance in the political representation of the citizens. Moreover, the aggregate Polish National Election Study (PSGW) data suggest that women tend to vote less often than men. Based on the PSGW (1997, 2001, 2005, 2007) survey results for seven rounds of parliamentary elections that took place in years between 1898 and 2007, men report participating in elections more often than women, however the differences range from 1 to 8 percentage points over time.

In light of these data, it is important to study the electoral behaviour of Polish citizens in order to understand who decides to go to the ballots and whether there are any pre-existing indicators that could signal what party they will be voting for. Of particular interest is the difference in voting behaviour between men and women, as the latter go to the ballots less often, and thus their preferences are likely to be less represented on the political scene. Women's economic and political empowerment is central to realizing women's rights and gender equality, as well as propagating more inclusive economic growth. Such knowledge about the patterns of differences in voting behaviour would allow to identify the socioeconomic groups whose interests are not being represented due to their absence in the elections and target incentives in order to increase their participation. Moreover, analysing possible differences in electoral behaviour and political preferences between men and women would allow to identify areas in need of more equality, thus leading to a more non-discriminatory society and gender-equal country. Furthermore, studying the effect of gender-role attitudes on political behaviour can give insights into the justification of using conservative or liberal preferences as a rationale for voting for the respective party. Finally, such specific information on the Polish electorate could allow to more accurately forecast the outcomes of elections based on the social structure of the electorate.

This thesis tries to identify the socioeconomic determinants of women's voting behaviour in Poland, in terms of age, region, place of residence, employment status, education degree and opinions on gender roles, in order to study which of those factors explain the difference in voter turnout among men and women and whether they matter for political representation. The purpose of this study is to better understand the behaviour of the Polish electorate by shedding light upon the differences in factors that influence women's and men's decision to vote and their political preferences. Using the data from the 1994, 2002 and 2012 Polish General Social Survey (PGSS) and the International Social Survey Programme (ISSP), this descriptive paper tries to answer two research questions:
(1)   What socioeconomic characteristics and opinions on gender roles drive the voter turnout among women as opposed to men?
(2)   What are the political preferences of women as opposed to men based on their socioeconomic characteristics and opinions on gender roles?

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Mueller and Stratmann (2003) show that the degree of voter participation in elections is an important determinant of a country's economic policies and a higher voter turnout can lead to greater income equality. Lijphart (1997) suggests that the democratic system cannot function effectively without the involvement of the citizens – the form and scope in which the citizens participate in community procedures is a key issue for the democratic political system. Given that the participation in elections in Poland has been historically low, with voter turnout averaging around 50% since 1989 (Webpage of PKW, 2018), it is vital to study why women – circa half of the population – decide to go to the ballots. For comparison, Czech republic averages voter turnout around 71% percent since 1990, the Netherlands – 78% and US – 59% (IDEA, 2019). Using individual survey data from the 1994, 2002 and 2012 Polish General Social Survey (PGSS) and the International Social Survey Programme (ISSP) I will examine to what extent the gender difference in turnout in Poland can be accounted for by socioeconomic characteristics and gender-role attitudes – thus answering the first research question.

Electoral participation is fundamental to one of the basic values of democracy – equality. A crucial feature of democratic system is the equal participation of citizens in the political system (Lijphart, 1997). It is so important because it translates into the equality of political influence. Equal political influence should in turn ensure equality in other spheres of human life, prevent discrimination and reduce social inequalities. Unequal participation can also lead to unequal representation and thus to a disproportionate political influence (Cześnik et al., 2017). The data on gender representation on the parliamentary level in Poland shows a significant increase across the years. From 18% of women being elected in the two chambers of the parliament in the first post-communist government (1989-1991) to 22% in 2011 when gender quotas have been introduced, to 41% in the current parliament (Webpage of PKW, 2018). Using the PGSS and ISSP survey data, I will study whether women in Poland have systematically different policy preferences based on their socioeconomic characteristics and gender-role attitudes. This in turn can give insights for the extent in which the differential turnout by gender in Poland matters for representation and answer the second research question.

Applying the probit model to the PGSS and ISSP data, this descriptive study examines whether socioeconomic characteristics and opinions on gender roles consistently differentiate men and women in their choices to vote and their political preferences. The analysis shows that in spite of the changing times and opinions, region, place of residence and employment status can be regarded as factors driving the voter turnout among women. Regarding the political preferences, the study shows that the strongest predictors for the three years include the type of place of residence, employment and education degree. Opinions on gender roles are rarely significant and vary much across the years. Moreover, having liberal or conservative values does not signal voting for respective parties. The paper contributes to the literature of electoral behaviour by corroborating several of the main results and illustrating the unstable behaviour of the Polish electorate. Additionally, it finds that while opinions on gender roles are in line with political preferences, they cannot be reliably used as predictors of voting behaviour or political preferences.

The thesis is organized as follows: Section 2 presents previous studies on voter turnout and voter characteristics in Poland, Section 3 briefly describes the election system in Poland, the 1993, 2001, and 2011 parliamentary elections, and the differences in voter turnout. In Section 4, I present the theoretical framework and discuss the socioeconomic status of women in Poland. Section 5 covers the PGSS and ISSP surveys and a summary of the data,

and Section 6 deals with the methodology. Section 7 details the analysis of the results and Section 8 concludes.

Literature review

The following section introduces the previous literature for the topics of interest. More specifically, at first I present the papers discussing the individuals' decision to vote, followed by the literature analysing the impact of differences in turnout on policy preferences.

What explains individual's decision to vote?

Economic theories underlying voting decisions
One category of economic models that treat the issue of deciding to vote, are rational choice theories based on Downs' (1957) rational choice model, where a citizen decides whether to vote or not through a simple calculus. She decides to vote if, in her view, the benefits of voting are greater than the costs. According to this model, the voter must first estimate the expected benefit of voting by determining what she could potentially gain by voting rather than not voting. The rational individual must ask herself what are the chances that her vote will decide whether her preferred candidate wins or loses. If her preferred candidate is sure to win, the expected benefit of voting is zero, since her candidate will win whether or not she votes. If her preferred candidate is sure to lose, the same logic applies – the outcome of election is uninfluenced by her vote and the expected benefit of voting is zero. The standard conclusion that is reached from the application of such a model is that in an election with a large number of voters the rational citizen decides not to vote. The cost of voting is small, but the expected benefit is bound to be smaller for just about everyone because of the small probability of casting a decisive vote.

Following Blais (2000), below I present the amended versions of the rational choice theory, which incorporate different reasons for the citizens to vote, and discuss their power in explaining the actual voter turnout. The first amendment by Downs (1957) was to include the notion that citizens vote in order to maintain democracy. Downs argues that because democracy is threatened when everyone abstains from voting, people have an interest in maintaining democracy and bear the costs of voting in order to prevent the breakdown of democracy. This however negates the rational choice theory in that the individual is no longer calculating her own benefit but she acts in the benefit of others.

The second proposition by Riker and Ordeshook (1968) is that people vote out of a sense of duty. In light of the rational choice theory this feature implies that citizens derive psychological gratification from voting, which can come from investment and consumption benefits. The investment benefits are linked to the outcome of the election, and are contingent on voting. The consumption benefits represent the satisfaction that one derives from fulfilling the duty to vote. This theory poses a serious problem in the interpretation of the psychological benefits, as it can be argued that a person chooses to do something because she believes the rewards for performing the act outweigh the costs, and this leads to the loss of the prediction power of the model.

Ferejohn and Fiorina (1974) propose a third addition to the model by assuming that the citizens are risk averse and wish to avoid the regret of having not voted and seeing their preferred candidate lose by one vote. The authors examine one specific procedure where

one calculates the loss associated with various outcomes without estimating the probabilities of these outcomes and chooses the option that minimizes regret. This scenario predicts more turnout than the standard rule of maximizing expected utility, but it can also predict bizarre behaviour (e.g. the presence of an extremist candidate should substantially increase turnout, regardless of the level of support she enjoys).

The fourth theory by Mueller (1989) that the citizens reason that other citizens will not vote and so their own vote could become decisive, has a game-theoretical nature. Mueller presents the following reasoning: "if each rational voter were to decide not to vote because her vote has too small of a chance of affecting the outcome, and all voters were rational, no one would vote. But then, any one voter could determine the outcome of election by voting. The greater the number of other voters I expect will rationally abstain, the more rational it is for me to vote". Under certain assumptions, some equilibrium solutions of this model result in a substantial turnout. However, a voter who is not certain that other voters will abstain abstains from voting.

Aldrich (1993) and Uhlaner (1989) present a model in which citizens vote because group leaders and politicians make it easy for them to vote. In such a model, politicians and group leaders make bargains in which the group leaders promise increased support from the group and the politicians stake issue positions favourable to group interests. The politicians and group leaders can reduce the costs of voting and even increase the potential benefits, but it is not clear why it is rational for the individual citizens to vote. According to the author, these models must rely on other consumption benefits in order to fit the rational choice theory.

Niemi (1976) presents a sixth amendment, which states that the cost of voting is practically zero. Niemi states that the cost of voting in national election is extremely low – it takes little time to vote and because it is taken out of leisure time many people must perceive very little opportunity cost. He fails however to consider the opportunity cost of getting information to decide on how to vote. He also raises the point of the cost of not voting by claiming that people will vote due to a psychological cost of admitting that they have not voted. However, as can be seen in survey results, people lie when they are uncomfortable with speaking the truth, they rarely adjust their behaviour as it is much more costly than simply lying.

Barry (1978) and Aldrich (1993) propose that citizens find it rational not to calculate the benefits and costs when both are very small. They state that "it may well be that both the costs and the (suitably discounted) benefits of voting are so low that it is simply not worth being 'rational' about it". In relation to the rational choice theory, this statement implies that the model cannot explain why people decide to vote, however, it might be useful in explaining behaviour where costs and benefits are higher. Summing up, the rational choice theory provides partial explanations of human behaviour, and the theory should be judged on its ability to account for only some aspects of human behaviour.

Finally, Matsusaka (1995) presents an information theory that explains voter turnout patterns by extending the traditional rational voter model to include limited information. He presents a model in which utility-maximizing consumers receive higher payoffs from voting the more confident they are of their vote choice. The information theory takes as given that each citizen is predisposed to vote, and then focuses on how information can lead some citizens to actually participate in the elections and others to abstain. In the model, people

who have too little information to determine which candidate to vote for are more likely to abstain. The main insight of the model is that even if people believe it is their duty to vote, rational citizens abstain if they feel unable to evaluate the choices. He points out several factors affecting the acquisition and processing of information, which can explain the variations in turnout. Namely, married people enjoy economies of scale in information acquisition, and education, as well as age, bring knowledge that is useful in processing information. Moreover, long-time residents in a community have better contextual knowledge to evaluate the local impact of policies. Price effects imply that these factors lead people to be better informed and, hence, more likely to vote.

Characteristics of the Polish electorate

The literature distinguishes two types of electoral behaviour, the decision to vote or abstain from voting and the political preference in deciding for whom to vote (Korzeniowski, 2002). These behaviours permeate each other, generating several possible scenarios: electoral preferences may exist before the decision to participate in elections, they may arise as a result of an election campaign, and individuals may abstain from participation in elections for various reasons, thus not wanting to engage in electoral communication. According to a study by Turska-Kawa and Wojtasik (2010) that examined the willingness of Polish people to participate in hypothetical parliamentary elections, people who reported the willingness to participate in those elections differ significantly from the ones who declared absenteeism in terms of levels of self-efficacy[1] and dispositional anxiety[2]. People who have decided to participate in the hypothetical elections, presented a higher level of self-efficacy and a lower level of dispositional anxiety, and a slightly higher level of self-esteem and dispositional optimism[3]. However, other studies show that survey respondents who declared that they did not intend to vote in the actual 2011 parliamentary elections, or were still hesitant, asked about the reasons for their decision, most frequently declared that the reason is lack of knowledge about the candidates and their political programs (19%), and lack of interest in politics and elections (17%) (CBOS, 2011). Additionally, 70% of women interviewed in a CBOS study (1993a) agreed with the statement that "men know better than women what is going on in politics" and more than half of the married women who were intending to take part in the election stated that they usually vote same as their husband. Cześnik et al. (2011) show that Poles are especially unstable when it comes to electoral behaviour. Compared to other democracies, a lot more of Polish citizens change their behaviour between elections, many go from voting to absenteeism (or vice versa) and many change their party preferences. This instability has an indirect impact on the quality of democracy, hindering the political representation, accountability and responsiveness of political parties towards citizens (Cześnik et al., 2017).

