When populists deliver on their promises: the electoral effects of a large cash transfer program in Poland*

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Abstract

We estimate the effects of the introduction of large cash transfer on the support for the ruling populist party in Poland. We exploit the variation at the municipal level in the annual amount of received cash transfer per capita and apply a difference-in-differences design to study the electoral effects of the transfer. Results show that $100 of cash transfer per capita translated into an increase in the vote shares for the ruling party by nearly 2 percentage points. To large extent, the effects were due to recruiting previously non-voting individuals. Without the transfer, all else being equal, the populist party would not remain in power.

Keywords: Elections, Voting Behavior, Populism, Unconditional Cash Transfer

JEL Codes: D72, H23, H53, I28, J18

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1 Introduction

Do voters reward political parties for spending programs directed at reducing poverty or enhancing citizens' well-being? Are populist parties able to win elections and retain political power by promising and implementing generous cash transfers? The first of these questions has generated an extensive empirical literature investigating how various government welfare and spending programs introduced by the incumbent parties affect citizens' support for the parties and their electoral outcomes. Most of this research has dealt with the impact of conditional cash transfers (CCT) on voting behaviour in middle and low-income countries (e.g., Conover et al., 2020; De La O, 2013; Zucco Jr, 2013). A meta-analysis by Araújo (2021) using a sample of 10 randomized controlled trials and regression discontinuity designs found a positive effect of CCTs on voter support for the incumbent parties. Other studies showed that voters in rich countries reward government spending on a variety of programs including relief spending after natural disaster (Bechtel and Hainmueller, 2011), trade-related job training and assistance (Margalit, 2011), tax-cuts (Healy, Persson, and Snowberg, 2017), stimulus transfers (Vannutelli, 2020), and means-tested welfare benefits (Kogan, 2021). On the other hand, some papers have reached the opposite results, especially in developing countries. For instance, Blattman, Emeriau, and Fiala (2018) found that anti-poverty programs hurt electoral outcomes of the ruling party in Uganda, while Zimmermann (2020) showed that the longer exposure to the anti-poverty program in India lowers electoral support for the government.

The second question posed above concerning the use of social transfers by populist parties to gain political power has received less attention.[1] The share of populists in power has been increasing steadily since 1990 reaching an all-time high in 2018 (Funke, Schularick, and Trebesch, 2020). Most of the research on populism focused so far on the determinants of the recent rise of populism (see detailed review in Guriev and Papaioannou, 2021) or on its economic consequences (Absher, K. Grier, and R. Grier, 2020; Funke, Schularick, and Trebesch, 2020). Large number of potential drivers of populism has been studied including increasing import competition and globalization (Autor et al., 2020; Colantone and Stanig, 2018), the growth of automation (Anelli, Colantone, and Stanig, 2019; Im et al., 2019), economic insecurity (Guiso et al., 2020), the recent economic crisis (Algan et al., 2017), external financial shocks (Ahlquist, Copelovitch, and Walter, 2020),

[1] We follow Mudde and Kaltwasser (2017) in defining populism as an ideology that perceives society as separated into two antagonistic group – 'the pure people' and 'the corrupt elite'. See Guriev and Papaioannou (2021) for an in-depth overview of political economy of populism.

austerity (Fetzer, 2019), cultural backlash and other non-economic factors (e.g. Boeri et al., 2018; Enke, 2020; Norris and Inglehart, 2019), immigration (Becker, Fetzer, et al., 2016; Dustmann, Vasiljeva, and Piil Damm, 2019), spread of broadband internet and social media (Guriev, Melnikov, and Zhuravskaya, 2021; Liberini et al., 2020), and others.

This paper studies the impact of social transfers designed and introduced by a populist party on the party's electoral outcomes. We focus on the electoral impact of a generous, unconditional