A report on a campaign encouraging participation in the 2007 elections by Ciacek et al., (2007) distinguished several factors that influence the electoral turnout. The authors claim that one of the most fundamental factors that differentiates active and passive citizens is gender. Empirical analyses prove that women participate in the elections less frequently than men. The second feature that they consider strongly associated with electoral turnout is age. The voter turnout is low among the youngest, it grows among middle-aged people to

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[1] Self-efficacy is an individual's belief in her innate ability to achieve goals.
[2] Dispositional anxiety can be explained as the tendency to perceive a wide range of situations as threatening and to respond to them anxiously.
[3] Dispositional optimism refers individual's expectations that in general, good things, rather than bad things, will happen.

decrease again in the group of elderly citizens. Another group of traits associated with electoral turnout consists of the socioeconomic status, which includes education, income, and professional position. According to Ciacek et al. (2007), individuals with higher status are more likely to participate in the democratic procedure of collective decision-making. Higher education is another aspect said to influence participation in elections. First of all, education reduces the costs of voting, as it enables the understanding of issues arising in the political discourse and facilitating access to information. Secondly, it raises other skills that promote participation in elections (e.g. the efficiency in handling instructions). Thirdly, education fosters the adoption of norms, beliefs and attitudes affecting electoral activity, through the process of civic socialization[4]. The longer a person is subject to such socialization activities, the greater the probability that she will assimilate and follow these rules and norms, and consequently participate in elections. Voter turnout is also considered to be correlated with the participation in religious practices. Religious people are said to be more likely to vote in elections. The authors explain this dependence in two ways. Firstly, people participating in religious services and other religious practices are more strongly integrated within their denominational communities, where they have a greater opportunity to develop civic virtues, which in turn lead them to participate in the elections. Secondly, practicing citizens are more often subjected to the mobilization of the clergy. Since most religious communities, especially in Poland, have been entangled in political and ideological disputes, the clergy often engages in political life and preaches their beliefs.

Yet another body of literature points to the institutional characteristics of the voting system as a factor that can influence turnout. Voting on non-working days, the possibility of postal voting, proxy voting, and advance voting are considered to be conductive to higher voter turnout. Moreover, the proportionality of the electoral system, the possibility of expressing preferences regarding the candidate, ideological polarization of the party system as well as religious and ethnic segmentation of society also favours participation growth. Finally, compulsory voting is considered to have the strongest influence on voter turnout (Ciacek et al. 2007). Cześnik (2013) analyses whether the introduction of compulsory voting would be an effective tool for boosting voter turnout in Poland. His study suggests that if Polish citizens had been forced to vote in the 2001 parliamentary elections, the vast majority of non-voters would have participated in the elections. However, various social groups would react differently to the introduction of compulsory voting: gender, education, place of residence, occupational status, and ideological self-placement have a statistically significant effect on the dependent variable. Nevertheless, the introduction of compulsory voting would not have a substantive impact on the election results.

Other studies focus on the historical geographical division of Poland and claim that the old partitions still coincide with current politics. Jasiewicz (2009) in his paper on the 2007 elections notes that people who live in the lands that were under the German rule, voted mostly for the Civic Platform (PO) political party. Those who live in the former provinces of the Austrian and Russian empires, with the exception of big cites such as Warsaw, Łódź, or Kraków, supported the Law and Justice (PiS) party. Ciacek et al. (2007) talk about the voter turnout in terms of the historical partitions and claim that the territories under the Austrian rule are characterised by a higher attendance, and in the regions that were under the Russian rule, the level of voter turnout is not significantly different from that observed in the whole country. However, lower attendance occurs in the areas incorporated into

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[4] Civic socialization describes the processes through which people learn the orientations and behavioural patterns expected for citizens.

Poland after the Second World War. Additionally, Grosfeld and Zhuravskaya (2015) find long-term impacts of the old partition of Poland on political outcomes. They show that there is higher support for religious conservatives (PiS) on the Austrian side as opposed to the Russian side. They verify that religiosity is an important determinant of the vote for religious conservatives. Furthermore, they confirm that population on the Austrian side votes significantly more for the main liberal party (PO). One of the most common hypotheses in Polish election geography, the so-called "occupational" hypothesis, explains this phenomenon by the influence of cultural factors, such as different culture and political history of individual regions. The theory states that the differences in the level of voter turnout between regions result from the legacy of the partitions. The policy of the partitioning powers against the Polish population, as well as the nature and manner of organizing the partitioning state, were to influence the different political culture patterns in the areas of various partitions, which currently affect the electoral behaviour of citizens, including their inclination to vote.

Impact of differences in turnout on policy decisions

Class bias

Studies have shown that socioeconomic status is strongly correlated to participation. Particularly significant are education, income and age (LeDuc et al., 2003; Norris, 2002). Hill and Leighley (1992) test the hypothesis that an electorate disproportionately representative of higher-class citizens will result in public policies in favour of the electorate's economic interests at the expense of the interests of lower-class citizens. They find that a class bias in favour of the upper class has a negative effect on the state social welfare spending. They explain this relationship by the underrepresentation of the poor, rather than the overrepresentation of the wealthy. Another paper by Mueller and Stratmann (2003) examines the impact of higher participation rates in the Americas. The authors find that high levels of democratic participation are associated with more equal distributions of income, but come as a cost of larger government sectors that in turn lead to a slower economic growth. Furthermore, Fujiwara (2015) provides evidence on how improving the democratic participation of less educated and poorer voters can impact the policies targeting them and affect their outcomes. In his study he shows that the introduction of electronic voting technology in Brazil has caused a large enfranchisement of less educated voters, which in turn lead to the election of more left-wing state legislators, increased public health care spending, the number of prenatal visits and improved infant health. On the contrary, Lutz and Marsh (2007) in their paper on the consequences of low turnout review the existing literature on biases in election outcomes due to low participation and find that across countries and applied methods – turnout does not impact the policy outcomes significantly.

Racial discrimination

Another body of literature, specific to the United States, focuses on the effects of racial discrimination in political participation on policy outcomes. A study by Naidu (2012) examines the effects of voting restrictions in the US South that have affected mostly black citizens on political competition, public goods and factor markets. He found that the implemented restrictions in the form of poll taxes and literacy tests lowered overall electoral turnout by 8%-22%. As a result, the teacher-child ratio in black schools fell, with no significant change in white schools, and black citizens, due to a reduced access to public goods have experienced welfare losses from disenfranchisement compared to a substantial welfare gain of white landowners. Furthermore, Broockman (2014) contributes to this

literature by examining the effect of distorted communication on policy decisions. In his experiment he finds that in Maryland, politicians received racially distorted communication – hearing disproportionately infrequently from constituents of race different than theirs, which in turn could lead to unequal representation of the citizens' policy preferences.

Gender impact

After suffrage, many researchers have speculated about the turnout of new women voters. Some of them have anticipated that newly enfranchised women would be volatile and highly responsive to context in their political behaviour because of their lack of experience and political interest (Gerould 1925; Wells 1929). Others expected that new voters would turn out at similar rates as those already in the electorate (Andersen and Kleppner, 1984; Niemi et al., 1984). A study by Corder and Wolbrecht (2006) shows that the responsiveness of women's turnout was strikingly similar to that of men in the 1920 US elections. Although the voter turnout is relatively equally distributed between genders, women and men seem to show different preferences in their voting behaviour. Until the 1970, women in the advanced economies have voted for conservative and centre-right parties to a greater degree than men. However, according to Abendshön and Steinmetz (2014) the gender differences have disappeared during the 1980s.

In a study on the Developmental Theory of the Gender Gap, Ingelhart and Norris (2000) compare 60 societies around the globe on a developmental theory of the gender gap suggesting that long-term structural and cultural trends, which have transformed women's and men's lives, have gradually produced realignment in gender politics in post-industrial societies. The study establishes that gender differences in electoral behaviour have been realigning in the developed countries, with women moving toward the left of men throughout advanced industrial societies. However, in post-communist societies or developing countries the theory does not hold. In post-communist countries the authors find a different pattern of gender politics. Women proved more right wing than men even after controlling for differences in social structure and in political attitudes. Abendshön and Steinmetz (2014) in their study on Women's Party Preferences in a European Context show that out of twenty-five countries, eighteen countries actually show the expected pattern that currently women, in comparison to men, tend to vote more to the left than to the right. In their analysis, the pattern is reversed for almost all post-communist countries, including Poland. Following Inglehart and Norris' analysis, the paper shows that the majority of the examined post-communist countries either display a traditional gender voting gap or no substantial difference between the genders.

Literature on women's suffrage suggests that female empowerment could be an instrument for policy change (Lott and Kenny, 1999; Duflo, 2012). Lott and Kenny (1999) show that suffrage in the US has coincided with increases in state government expenditures and revenue, more liberal voting records for the state's US House and Senate delegations as well as changes in the probability that prohibition would be enacted and changes in divorce laws. Another paper by Miller (2008) shows evidence on how suffrage rights for American women have resulted in shifts in legislative behaviour and increases in local public health spending. Those changes have in turn resulted in a decline of child mortality by 8%-15% due to the large-scale of door-to-door hygiene campaigns. Kose et al. (2018) show that women's political empowerment in the US was influential for educational attainment. Particularly affected were children from economically disadvantaged backgrounds. Furthermore, they find that suffrage increased income alongside the education gains and suggest that it lead to improved market outcomes through human capital improvements.

Similar results are found in studies in Europe. Funk and Gathmann (2010) show in a natural experiment in Switzerland that there are large gender gaps in preferences in the areas of health, environmental protection, defence spending and welfare policy. Moreover, they find that female policy makers have a significant effect on the composition of public spending but a small effect on the overall size of the government. Another study by Ranehill and Weber (2017) presents a laboratory experiment on Swiss students, where their policy preferences and collective outcomes are examined. The authors find that women persistently vote for more egalitarian distribution, which could be explained by gender gaps in preferences and beliefs. However, they observe small differences in policy outcomes between male- and female-controlled groups, thus providing evidence for why gender differences in preferences may fail to translate into differential policy outcomes with increased female representation in policymaking. Finally, Svaleryd (2009) examines survey data on the preferences of politicians in local Swedish governments and finds that the share of women on a local council has a significant effect on spending decisions. Similarly to previous literature, she finds increased spending on childcare and education.

The electoral system in Poland and a brief history of general elections

This section will describe the current electoral system in Poland and its characteristics, the outcomes of the 1993, 2001 and 2011 parliamentary elections, and data on differences in voter turnout.

Poland has a multi-party political system. On the national level, Poland elects the head of state – the president – and a legislature – the parliament. The president is elected for a five-year term through a two-round voting system, where the citizens cast a single vote for their chosen candidate, if no candidate receives an absolute majority of votes, two candidates receiving the most votes proceed to a second round of voting (Reynolds et al., 2005). The parliament has two chambers: the Sejm and the Senate. The Sejm has 460 members, elected for a four-year term through open party-list proportional representation via the D'Hondt method in multi-seat constituencies[5], with a 5% threshold for single parties and 8% threshold for coalitions (requirements waived for ethnic minorities). The Senate has 100 members elected for a four-year term via the first past-the-post system (FPTP)[6], with 100 single member constituencies. Prior to the 2011 parliamentary elections, elections to the Senate were conducted through plurality bloc voting in 40 multi-seat constituencies. Since 1991 elections are supervised by the National Electoral Commission (Pl. Państwowa Komisja Wyborcza), whose administrative division is called the National Electoral Office (Pl. Krajowe Biuro Wyborcze). There are also various local elections, referendums and elections to the European Parliament.

The first modern and free elections in 20th-century-Poland were held in 1919, two months after Poland regained independence in 1918 from 123 years of foreign partitions and colonization efforts by Austria, Prussia (a German kingdom), and the Russian Empire. After the Second World War, Poland fell into the Soviet sphere of influence as a satellite state and became controlled by the communists. There were regular elections in Poland from that

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[5] The D'Hondt method is a highest averages method for allocating seats and it aims to allocate seats to parties approximately in proportion to the number of votes received (Reynolds et al., 2005). For example, if a party wins one-third of the votes then it should gain about one-third of the seats.
[6] The first past-the-post system is a plurality voting system in which voters indicate on a ballot the candidate of their choice, and the candidate who receives the most votes wins (Reynolds et al., 2005).

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time on, however, no elections until the semi-free 1989 elections[7], marking the fall of communism, were free. All subsequent elections, beginning with the 1991 parliamentary elections, are considered fair and free (Álvarez-Rivera, 2015). It is important to note, that women were granted the right to vote and to be elected immediately after the regaining of independence in 1918 (Martin and Mart, 2000).

The 1993 parliamentary elections

The elections were held on the 19th of September 1993 for all the seats in the Parliament following the premature dissolution of the Sejm on the 31st of May 1993. Main issues debated during the election campaign concerned the scope and pace of the country's economic transformation (privatisation), social policy (unemployment, situation of public sector employees) and Poland's relationship to the European integration process. Altogether 8787 candidates and 861 lists competed for the 460 Sejm seats while 684 candidates contested the 100 seats of the Senate. On the polling day, only five parties and one coalition – the Democratic Left Alliance (SLD), led by the Social Democratic Party and also comprising two cultural organisations of the German minority – won seats in the Sejm as voters swung sharply to the left and away from right-wing parties, those which had participated in various coalition governments since 1989, and the Catholic Church. The distribution of votes and seats is presented in Table 1 below. The voter turnout amounted to 52.08% of the registered electors and of the 460 elected representatives, 60 (13%) were women (Inter-parliamentary Union, 1993). According to the PSGW (1997) survey results, 51% of women and 57% of men declared that they have participated in the parliamentary elections.

Table 1: Distribution of votes – 1993 parliamentary elections

Political Group	Number of candidates (SEJM)	% of votes	Number of seats	Number of candidates (SENATE)	% of votes	Number of seats
Democratic Left Alliance (SLD)	610	20.4	171	119	18.45	37
Polish Peasant Party (PSL)	719	15.4	132	111	11.74	36
Democratic Union (UD)	498	10.6	74	66	11.12	4
Labour Union (UP)	491	7.3	41	22	4.11	2
Confederation for an Independent Poland (KPN)	697	5.8	22	51	6.20	0
Non-Party Bloc in Support of Reforms (BBWR)	631	5.4	16	50	8.04	2
German minority organisations	21	0.61	4	2	0.46	1

Source: National Electoral Commission (PKW)

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[7] The parliamentary elections of 1989 marked the fall of communism. That year the Polish communists secured a majority of the lower house seats, but also, for the first time in the Eastern Bloc history, allowed opposition parties to gain representation; therefore the election was considered semi-free.

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The 2001 parliamentary elections

The elections were held on the 23rd of September 2001 for all the seats of the Sejm on the normal expiry of the members' term of office. One of the main subjects of the electoral campaign was the bad economic situation. Unemployment had jumped from 10 to 16 percent in the year prior to the elections and the government budget deficit had ballooned, forcing leaders to search for deep cuts, and depressing investments. The Democratic Left Alliance (SLD) - which was led by former communists but whose policies were close to West European centre-left parties - had won 41.04 percent of the vote. The liberal conservative Civic Platform (PO) was second with 65 seats (12.68% of the votes), followed by the radical farmers' group Self-Defence with 53 seats (10.20% of the votes) and the right-wing party Law and Justice with 44 seats (9.50% of the votes). The distribution of votes and seats is presented in Table 2 below. The voter turnout amounted to 46.29% of the registered electors and of the 460 elected representatives, 93 (20%) were women (Inter-parliamentary Union, 2001). According to the PSGW (2001) survey results, 58% of women and 59% of men declared that they have participated in the parliamentary elections.

Table 2: Distribution of votes – 2001 parliamentary elections

Political Group	Number of candidates (SEJM)	% of votes	Number of seats	Number of candidates (SENATE)	% of votes	Number of seats
Left Democratic Alliance and Labour Union (SLD-UP)	908	41.04	216	99	38.91	75
Civic Platform (PO)	766	12.68	65	0	0	0
Self-Defence (Samoobrona)	664	10.20	53	21	4.28	2
Law and Justice (PiS)	752	9.50	44	0	0	0
Polish Peasant Party (PSL)	884	8.98	42	74	13.21	5
League of Polish Families (LPR)	719	7.87	38	14	4.05	2
German minority organisations	36	0.36	2	2	0.51	0

Source: National Electoral Commission (PKW)

The 2011 parliamentary elections

The elections were held on the 9th of October 2011 for all the seats of the Sejm on the normal expiry of the members' term of office. Preceding the vote, in April 2010, over 90 Polish senior officials, including President Kaczynski and his wife, were killed in a plane crash at Smolensk airport in Russia. The Gender Quota bill, passed by parliament in January 2011, was applied for the first time in the 2011 elections. Under the new electoral law, which came into force on 1 August 2011, Poles abroad were allowed to vote by post in general elections. The Polish Peasant Party (PSL) – Civic Platform's (PO) coalition partner in the outgoing government, pledged to obtain more EU funds for farmers to keep food prices under control. It also promised to provide affordable insurance for farmers and to develop clean energy. The Democratic Left Alliance (SLD, successor of the Communist

Party that had ruled Poland until the fall of communism in 1989) promised higher wages and support for the poorest families. Palikot's Movement (RP) vowed to establish a clear separation between Church and State. It also campaigned on the legalization of abortion, gay marriage and marijuana. In all, 7,035 candidates, including 3,063 women, stood for the Sejm and 500 candidates, including 70 women, ran for the Senate. The distribution of votes and seats is presented in Table 3 below. The voter turnout amounted to 48.92% of the registered electors and of the 460 elected representatives, 110 were women (Inter-parliamentary Union, 2011).

Table 3: Distribution of votes – 2011 parliamentary elections

Political Group	Number of candidates	% of votes	Number of seats	Number of candidates (SENATE)	% of votes	Number of seats
Civic Platform (PO)	915	39.18	207	93	35.60	75
Law and Justice (PiS)	916	29.89	157	93	26.94	31
Palikot's Movement (RP)	861	10.02	40	0	0	0
Polish Peasant Party (PSL)	918	8.36	28	68	9.39	2
Democratic Left Alliance (SLD)	914	8.24	27	68	9.00	0
German Minority	24	0.19	1	2	0.24	0

Source: National Electoral Commission (PKW)

Differences in voter turnout

There is no clear trend in the voter turnout in the parliamentary elections in Poland, however, the participation averages at around 50%. The data is presented in Figure 1 below and includes the voter turnout in the 1989 parliamentary elections, which were not considered to be fully independent. This year is characterised by the highest reported turnout. The lowest turnout was reported in the elections of 2005.

Figure 1: Voter turnout in the parliamentary elections

Parliamentary elections – voter turnout (%)

	1989	1991	1993	1997	2001	2005	2007	2011	2015
Voter turnout (%)	62%	43%	52%	48%	46%	41%	54%	49%	51%
Voter turnout (no.)	16964634	11887949	14415586	13616378	13559412	15200671	16477734	14369503	15200671

Source: Author's rendering of National Electoral Commission (PKW) data

The PSGW (1997, 2001, 2005, 2007) survey results provide additional information on the gender composition of the voters. The data is presented in Figure 2 below. The largest discrepancy between the reported participation in the parliamentary elections between men and women occurred in 1991, where the difference amounted to 8 percentage points. The smallest difference can be observed in the elections of 2001, where it was only one percentage point. Nevertheless, across the years women continuously report lower participation than men[8].

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[8] More data on the voter turnout at the presidential and European parliament elections can be found in Appendix 1.

Figure 2: Voter turnout in the parliamentary elections by gender

Voter turnout by gender (%)

■ men   ■ women

	1989	1991	1993	1997	2001	2005	2007
men	55%	52%	57%	60%	59%	54%	70%
women	48%	44%	51%	55%	58%	50%	64%

Source: Author's rendering of PSGW (1997, 2001, 2005, 2007) data
Note: No data was available for the 2011 parliamentary elections.

Various research and public opinion polls report on gender, age, education, wage/occupation, place of residence/region, and religion as factors influencing the Poles' decision to vote. Starting from public opinion polls in 1993 (CBOS, 1993b), which showed that men voted more often than women, and people aged 24 and below voted less often in general. When it comes to occupation, only a third of farmers, qualified and unqualified blue-collar workers and lower-ranking white-collar workers showed up at the polls. The lowest absenteeism was observed among the management and private entrepreneurs. Among the economically inactive, the unemployed and housewives did not vote most often. Turnout in large cities was larger than in small towns, and the inhabitants of villages were the least likely to visit polling stations. A similar study in 2001 (Pankowski, 2001) corroborates the results, and reports that women voted less than men (43% compared to 34% of declared absenteeism), over 50% of the youngest people also did not show up at the polling stations (56% of people under 24 and 58% of people between the ages of 25 and 34). The 45-54 age group declares voting most often (twice as frequently as the younger adults). For the older citizens, the absences constitute about a third of the electorate. When it comes to economics activity, 60% of the unemployed, 52% of unskilled workers, 51% of housewives and 51% of manual workers declared absenteeism. The place of residence was also a differentiating factor among the respondents who declared absenteeism. 45% of people living in villages did not go to the voting polls, 42% of inhabitants of small towns (up to 20000 population size), and 43% of inhabitants of larger towns (20000-100000 population size). Smallest absenteeism was noted among residents of large cities (from 100000 to 500000 – 29%) and the largest agglomerations (over 500000 population – 30%). The study additionally shows that the 2001 parliamentary elections were not attended primarily by those people who did not take part in previous parliamentary elections, as well as those who did not vote in the presidential elections. A CBOS public opinion study in 2011 (CBOS, 2011) adds that the frequency of attended religious services increases the likelihood of a person casting a vote, the effect can be seen by people attending religious services at least once a month.

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Theoretical framework

This section will present a discussion on the costs and barriers of voting among different groups of people, as well as an argument on policy preferences differences between Polish men and women and a consideration of the status of women in Poland.

Cześnik et al. (2017) note that a greater male political involvement is a phenomenon observed in most countries and at various levels (participation in voting, declared interest in politics, candidacy for elected positions). They explain the lower participation of women to be influenced by the stereotypes regarding gender roles and the socially desirable behaviours and preferences assigned to them. The relationship between gender and earnings is also significant: women earn a lower average income than men it is a variable that strongly determines the level of participation. The data and research presented in the previous sections raise two questions: what explains the differences in turnout and is it about gender per se, or other socioeconomic characteristics that are associated to gender? The data from the PGSS and ISSP surveys provide a unique opportunity to answer these questions as they contain data about political preferences, voting behaviour and opinions on gender roles for both men and women.

Examining the research presented before, we can expect variables like education, place of residence, income, occupation, marital status, employment status and religiousness to influence Poles' decision to vote. I expect the impact of these variables to be different for women and men due to the structural societal differences between these two groups. For example, I suspect that marital status could have a greater impact on women's political preferences, as data show that in 1993, more than half of the married women who were intending to take part in the election stated that they usually vote same as their husband (CBOS, 1993a). Additionally, taking into account the "occupational" hypothesis I expect that living in a certain region could affect the voter turnout as well as the political preferences. When it comes to the particular impact of the enfranchisement of women, studies show that women vote for more egalitarian distribution, increases in public health and childcare spending, and I expect similar political preferences for women in Poland.

One crucial factor mentioned in the economic models of voter turnout is the cost of voting. As stated in the literature, an economic agent decides to vote if, in her view, the benefits of voting are greater than the costs (Downs, 1957). The benefits can be specified in a number of ways, literature suggests benefits derived from seeing the preferred candidate win, upholding democracy, consumption benefits in terms of fulfilling the duty to work or a number of psychological benefits. The costs are inversely correlated to voter turnout (Wolfinger and Rosenstone, 1980; Riker and Ordeshook, 1968). Research shows that factors that may impact the costs to vote and turnout include the weather, registration requirements, time required to think about the voting decision, and the distance to the polling place (Feddersen, 2004). Voter turnout is also correlated with education and income levels (Wolfinger and Rosenstone, 1980). Due to differences in income, education and occupation, one may expect women to have higher costs of voting related to acquiring information than men, which would result in a lower turnout for this group.

The socioeconomic status of women in Poland

Although Poland was one of the first countries in Europe where women were granted the right to vote (in 1918), the impact of women's enfranchisement on policy outcomes has not

yet been studied. However, there have been ample studies treating the status of women in Poland. A study commissioned by the European Parliament in 2011 (Szelewa, 2011) describes the situation of women in Poland in terms of access to paid work, reconciliation of work and family and reproductive rights. When it comes to the access to paid work, before 1996 the Polish Labour Code did not include any reference to the principle of equal treatment of women and men. In 1996 the first regulation was introduced which stipulated that employees have equal rights resulting from the performance of identical duties, and that any direct or indirect discrimination in work relations, especially on the grounds of gender, age, disability, race, nationality, beliefs, and trade union membership is prohibited (Journal of Laws, 1996). The major changes in the Labour Code regarding gender equality were introduced later (in 2001 and 2003). The amendments included equal treatment of women and men in establishing and dissolving employment relationships, employment conditions, promotion and access to training for raising professional qualifications; the prohibition of direct discrimination as violating the principle of equal treatment of women and men; the right to uniform remuneration for equal work or work of equal value regardless of gender; the right of a person who faced violation of the equal treatment principle by employer to compensation; guarantees that employees must not face any negative consequences for claiming their rights due to violation of the principle of equal treatment in employment (Journal of Laws, 2001 and 2003).

The study also reports the 2016 Eurostat data on the labour market. At the time, the employment rate for the whole population was equal to 59% – 53% for women and 65.6% for men. In 2010 for the individuals with a tertiary level of education, the employment level was 79.8% for women and 86.9% for men. For those with a maximum of upper-secondary and post-secondary education, the levels were 53.6% for women and 71.5% for men. For Poles with a lower education level, only 30.1% of women were employed against 48.3% of men. Part-time employment was much below the EU average (31.4%), and amounted to 10.8% for women and 5% for men. The reconciliation of work and family has been facilitated by the government through maternity and paternity leaves. The maternity benefit is paid on the condition of previous employment of at least 6 months. Since 1974 its basic duration was 16 weeks, it was shortly extended in the early 2000s. In 2006 the duration of the leave was extended to 18 weeks, with the plans to further lengthen it gradually. By 2011, changes included the further extension of the maternity leave, accompanied by the option of part-time work for 12 months, and the introduction of paternity leave. Maternity leave can be followed by a longer childcare care leave and its basic duration is 24 months.

When it comes to the political representation of women in Poland, currently women represent 27% of all MPs in Sejm (the lower chamber of Parliament), and 14% of Senate's composition (the upper chamber of Parliament). The table below shows the percentage participation of women in the parliament since 1989.

Table 4: Percentage participation of women in the parliament

Year	1989-1911	1911-1993	1993-1997	1997-2001	2001-2005	2005-2007	2007-2011	2011-2015	2015-2019
Sejm	13%	10%	13%	13%	20%	20%	20%	24%	27%
Senate	6%	8%	13%	12%	23%	14%	8%	12%	14%

Source: Cześnik et al. 2017, based on PKW data

In January 2011 an electoral gender quota system was adopted for parliamentary and local elections, as well as for the elections to the European Parliament. Candidate lists should

include at least 35% of the representatives of one gender. The law does not relate to the elections for the Senate, because of the majoritarian voting system (Szelewa, 2011). In the 2011 parliamentary elections the two parties that introduced the highest percentage of women into the Sejm were "Nowoczesna" (43%) and Civic Platform (36%). These parties also adopted additional mechanisms to promote participation in politics apart from the mandatory quotas. In the "Nowoczesna" election lists, apart from four cases, at least one woman was listed in the top three positions. The Civic Platform, with the exception of three districts, extended this rule to "one woman in the top three, two in the top five". In the current government, 335 men and 125 women have been elected to the Sejm, which constitutes a 3 percentage points increase compared to the previous term. This is the highest percentage of women in the history of Polish parliament and shows a continuation of the upward trend since the introduction of the quota system (Cześnik et al., 2017).

Data description

In this chapter I will summarise the PGSS surveys, explain and summarise the variables used. I will specify the dependent and independent variables. I will also talk about the advantages and limitations of using survey data.

The PGSS and ISSP studies

The Polish General Social Survey is a research program of the Institute for Social Studies of the University of Warsaw, financed by the Committee for Scientific Research / Ministry of Science and Higher Education, and takes place since 1992. The survey includes several groups of questions and separate problem modules of the International Social Survey Programme (ISSP) comparative research.

The groups cover socio-demographic characteristics of the respondents, including social ecology and geographical mobility, family structure, marriage, professional position and activity on the labour market, the level of education of the respondent, her parents and spouse, along with the perception of the role of education as a factor of success and social position, the material situation of the respondent and his family, determined by the indicators of individual income, total income of the household; housing situation, equipment in tangible goods and the level of indebtedness and household savings. Subjective assessments of social position and its changes over time include class and the assessment of one's position in society in the period of research and in the past. Views and opinions about the social structure, social inequalities and systemic changes in Poland also include assessments of factors determining the chance of success in life, perception of mechanisms creating social inequalities and determining poverty and wealth. Moreover, there are questions on electoral behaviour and preferences and a general assessment of the efficiency of the political system and democracy in Poland. Political and ideological orientation variables include interest in politics and public life, preferred policy goals, postulated role of government in economy and public life and self-identification on left / right-wing views. The PGSS questions repeated in subsequent studies concern the religion and frequency of religious practices, attitudes towards ethical contemporary dilemmas (observance of the law, death penalty, abortion, divorce, euthanasia, homosexuality, marital betrayal), satisfaction with own life and the condition and assessment of own health (including smoking and drinking alcohol).

The separate problem modules of ISSP comparative research, attached to the PGSS, covered in years 1994, 2002 and 2012 used in this study concern family and social roles of women. The years correspond to the II, III and IV edition of the ISSP Family and Changing Gender Roles survey and below I will shortly describe the questions that have been repeated in the three replications of the study. The first battery of questions focuses on attitudes towards women, work and family life, including the following questions:
- "Working women can establish just as warm and secure a relationship with their children as a mother who does not work";
- "A pre-school child is likely to suffer if his or her mother works";
- "All in all, family life suffers when the woman has a full-time job";
- "A job is all right, but what most women really want is a home and children";
- "Being a housewife is just as fulfilling as working for pay".

Two questions measure how much people think women should work with pre-school and school-age children:
- "Do you think women should work outside the home full-time, part-time or not at all when there is a child under school age?"
- "Do you think women should work outside the home full-time, part-time or not at all after the youngest child starts school?"

A number of concepts related to marriage have been measured as well. The following questions have been asked:
- "Married people are generally happier than unmarried people"
- "People who want children ought to get married"
- "It is all right for a couple to live together without intending getting married"
- "Divorce is usually the best solution when a couple can't seem to work out their marriage problem"

The impact children have on the family is measured by the two following questions:
- "Watching children grow up is life's greatest joy"
- "Having children interferes too much with the freedom of parents"

Two questions exam how income is used in the household:
- "Both should contribute to the household income" – measured on a five-point agreement Likert scale where 1 is "strongly disagree" and 5 is "strongly agree".
- "How do you and your spouse/partner organize the income that one or both of you receive?

In this study the data from the PGSS surveys as well as the ISSP questionnaires will be used. The sample used in the PGSS research is a multi-stage random addressing of apartments, selected from the Central Statistical Office's (GUS) survey. Among the adult members of each household, the interviewer chose one person as a respondent at random. The study covered only adults (having completed 18 years at the time of the study). The number of selected samples in the year 1994 was 2000 households, 4008 households in 2002, and 2640 households in 2012. Of those, 1597 people have filled in the ISSP Family and Changing Gender Roles questionnaire in 1994 (80% response rate). In 2002, only half of the sample has received the Family and Changing Gender Roles survey and 1252 people have returned viable questionnaires (62% response rate). In 2012 – 1115 people have answered the questionnaires (42% response rate).

Variables used in the study

Tables 5 and 6 below present the dependent and independent variables used in the estimation of the models in order to answer the two research questions posed in this paper.

Table 5: Dependent variables

Variable name	Description
VOTE_LE	Binary variable indicating whether the responded has voted in the last parliamentary elections
VFARLEFT[9]	Binary variable indicating that the respondent has voted for a far left party.
VLEFT	Binary variable indicating that the respondent has voted for a left/centre left party.
VCENTER	Binary variable indicating that the respondent has voted for a centre/liberal party.
VRIGHT	Binary variable indicating that the respondent has voted for a right/conservative party.
VFARRIGHT	Binary variable indicating that the respondent has voted for a far right party.

Table 6: Independent variables

Type of variable	Variable name	Description
Individual characteristic	AGE	Age in years
	REGION[10]	One of 8 regions in Poland (central, central-west, south-west, west, north, north-east, east, south-east).
	CITY	Place of residence (big city, city/suburbs, small city/town, village, other).
	MARRIED	A binary variable indicating whether a person is married or not.
	EMPLOYMENT	Employment status (employed, unemployed, in education, retired, keeping the house, other).
	RELIGIOUS	A binary variable indicating whether a person is religious (identifies with a religion and attends religious services at least several times a month).
	DEGREE	Level of education (no education, elementary, lower secondary, higher secondary, post secondary, higher).
Respondents' opinion	FECHILD	Mother working doesn't hurt the child.
	FAMSUFFER	Family life suffers when the woman works.
	HOMEKID	What women want the most is to have a home and children.
	TWOINCS	Both husband and wife should contribute to the household income.

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[9] The categorisation of political parties in the 1993, 2001 and 2011 elections on the left-right spectrum can be found in Appendix 2 (Table A1)

[10] The assignment of the 1994 voivodeships into regions can be found in Appendix 2 (Table A2)

	FEFAM1	Men should earn money and women should keep the house.
	COHABOK	Do you accept living together without marriage?

Limitations of the data

One limitation of survey data is that self-reported turnout rates exceed actual turnout rates (Matsusaka and Palda, 1999). In the PGSS surveys, 57% of the respondents claimed that they voted in the 1993 parliamentary elections as opposed to the actual 52% turnout. In 2001, 62% of respondents declared participation as opposed to 46% actual turnout and in 2011 – 65% of respondents reported attendance versus the 49% actual turnout. The main concern associated with a non-representative sample of respondents is the possibility of biased coefficients. Other limitations of the data are associated with the uncertainties of self-administered questionnaires such as individual and item non-response errors, which occur when insufficient numbers of the sample responds or when respondents do not answer one or more questions. Both of the errors can interfere with the representativeness of the sample (Umbach, 2005). In this case, many respondents refused to report their income, thus rendering the variable useless in the estimations. Another danger includes the possibility that the respondent did not complete the questionnaire all by herself, which could result in a problem of non-representativeness if it happens frequently in the sample. Moreover, respondents who have difficulty with reading, interpreting words or writing can be excluded from the sample, which may bias the results (Hallberg, 2008). Finally, many of the responses to the questions could not have been used in this study, as they were not repeated in all three editions of the ISSP studies, and several of the answers had to be re-calibrated in order to match across the three dataset, which resulted is some loss of variation.

Methodological approach

Probit model

In order to answer the two research questions, I will use a probit model, which allows to model the relationship between a limited dependent variable and continuous as well as discrete explanatory variables. Following Wooldridge (2014) I am interested in the response probability of the binary response model (probit), which can be denoted as follows:

$$P(y=1|x) = P(y=1|x_1, x_2, \ldots, x_k), \tag{1}$$

where x is the full set of explanatory variables – in this study, the individual characteristics and respondents' opinions (as in Table 6). The formal specification of the probit model takes the form below:

$$P(y=1|x) = G(\beta_0 + \beta_1 x_1 + \cdots + \beta_k x_k) = G(\beta_0 + x\beta), \tag{2}$$

where G is the standard normal cumulative distribution function, which is expressed as an integral:

$$G(z) = \Phi(z) \equiv \int_{-\infty}^{z} \phi(v)dv, \tag{3}$$

and $\phi(z)$ is the standard normal density:

$$\phi(z) = (2\pi)^{-1/2} \exp\left(-\frac{z^2}{2}\right), \tag{4}$$

The G function takes on values strictly between zero and one: $0 < G(z) < 1$, for all real numbers z. This ensures that the estimated response probabilities are strictly between zero and one.

The estimated values of the coefficients indicate the direction of the effect of the explanatory variables on the dependent variable. In order to be able to estimate the effect of the explanatory variables on the probability of casting a vote one has to calculate the partial effect. I use a scale factor, which can be used to multiply each estimated coefficient, to obtain a summary of the partial effects' magnitudes. Of particular interest for discrete variables is the average partial effect (APE), which is a scale factor that results from averaging the individual partial effects across the sample. The average partial effect is equal to:

$$n^{-1} \sum_{i=1}^{n} \{ G[\hat{\beta}_0 + \hat{\beta}_1 x_{i1} + \cdots + \hat{\beta}_{k-1} x_{ik-1} + \hat{\beta}_k (c_k + 1)]$$

$$- G(\hat{\beta}_0 + \hat{\beta}_1 x_{i1} + \cdots + \hat{\beta}_{k-1} x_{ik-1} + \hat{\beta}_k c_k) \} \tag{5}$$

Equation (5) represents a partial effect because all explanatory variables except for x_k are being held fixed at their observed values.

The model coefficients are obtained using maximum likelihood estimation (MLE), which is based on the distribution of y given x – thus accounts for the heteroskedasticity in $\text{Var}(y|x)$. Additionally, I weigh the data in the estimation process using the weights included in the dataset in order to be able to estimate population descriptive statistics. However, several issues can arise in the context of the specification of probit models. First of all, problems concerning endogenous explanatory variables, which can be tested for and corrected using methods related to two stage least squares. Moreover, if the error term does not have a standard normal distribution, the response probability will not have the probit form. In this case it would be impossible to estimate the magnitude of partial effects. Finally, if there is heteroskedasticity in the error term e (the $\text{Var}(e|x)$ depends on x), then the response probability no longer has the form $G(\beta_0 + x\beta)$. Instead it will depend on the form of the variance and require more general estimation.

Model specifications

In order to answer the first research question:
(1)   What socioeconomic characteristics and opinions on gender roles drive the voter turnout among women as opposed to men?
I will perform two regressions for the samples in years 1994, 2002 and 2012. The first model specification will include only socioeconomic characteristics of the respondents and the second model specification will also include their opinions on gender roles. Each model specification will include the interaction of the above-mentioned variables with sex. In this way, I will be able to examine the differences in the determinants of voting behaviour between men and women over the years.
In order to answer the second research question:

(2)   What are the political preferences of women as opposed to men based on their socioeconomic characteristics and opinions on gender roles?

I will again estimate the two model specifications (socioeconomic characteristics, and socioeconomic characteristic + opinions on gender roles) for the samples in years 1994, 2002 and 2012. The estimations will include the interaction of the variables with sex. The models will try to explain which characteristics or opinions influence the individuals' decision to vote for a party on a particular political spectrum (far left, left/centre left, centre/liberal, right/conservative and far right). Table 7 below gives an overview of model specifications used to answer the two research questions.

Table 7: Model specifications

Research question	Dependent variable	Year	Explanatory variables	Model reference number
(1) What socioeconomic characteristics and opinions on gender roles drive the voter turnout among women as opposed to men?	VOTE_LE	1994	Socioeconomic characteristics	(1)
			Socioeconomic characteristics + opinions on gender roles	(2)
		2002	Socioeconomic characteristics	(3)
			Socioeconomic characteristics + opinions on gender roles	(4)
		2012	Socioeconomic characteristics	(5)
			Socioeconomic characteristics + opinions on gender roles	(6)
(2) What are the political preferences of women as opposed to men based on their socioeconomic characteristics and	VFARLEFT, VLEFT, VCENTER, VRIGHT, VFARRIGHT	1994	Socioeconomic characteristics	(1)
			Socioeconomic characteristics + opinions on gender roles	(2)
		2002	Socioeconomic characteristics	(3)

opinions on gender roles?			Socioeconomic characteristics + opinions on gender roles	(4)
		2012	Socioeconomic characteristics	(5)
			Socioeconomic characteristics + opinions on gender roles	(6)

Analysis and discussion

This section will cover the results of the estimations relevant to answering the research questions and the internal and external validity of the study.

Results

What drives voter turnout?

In order to answer the first research question, I have estimated two model specifications on the samples for years 1994, 2002 and 2012, where the depending variable indicates whether a person has voted in the previous parliamentary election or not. As to facilitate interpretation, the results presented here are the average partial effects calculated based on the model coefficients and equation (5), using statistical software. Additionally, only the statistically significant variables have been reported. The model estimations pertaining to answering the first research question are presented in Table 8 below.

At first glance, we can observe that age is a significant variable across almost all model specifications and years, however, it has a small marginal effect, as an increase in age by one year, on average, results in a 0% to 1% increase in the probability of casting a vote. Moreover, the interaction between gender and age is not statistically significant which suggests that age is not a characteristic that distinguishes men and women in their voting behaviour.

When it comes to region, the variable has some significance across the model specifications. Particularly, people living in 2002 in the South-East region were on average 13% more likely to vote compared to people living in the Central region, and in 2012, the inhabitants of the North-East region were on average 22% more likely to vote compared to the inhabitants of the Central region. This effect differs across genders, as women inhabiting the South-East region in 2002 were on average 20% less likely to vote compared to men form the same region, and women living in the North-East region were on average 36% less likely to vote than men form the same region. Overall, across all regions, women were on average less likely to vote than men.

Looking at the city variable – it only has a significance in 2012 and indicates that people living in cities or suburbs were on average 18% more likely to vote compared to people living in big cities, and people living in villages were on average 12% less likely to vote

compared to people living in big cities. However, the interaction of gender and city shows that only women living in small cities or towns were on average more likely to vote compared to men living small cities or towns, but the effect is only significant in 2002.

Surprisingly, the variable indicating marriage is not significant across the samples, and does not differentiate men and women in their voting behaviour.

Looking at employment, people who are unemployed are on average 14% less likely to vote compared to their employed counterparts, however this result is only significant in the sample of 2002, and in the samples of 1994 and 2012 the direction of the effect remains the same but the magnitude is lower and the variable is not significant. Interestingly, in this group, women are on average 16% more likely to vote than men, but the effect is only significant in 2002. We can conclude that there is some evidence that unemployed women are more likely to vote than unemployed men. When in comes to unemployed individuals who are currently in education, there is no evidence that being in education has overall an impact on the likelihood to vote, however, in 1994, women who were in education were on average 30% less likely to vote compared to men in education. And finally, women who declared their main occupation as keeping house, were on average 61% less likely to vote compared to men who were keeping house, but the effect is only significant in 2002. We can conclude that although not consistently, employment status does differentiate men and women in their voting behaviour.

Religiousness indicates that in years 1994 and 2002, people who considered themselves religious were on average about 13% more likely to vote compared to non-religious people. In 2012 the variable looses significance and the direction of the effect changes to being negative. This change in the effect most likely shows the societal changes and departure from religion as in 1994 – 75% of the sample considered themselves as religious, in 2002 – 71% and in 2012 – only 47%. Nevertheless, there is no evidence that religiousness differentiates the voting behaviour of men and women.

Degree is another very significant variable, particularly in years 1994 and 2002, and could be considered as the main predictor of voting behaviour. Individuals with any education are over 40% more likely to vote compared to people with no education. The magnitude of the effect is highest in 1994 (42% to 49%), decreases in 2002 (37% to 42%) and further in 2012 (30%) when it also loses significance. However, there is no evidence that there is a difference in voting behaviour between men and women based on their education degree.

Finally, when it comes to opinions on gender roles, they are rather poor predictors of voting behaviour as they are not consistently significant across the years. Interestingly, some of the significant variables correspond to the respondent's neither agreeing nor disagreeing with a statement and those respondents are usually, on average, less likely to vote than respondents disagreeing with a given statement. This suggests that people who do not have opinions on gender roles might also be less opinionated when it comes to politics and thus be less likely to vote in the elections. There is, however, some evidence of differences among genders. For example, women who neither agree nor disagree with the statement that "men should earn money and women should keep the house" were in 1994 – 16% more likely to vote compared to men neither agreeing nor disagreeing with the statement. However, in 2002 people who neither accepted nor rejected the notion of living together without marriage, were 17% more likely to vote, compared to people who rejected this notion. In this sample, women were 21% less likely to vote than men.

Concluding, it is difficult to pinpoint variables that consistently differentiate men and women in their decision to vote. The difficulty likely arises likely because of the erratic behaviour of the Polish electorate, as mentioned before, Poles are especially unstable when it comes to their electoral behaviour. Compared to other democracies, a lot more of Polish citizens change their behaviour between elections, many go from voting to absenteeism (or vice versa) and many change their party preferences (Cześnik et al., 2011). Additionally, the changing times, opinions and the fact that different respondents are interviewed in each of the three samples, contribute to the inconsistency of the significance and magnitude of the variables across the years. However, there is evidence that region, place of residence and employment status are the socioeconomic characteristics that distinguish the voter turnout among women as opposed to men. Particularly, women across all regions are less likely to vote than men, but women living in small cities or towns are on average more likely to vote compared to men living small cities or towns. Moreover, there is some evidence that unemployed women are more likely to vote than unemployed men, women in education and women keeping house are on average less likely to vote compared to their male counterparts. Respondents' opinions on gender roles seem to rather poorly predict voting behaviour, however, there is some evidence which suggests that people who do not have opinions on gender roles might also be less opinionated when it comes to politics and thus be less likely to vote in the elections.

Political preferences of the respondents

In order to answer the second research question, I have estimated five models with depending variables being indicators of the respondents voting for a far left party, a left/centre left party, a centre/liberal party, a right/conservative party or a far right party. Due to very few respondents voting for the extreme far left and far right parties I exclude those estimations from the analysis as they are unreliable. The three remaining model average partial effects estimations can be found in Appendix 2. Table B1 contains the average partial effects for the predictors of voting for a left/centre left party, table B2 – centre/liberal party and table B3 – a right/conservative party.

In the case of political preferences, age is significant for some years and some specifications of the model, however, it's average effect on the probability to vote for a right wing or a left wing party is equal to zero. Moreover, the interaction between gender and age is not statistically significant which suggests that age is not a characteristic that distinguishes men and women in their political preferences.

When it comes to region, the significance of the variable has varied over the years. For example, women and men living in the Central-West, West and North regions in 1994 were less likely to vote for a central/liberal party than inhabitants of the Central region (on average by about 3%). These results do not confirm the "occupational" theory, as those regions used to fall under the German rule and were expected to be more likely to vote for a central/liberal party (e.g. the Civic Platform (PO)) compared to the Central region (previously under Austrian rule) that was expected to lean towards the Law and Justice (PiS) party. Additionally we find some evidence that region does differentiate the voting preferences between men and women. The interaction of the gender and region variables shows that women in 1994 living in the Central-West region were on average 4% less likely to vote for a centre party than men, but in the same year, women living in the East region were on average 67% more likely to vote for said party compared to men. Women living in the East region in 1994 were also on average 10% less likely to vote for a right wing party compared to men and 81% more likely to vote for a left wing party compared to men.

Women living in the North-East region were in 2002 on average 80% more likely to vote for a centre party than men, but in 2012, they were 16% less likely to vote for the same party. These results are, however, inconsistent over the years, and although they show some indication of differentiation of voting preferences between men and women, no clear patterns can be distinguished.

Looking at the city variable we can see that in 2012 people living in cities, suburbs, small cities, towns or villages were on average around 8% less likely to vote for a centre/liberal party than people living in big cities. Although the result is significant only in several cases, the direction and magnitude of the effect is comparable across the samples and model specifications. People living in villages in 1994 were on average about 8% less likely to vote for a left wing party and 15% more likely to vote for a right wing party compared to people living in big cities, but the results do not hold in the later years. For example, in 2002 people living in villages were on average 21% more likely to vote for a left wing party compared to people living in big cities. There is weak evidence that women living in small cities or towns are on average 10% less likely to vote for a right wing party, as the interaction between gender and city variables is negative or close to zero through the samples, but only significant in 2012.

Being married is not significant across the samples, but indicates that married women in 1994 were on average 3% less likely to vote for a centre party compared to married men. The result loses significance in the later years but has a similar magnitude in 2002 and changes direction in 2012.

Moving on to employment – there is evidence that unemployed individuals were on average 14% less likely to vote for a left wing party in 2002 compared to employed individuals but the effect is not significant in other years. People still in education were on average 6% less likely to vote for a left wing party and about 16% less likely to vote for a centre party in 2012 compared to people who were employed. Additionally, people still in education in 2002 were on average 13% less likely to vote for a right wing party. The most inconsistent behaviour is displayed among people keeping house, as they were on average 4% less likely to vote for a centre party compared to people who were employed in 1994, buy 44% more likely to vote for said party in 2002 and 26% less likely to vote for the party in 2012. Furthermore, there is some difference of gender differentiation in political preferences based on employment. Unemployed women were on average about 9% less likely to vote for a right wing party in 1994 compared to men. They were also on average 16% less likely to vote for a centre party in 2012 and 20% more likely to vote for a left wing party in 2002. Additionally, women still in education were on average 4% less likely to vote for a centre party in 1994 but 33% more likely to vote for said party in 2012 compared to men. They were also on average 82% more likely to vote for a right wing party in 2002 compared to men, but the effect does not hold in other years. Finally, women keeping house were on average 70% more likely to vote for a left wing and a centre party in 2012 compared to men, but in 2002 they were 9% less likely to vote for a centre party and 80% more likely to vote for a fight wing party. These results indicate again the unstable political preferences of the polish electorate.

Being religious is only significant as a predictor of right wing voting. In the years 1994 and 2002 – being religious suggested an average increase of 8% in the probability of voting for a right wing party, but in 2012, the direction of the effect has changed to a 6% decrease in

the probability and loses its' significance. Moreover, there is no evidence that being religious affects women's voting preferences differently than men's.

The degree variable is highly significant across samples and indicates an increased probability in voting for either party ranging form 50% to 87%. The interaction variable between gender and degree shows that there are significant differences in voting preferences between men and women. In 1994, women with any degree were on average 8% to 15% less likely to vote for a left wing party compared to men. The probability increased with the increase of the education degree. In 2002 women with all degrees were on average 41% to 48% more likely to vote for a left wing party compared to men, and in 2012 women with elementary were about 64% more likely to vote for a left wing party compared to men, women with higher secondary and post secondary education were on average 5% less likely to vote for said party compared to men. When it comes to voting for a centre party, women with lower secondary degree were on average 6% less likely to vote compared to men. The magnitude and direction are consistent across the years but the effect is only significant in 2002. Lastly, women with any degree were less likely to vote for a right wing party since 2002, which contradicts the findings of Ingelhart and Norris (2000) that women in post-communist countries proved more right wing than men. Instead the results show that gender differences in electoral behaviour in Poland have been realigning similarly to the developed countries, with women moving toward the left of men on the political spectrum.

Finally, we look at the effect of the opinions on gender roles on the probability of voting for a right wing, left wing or centre party. In 1994, the opinion variables are rarely significant, the only effects that can be observed are that disagreeing with the statement that "what women want the most is to have a home and children" leads to a decrease in the probability of voting for a centre party for both women and men compared to the respondents who agree with the statement (-4%). Additionally, neither agreeing nor disagreeing with the statement that "family life suffers when the woman works" leads to a 10% increase in the probability of voting for a left wing party. However, these effects cannot be observed in the later years. In 2002 we can observe that people who neither agree nor disagree with the statement that "what women want the most is to have a home and children" have a 13% lower probability for voting for a left wing party. Moreover, in both 2002 and 2012, disagreeing with the statement that "family life suffers when the woman works" decreases one's probability of voting for a right wing party compared to people who agree with the statement by 8% and increases the probability of voting for a centre party by 8%. Not accepting living together increases the probability of voting for a right wing party on average by 10%. Looking at differences in gender, we can observe that on average, women who have no opinion with regards to a statement are usually less likely to vote for either party compared to men. Women disagreeing with the statement that "family life suffers when the woman works" are on average 16% more likely to vote for a right wing party compared to men, but the effect is only significant in 1994. Lastly, women disagreeing with the statement that "both husband and wife should contribute to the household income" were on average 11% less likely to vote for a right wing party in 2012 compared to men. This suggests that women having liberal or conservative values do not necessarily vote for liberal or conservative parties respectively.

In conclusion, the answer to the second research question: what are the political preferences of women as opposed to men based on their socioeconomic characteristics and opinions on gender roles? – is not straightforward, as the significance and magnitude of the variables

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differ across years. However, the strongest socioeconomic predictors for the three years include type of place of residence, employment and degree. Namely, there is some evidence that women living in small cities or towns are less likely to vote for a right wing party compared to men. Furthermore, unemployed women are less likely to vote for a right wing and centre party but more likely to vote for a left wing party compared to men. Additionally, women with any degree were less likely to vote for a right wing party since 2002, which shows the realigning of gender differences in electoral behaviour in Poland. When it comes to the effect of the opinions on gender roles on the probability of voting for a particular political party, the variables are rarely significant and vary a lot across the years. We can conclude that women who have no opinion with regards to a statement are usually less likely to vote for either party compared to men. Some results suggest that having liberal or conservative values does not signal voting for a liberal or conservative party respectively. For example women disagreeing with the statement that "family life suffers when the woman works" are still more likely to vote for a right wing party.

Table 8: Average partial effect – Decision to vote

	Dependent variable:					
	VOTE_LE					
	1994		2002		2012	
	(1)	(2)	(3)	(4)	(5)	(6)
AGE	0.01***	0.01***	0.01***	0.01**	0.00*	0.00*
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
REGION2	0.12*	0.08	0.11	0.10	0.02	0.01
	(0.06)	(0.07)	(0.07)	(0.08)	(0.07)	(0.08)
REGION4	0.11	0.15*	0.06	0.04	0.09	0.09
	(0.06)	(0.07)	(0.08)	(0.08)	(0.07)	(0.07)
REGION6	0.02	-0.01	-0.01	-0.05	0.23***	0.22***
	(0.08)	(0.09)	(0.09)	(0.10)	(0.06)	(0.05)
REGION7	0.10	0.05	0.20**	0.18*	-0.06	-0.08
	(0.08)	(0.09)	(0.08)	(0.08)	(0.10)	(0.10)
REGION8	-0.01	0.00	0.13*	0.13	0.11	0.11
	(0.07)	(0.07)	(0.06)	(0.07)	(0.06)	(0.06)
CITY2	0.05	0.07	-0.00	-0.01	0.19**	0.18*
	(0.08)	(0.09)	(0.08)	(0.09)	(0.07)	(0.07)
CITY4	0.07	0.10	0.03	-0.03	-0.12*	-0.10
	(0.07)	(0.08)	(0.07)	(0.08)	(0.06)	(0.06)
EMPLOYMENT2	-0.05	-0.08	-0.14*	-0.11	-0.06	-0.06
	(0.06)	(0.07)	(0.06)	(0.07)	(0.09)	(0.09)
EMPLOYMENT5	-0.08	-0.10	0.38***	0.39***	0.11	0.08
	(0.06)	(0.07)	(0.01)	(0.01)	(0.16)	(0.16)
EMPLOYMENT6	-0.33**	-0.28			-0.02	-0.02
	(0.11)	(0.15)			(0.07)	(0.07)
RELIGIOUS	0.15***	0.16***	0.13**	0.08	-0.02	-0.03
	(0.04)	(0.05)	(0.05)	(0.06)	(0.04)	(0.04)
DEGREE1	0.43***	0.43***	0.27**	0.30**	0.12	0.07
	(0.01)	(0.01)	(0.09)	(0.10)	(0.24)	(0.24)
DEGREE2	0.42***	0.42***	0.33***	0.35***	0.21	0.16
	(0.01)	(0.01)	(0.06)	(0.06)	(0.19)	(0.20)
DEGREE3	0.48***	0.46***	0.37***	0.39***	0.29	0.24
	(0.01)	(0.01)	(0.07)	(0.07)	(0.17)	(0.18)
DEGREE4	0.43***	0.42***	0.37***	0.38***	0.25	0.21
	(0.01)	(0.01)	(0.05)	(0.05)	(0.13)	(0.15)
DEGREE5	0.49***	0.49***	0.41***	0.42***	0.30*	0.24
	(0.01)	(0.01)	(0.03)	(0.03)	(0.15)	(0.17)
SEX:REGION3	-0.18*	-0.19	-0.19*	-0.21*	-0.08	-0.09
	(0.09)	(0.10)	(0.10)	(0.10)	(0.11)	(0.10)
SEX:REGION4	-0.14	-0.20*	-0.15	-0.21	-0.18	-0.18
	(0.09)	(0.10)	(0.11)	(0.11)	(0.12)	(0.12)
SEX:REGION6	-0.08	-0.08	-0.04	0.02	-0.36*	-0.37**
	(0.11)	(0.13)	(0.12)	(0.15)	(0.14)	(0.14)
SEX:REGION8	-0.05	-0.11	-0.20*	-0.26**	-0.19	-0.19
	(0.09)	(0.10)	(0.10)	(0.10)	(0.11)	(0.11)
SEX:CITY3	-0.00	-0.05	0.20**	0.26***	-0.05	-0.06
	(0.09)	(0.11)	(0.08)	(0.08)	(0.08)	(0.08)
SEX:EMPLOYMENT2	-0.01	-0.02	0.18**	0.16*	-0.02	0.02
	(0.08)	(0.09)	(0.06)	(0.07)	(0.12)	(0.11)
SEX:EMPLOYMENT3	-0.30*	-0.38**	-0.07	-0.10	-0.04	0.00
	(0.13)	(0.13)	(0.17)	(0.19)	(0.18)	(0.17)
SEX:EMPLOYMENT5			-0.62***	-0.61***	-0.14	-0.10
			(0.01)	(0.01)	(0.23)	(0.21)
HOMEKID2		0.00		-0.14*		0.00
		(0.06)		(0.07)		(0.05)
HOMEKID3		-0.05		-0.02		0.11*
		(0.06)		(0.06)		(0.05)
FEFAM12		-0.14*		-0.02		0.00
		(0.07)		(0.07)		(0.06)
COHABOK2		-0.02		0.17**		0.05
		(0.06)		(0.06)		(0.06)

SEX:FEFAM12	**0.16***		0.01		0.12	
	(0.08)		(0.09)		(0.07)	
SEX:COHABOK2	0.01		**-0.21***		-0.04	
	(0.08)		(0.09)		(0.10)	
Num. obs.	1564	1192	1251	994	1043	1043
Log Likelihood	-934.84	-696.01	-744.16	-569.13	-581.77	-567.78
Deviance	1873.68	1396.03	1488.32	1138.27	1165.54	1137.57
AIC	1965.68	1536.03	1580.32	1278.27	1255.54	1275.57
BIC	2222.72	1902.03	1816.38	1621.39	1483.24	1622.06

Note: ***p < 0.001, **p < 0.01, *p < 0.05

Internal validity

Given the nature of survey data, the coefficients of the models and also the average partial effects discussed are at risk of being biased. Although the response rates of the surveys were rather good in the first two years (80% in 1994 and 62% in 2002), in 2012 the response rate was only 42%. Additionally, we observe several item non-response errors as respondents do not answer one or more questions thus limiting the sample size and likely interfering with the representativeness of the sample. One unobserved risk related to survey data is the possibility that the respondent did not complete the questionnaire all by herself. Finally, we examine the goodness-of-fit measure presented in table 9 below – percent correctly predicted, which indicates whether the estimated model gives better predictions than random guessing (50%).

Table 9: Percent correctly predicted

Dependent variable/model specification	1994		2002		2012	
	(1)	(2)	(3)	(4)	(5)	(6)
VOTE_LE	67.14%	66.95%	67.79%	69.72%	72.20%	73.15%
VRIGHT	84.39%	83.55%	89.22%	89.35%	81.15%	81.69%
VCENTER	96.36%	96.28%	92.17%	91.36%	77.02%	79.80%
VLEFT	89.78%	90.25%	67.09%	69.05%	94.70%	94.70%

We can see that the models pertaining to answering the first research question (first row of table 9), estimated on the samples from years 1994 and 2002 have a rather poor prediction power (66% to 73%), but much higher than random guessing. The accuracy improves in 2012, with the percent of correctly predicted cases above 70%. When it comes to models estimated in order to answer the second research question (second, third and fourth row of table 9), they have a much higher prediction power. Only 1 out of 18 model specifications has correctly predicted less than 80% of the cases, and 7 model specifications have accuracy of over 90%. Acknowledging the drawbacks of the survey data I conclude that the model specifications are reliable and maintain the internal validity of the study.

External validity

The main conclusions of this study are rather general and are supported by previous literature. However, the magnitude of the effects is particular to the samples and should not be applied outside of the study context. Although the data in the models was weighed in order to be more representative of the population, opinions on gender roles can vary greatly. Moreover, as mentioned before, the data contains several item non-response errors, which can affect the representativeness of the sample and thus the possibility to generalize the results. Additionally, we have observed a lot of variation between the years with no clear trends, thus it would not be appropriate to extend the result into a different time period.

Conclusions

In times when democracy is Poland threatened by far right and nationalistic policies, and the participation in elections has averaged around 50% since 1989, it is vital to study why different groups of citizens decide to go to the ballots. Using individual survey data from the 1994, 2002 and 2012 Polish General Social Survey and the International Social Survey Programme, I have tried to examine to what extent the gender differences in turnout in Poland can be accounted for by socioeconomic characteristics and gender-role attitudes, and whether women in Poland have systematically different policy preferences based on their socioeconomic characteristics and gender-role attitudes. I have found that region, place of residence and employment status can be regarded as the most important factors driving the voter turnout among women. Although gender-role attitudes are rarely significant as predictors of voting behaviour, there is some evidence that people who do not have opinions on gender roles might also be less opinionated when it comes to politics and thus be less likely to vote in the elections. The study also shows that the strongest predictors for women's political preferences include the type of place of residence, employment and education degree. Opinions on gender roles are rarely significant and vary a lot across the years. Moreover, having liberal or conservative values does not signal voting for respective parties. Although the estimated models have a good prediction power, the nature of survey data limits the generalizability of these results. Still, the study provides important insights into the determinants of voting behaviour in Poland, particularly the erratic behaviour of the electorate that change their behaviour between elections, go from voting to absenteeism (or vice versa) and change their party preferences. Such behaviour should be considered in further studies in order to understand what factors influence Poles' decision to vote. The unstable preferences could possibly be explained by economic theories that include incentives but forward by politicians, which has been increasingly popular in Poland (e.g. the 500+ programme[11]). In order to gain more insights into the subject, and possibly identify external factors affecting the unstable electoral behaviour of the Polish citizens, further studies should look into how he general course of gender equality in politics, including but not limited to introducing new laws related to gender equality and the political representation of women in Poland has influenced the voting behaviour of both men and women. Further research is also required to determine the factors influencing women's electoral behaviour and political preferences in order to devise incentives and encourage more women to vote.

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[11] A state program, implemented by the Law and Justice (PiS), designed to help families raise their children through monthly childcare services for the second and every subsequent child in the family in the amount of PLN 500.

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Appendix 1

Presidential elections are characterised by a slightly greater average turnout compared to parliamentary elections, amounting to 56%. The voter turnout is presented in Figure 3.

Figure 3: Voter turnout in the presidential elections

Source: National Electoral Commission (PKW)

The elections to the European parliament are characterised by the lowest turnout, with only a little above 20% of citizens attending them (Figure 4). This statistic is much below the European average – 44%, for the years 2004-2014. Moreover, Poland is the sixth country in terms of number of MPs (after Germany, France, UK, Italy and Spain), but the second lowest when it comes to voter turnout.

Figure 4: Voter turnout in the elections to the European parliament

Source: European Parliament

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Appendix 2

Table A1: Categorisation of political parties

Category	1993	2001	2011
Far left	Democratic Left Alliance (SLD),		Democratic Left Alliance (SLD)
Left/centre left	Labour Union (UP)	Left Democratic Alliance and Labour Union (SLD-UP)	Palikot's Movement (RP)
Centre/liberal	Democratic Union (UD)	Civic Platform (PO)	Civic Platform (PO)
Right/conservative	Polish Peasant Party (PSL),	Polish Peasant Party (PSL), Law and Justice (PiS),	Polish Peasant Party (PSL), Law and Justice (PiS)
Far right	Confederation for an Independent Poland (KPN)	League of Polish Families (LPR), Self-Defence (Samoobrona)	

Table A2: Regions and Voivodeships

Region	Voivodeship (1994)
Central	Warszawskie, Ciechanowskie, Łódzkie, Piotrowskie, Płockie, Radomskie, Sieradzkie, Skierniewickie
Central-West	Bydgoskie, Kaliskie, Konińskie, Pilskie, Poznańskie, Toruńskie, Włocławskie
South-West	Bielskie, Częstochowskie, Katowickie, Opolskie
West	Gorzowskie, Jeleniogórskie, Legnickie, Leszczyńskie, Wałbrzyskie, Wrocławskie, Zielonogórskie
North	Elbląskie, Gdańskie, Koszalińskie, Słupskie, Szczecińskie
North-East	Białostockie, Łomżyńskie, Olsztyńskie, Ostrołęckie, Suwalskie
East	Bialskopodlaskie, Chełmińskie, Lubelskie, Siedleckie, Zamojskie
South-East	Kieleckie, Krakowskie, Krośnieńskie, Nowosądeckie, Przemyskie, Rzeszowskie, Tarnobrzeskie, Tarnowskie

Table B1: Average partial effect – Vote Left

					Dependent variable:	
				VLEFT		
	1994		2002		2012	
	(1)	(2)	(3)	(4)	(5)	(6)
AGE	0.00	0.00	0.00	**0.00***	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
SEX	-0.01	0.01	-0.20	**-0.38***	0.01	0.04
	(0.09)	(0.10)	(0.25)	(0.19)	(0.06)	(0.09)
REGION7	-0.05	**-0.15*****	0.10	0.09	-0.00	-0.02
	(0.05)	(0.01)	(0.10)	(0.11)	(0.04)	(0.03)
CITY4	**-0.08***	-0.06	**0.21****	**0.21***	-0.00	0.01
	(0.03)	(0.04)	(0.08)	(0.08)	(0.03)	(0.03)
EMPLOYMENT2	0.01	-0.03	**-0.15****	**-0.14***	0.07	0.07
	(0.04)	(0.04)	(0.05)	(0.06)	(0.06)	(0.06)
EMPLOYMENT3	-0.01	-0.03	0.19	0.21	**-0.06*****	**-0.06*****
	(0.05)	(0.05)	(0.13)	(0.15)	(0.01)	(0.01)
EMPLOYMENT5	-0.06	**-0.06***	0.07	0.11	**-0.10*****	**-0.10*****
	(0.03)	(0.03)	(0.28)	(0.26)	(0.01)	(0.01)
DEGREE1	**0.61*****	**0.61*****	0.07	0.02	0.01	-0.03
	(0.01)	(0.01)	(0.16)	(0.20)	(0.05)	
DEGREE2	**0.63*****	**0.62*****	0.25	0.18	**0.53*****	0.48
	(0.01)	(0.01)	(0.15)	(0.19)	(0.02)	
DEGREE3	**0.72*****	**0.70*****	0.23	0.17	**0.61*****	0.57
	(0.01)	(0.01)	(0.15)	(0.20)	(0.01)	
DEGREE4	**0.87*****	**0.86*****	0.23	0.13	**0.81*****	**0.75*****
	(0.01)	(0.01)	(0.18)	(0.22)	(0.02)	(0.02)
DEGREE5	**0.83*****	**0.82*****	0.25	0.18	**0.62*****	**0.56*****
	(0.01)	(0.01)	(0.17)	(0.22)	(0.01)	(0.01)
SEX:REGION3	**-0.08****	-0.06	-0.11	-0.10	0.10	0.12
	(0.03)	(0.03)	(0.09)	(0.10)	(0.08)	(0.09)
SEX:REGION5	-0.05	**-0.07***	-0.10	-0.11	0.08	0.11
	(0.04)	(0.03)	(0.09)	(0.10)	(0.09)	(0.11)
SEX:REGION7	0.06	**0.81*****	0.03	-0.03	0.12	0.22
	(0.12)	(0.01)	(0.13)	(0.13)	(0.14)	(0.18)
SEX:REGION8	0.02	0.03	-0.13	**-0.19***	0.01	0.02
	(0.06)	(0.08)	(0.08)	(0.08)	(0.06)	(0.07)
SEX:EMPLOYMENT2	0.04	0.09	**0.21***	**0.20***	-0.03	-0.04
	(0.06)	(0.09)	(0.09)	(0.09)	(0.03)	(0.02)
SEX:EMPLOYMENT5			-0.11	-0.16	**0.76*****	**0.69*****
			(0.24)	(0.20)	(0.02)	(0.04)
SEX:DEGREE1	**-0.12*****	**-0.15*****	0.28	**0.48*****	**0.67*****	**0.64*****
	(0.03)	(0.03)	(0.17)	(0.13)	(0.04)	(0.04)
SEX:DEGREE2	**-0.09*****	**-0.11*****	0.21	**0.44****	-0.02	-0.02
	(0.03)	(0.03)	(0.19)	(0.17)	(0.03)	(0.03)
SEX:DEGREE3	**-0.09*****	**-0.10*****	0.21	**0.41***	-0.05	**-0.05***
	(0.03)	(0.03)	(0.19)	(0.17)	(0.02)	(0.02)
SEX:DEGREE4	**-0.08***	**-0.09*****	0.15	**0.42***	**-0.06*****	**-0.06*****
	(0.03)	(0.02)	(0.22)	(0.19)	(0.01)	(0.01)
SEX:DEGREE5			0.18	**0.44***		
			(0.21)	(0.19)		
FAMSUFFER2		**0.10***		0.04		-0.02
		(0.05)		(0.07)		(0.02)
HOMEKID2		-0.02		**-0.13***		0.00
		(0.03)		(0.06)		(0.03)
SEX:FECHILD2		-0.06		-0.02		**-0.06*****

		(0.04)		(0.12)		(0.01)
SEX:FAMSUFFER2		**-0.07****		-0.03		-0.03
		(0.02)		(0.09)		(0.02)
SEX:HOMEKID3		**-0.06***		0.00		-0.02
		(0.03)		(0.08)		(0.03)
SEX:COHABOK2		-0.04		**-0.15***		-0.00
		(0.04)		(0.07)		(0.04)
Num. obs.	1595	1210	1252	995	1114	1114
Log Likelihood	-470.10	-315.09	-755.27	-577.69	-197.71	-181.24
Deviance	944.21	634.17	1510.53	1155.38	397.42	364.48
AIC	1036.21	774.17	1602.53	1295.38	487.42	502.48
BIC	1294.19	1141.25	1838.63	1638.57	718.14	853.58

Note: ***p < 0.001, **p < 0.01, *p < 0.05

Table B2: Average partial effect – Vote centre

	Dependent variable:					
	VCENTER					
	1994		2002		2012	
	(1)	(2)	(3)	(4)	(5)	(6)
REGION2	**-0.03****	**-0.03*****	-0.01	-0.02	0.06	0.08
	(0.01)	(0.01)	(0.05)	(0.06)	(0.07)	(0.07)
REGION4	-0.02	**-0.03****	0.04	0.03	0.13	**0.17***
	(0.01)	(0.01)	(0.06)	(0.08)	(0.08)	(0.07)
REGION5	-0.02	**-0.03****	0.01	-0.00	0.07	0.10
	(0.01)	(0.01)	(0.07)	(0.07)	(0.07)	(0.07)
REGION6	**-0.04*****	**-0.04*****	**-0.11*****	**-0.11*****	0.09	0.10
	(0.01)	(0.01)	(0.01)	(0.01)	(0.08)	(0.08)
REGION7	**-0.08*****	**-0.09*****	0.06	0.01	-0.09	-0.08
	(0.01)	(0.01)	(0.09)	(0.07)	(0.07)	(0.07)
REGION8	**-0.03****	**-0.03***	0.03	0.04	0.00	0.02
	(0.01)	(0.01)	(0.06)	(0.06)	(0.06)	(0.06)
CITY3	0.01	-0.00	-0.06	**-0.09***	-0.04	-0.05
	(0.02)	(0.02)	(0.04)	(0.04)	(0.04)	(0.04)
CITY4	-0.01	-0.01	**-0.08***	**-0.09***	**-0.09***	-0.08
	(0.02)	(0.02)	(0.03)	(0.04)	(0.05)	(0.05)
EMPLOYMENT3	0.04	0.06	0.06	0.04	**-0.16*****	**-0.17*****
	(0.04)	(0.05)	(0.09)	(0.09)	(0.04)	(0.04)
EMPLOYMENT5	0.04	**-0.04*****	**0.47****	**0.44****	**-0.26*****	**-0.26*****
	(0.04)	(0.01)	(0.17)	(0.14)	(0.01)	(0.01)
EMPLOYMENT6	**-0.04*****	**-0.04*****			0.11	0.09
	(0.00)	(0.01)			(0.06)	(0.05)
DEGREE1	**0.51*****	0.32	**0.60*****	**0.63*****	**0.66*****	**0.66*****
	(0.03)		(0.05)	(0.04)	(0.01)	(0.01)
DEGREE2	**0.50*****	0.33	**0.59*****	**0.59*****	**0.53*****	**0.53*****
	(0.03)		(0.01)	(0.02)	(0.01)	(0.01)
DEGREE3	**0.58*****	0.43	**0.63*****	**0.62*****	**0.63*****	**0.63*****
	(0.02)		(0.02)	(0.02)	(0.01)	(0.01)
DEGREE4	**0.73*****	0.57	**0.77*****	**0.78*****	**0.74*****	**0.74*****
	(0.03)		(0.01)	(0.02)	(0.01)	(0.01)
DEGREE5	**0.70*****	0.53	**0.78*****	**0.77*****	**0.72*****	**0.72*****
	(0.02)		(0.01)	(0.02)	(0.01)	(0.01)
SEX:REGION2	**-0.04*****	**-0.04*****	0.02	0.02	0.00	-0.02
	(0.00)	(0.01)	(0.08)	(0.09)	(0.08)	(0.08)
SEX:REGION6	0.09	-0.01	**0.80*****	**0.82*****	**-0.16***	**-0.16****
	(0.08)	(0.05)	(0.02)	(0.02)	(0.06)	(0.06)
SEX:REGION7	**0.73*****	**0.67*****	-0.05	-0.04	0.14	0.15
	(0.03)	(0.05)	(0.04)	(0.06)	(0.15)	(0.14)
SEX:MARRIED	**-0.03***	**-0.04***	-0.04	-0.04	0.02	0.04
	(0.01)	(0.02)	(0.03)	(0.04)	(0.05)	(0.05)
SEX:EMPLOYMENT2	-0.01	-0.02	0.05	0.09	**-0.16****	-0.13
	(0.02)	(0.02)	(0.07)	(0.10)	(0.06)	(0.07)
SEX:EMPLOYMENT3	**-0.04*****	**-0.04*****	-0.01	-0.00	**0.35***	**0.33***
	(0.01)	(0.01)	(0.08)	(0.09)	(0.15)	(0.14)
SEX:EMPLOYMENT5			**-0.09*****	**-0.09*****	**0.73*****	**0.72*****
			(0.01)	(0.02)	(0.01)	(0.02)
SEX:DEGREE2	-0.01	-0.02	**-0.06***	**-0.07***	-0.07	-0.08
	(0.02)	(0.02)	(0.03)	(0.03)	(0.06)	(0.06)
SEX:DEGREE4	-0.01	**-0.04*****	0.01	0.02	0.25	0.19
	(0.04)	(0.01)	(0.07)	(0.09)	(0.16)	(0.16)
FAMSUFFER3		0.02		-0.01		**0.08***

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	(0.02)		(0.03)		(0.04)	
HOMEKID3	**-0.04*****		0.03		0.06	
	(0.01)		(0.05)		(0.04)	
	(0.03)		(0.05)		(0.06)	
SEX:TWOINCS2	0.02		-0.01		**0.21***	
	(0.04)		(0.05)		(0.09)	
Num. obs.	1595	1210	1252	995	1114	1114
Log Likelihood	-195.40	-124.60	-286.46	-229.52	-512.99	-479.61
Deviance	394.80	253.20	572.92	459.04	1027.98	961.22
AIC	486.80	393.20	664.92	599.04	1117.98	1099.22
BIC	744.78	760.28	901.02	942.23	1348.71	1450.32

Note: ***$p < 0.001$, **$p < 0.01$, *$p < 0.05$

Table B3: Average partial effect – Vote right

	Dependent variable:					
	VRIGHT					
	1994		2002		2012	
	(1)	(2)	(3)	(4)	(5)	(6)
AGE	0.00*	0.00	0.00**	0.00*	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
SEX	-0.00	-0.16	0.42***	0.43***	0.08	-0.03
	(0.12)	(0.15)	(0.01)	(0.01)	(0.12)	(0.14)
REGION2	-0.04	-0.02	-0.05	0.00	-0.08	-0.10*
	(0.04)	(0.05)	(0.05)	(0.08)	(0.05)	(0.04)
REGION6	0.02	0.05	-0.08*	-0.00	0.13	0.11
	(0.06)	(0.08)	(0.04)	(0.08)	(0.10)	(0.10)
CITY4	0.15*	0.17*	-0.04	-0.04	0.01	0.00
	(0.06)	(0.08)	(0.04)	(0.06)	(0.05)	(0.05)
EMPLOYMENT3	0.04	0.05	-0.13***	-0.13***	0.05	0.02
	(0.08)	(0.09)	(0.01)	(0.01)	(0.09)	(0.08)
EMPLOYMENT5	-0.07*	-0.03	-0.14***	-0.14***	0.10	0.04
	(0.03)	(0.05)	(0.01)	(0.01)	(0.19)	(0.18)
EMPLOYMENT6	-0.16***	-0.17***			-0.07	-0.06
	(0.01)	(0.01)			(0.06)	(0.06)
RELIGIOUS	0.08***	0.09***	0.09***	0.05	-0.06	-0.05
	(0.02)	(0.03)	(0.02)	(0.03)	(0.03)	(0.03)
DEGREE1	0.63***	0.62***	0.69***	0.71***	0.72***	0.71***
	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)
DEGREE2	0.60***	0.61***	0.64***	0.63***	0.61***	0.60***
	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)
DEGREE3	0.66***	0.63***	0.68***	0.67***	0.63***	0.63***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
DEGREE4	0.78***	0.77***	0.80***	0.79***	0.79***	0.79***
	(0.03)	(0.04)	(0.01)	(0.01)	(0.01)	(0.01)
DEGREE5	0.75***	0.73***	0.80***	0.80***	0.67***	0.66***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)
SEX:REGION4	-0.03	-0.10*	-0.05	-0.04	-0.03	-0.03
	(0.06)	(0.05)	(0.05)	(0.06)	(0.08)	(0.08)
SEX:REGION7	-0.10*	-0.10*	-0.06	-0.07	0.05	0.05
	(0.04)	(0.05)	(0.05)	(0.04)	(0.12)	(0.12)
SEX:CITY3	-0.00	-0.02	-0.02	0.01	-0.09	-0.10*
	(0.07)	(0.09)	(0.06)	(0.08)	(0.05)	(0.05)
SEX:EMPLOYMENT2	-0.09*	-0.08	0.02	0.00	0.21	0.26
	(0.04)	(0.06)	(0.06)	(0.06)	(0.16)	(0.16)
SEX:EMPLOYMENT3	-0.06	0.02	0.82***	0.82***	-0.10	-0.11
	(0.08)	(0.13)	(0.03)	(0.03)	(0.09)	(0.08)
SEX:EMPLOYMENT5			0.80***	0.81***	-0.06	-0.02
			(0.03)	(0.03)	(0.13)	(0.16)
SEX:DEGREE1	0.18	0.22	-0.22***	-0.20***	-0.02	-0.00
	(0.09)	(0.12)	(0.01)	(0.01)	(0.09)	(0.10)
SEX:DEGREE2	0.07	0.12	-0.21***	-0.22***	-0.06	-0.06
	(0.08)	(0.11)	(0.01)	(0.01)	(0.06)	(0.06)
SEX:DEGREE3	0.07	0.15	-0.23***	-0.23***	-0.06	-0.07
	(0.09)	(0.11)	(0.01)	(0.01)	(0.06)	(0.06)
SEX:DEGREE4	0.26	0.29	-0.15***	-0.16***	-0.13*	-0.14*
	(0.22)	(0.24)	(0.01)	(0.01)	(0.06)	(0.06)
SEX:DEGREE5			-0.15***	-0.16***		
			(0.01)	(0.01)		
FAMSUFFER3		-0.07		-0.08*		-0.09*

		(0.04)		(0.04)		(0.04)
COHABOK3		0.04		**0.16****		**0.10***
		(0.04)		(0.05)		(0.05)
SEX:FECHILD2		-0.01		**-0.10*****		-0.02
		(0.09)		(0.02)		(0.08)
SEX:FAMSUFFER3		**0.16***		0.05		0.10
		(0.07)		(0.07)		(0.07)
SEX:TWOINCS2		-0.04		-0.01		**-0.13****
		(0.06)		(0.05)		(0.04)
SEX:TWOINCS3		-0.02		0.19		**-0.11***
		(0.05)		(0.10)		(0.04)
SEX:FEFAM12		-0.01		0.08		**0.24***
		(0.07)		(0.08)		(0.10)
Num. obs.	1595	1210	1252	995	1114	1114
Log Likelihood	-619.07	-471.08	-381.38	-283.92	-507.48	-482.67
Deviance	1242.14	946.16	762.76	567.84	1016.95	967.34
AIC	1334.14	1086.16	854.76	707.84	1106.95	1105.34
BIC	1592.13	1453.25	1090.85	1051.03	1337.67	1456.44

Note: $^{***}p < 0.001$, $^{**}p < 0.01$, $^{*}p < 0.05$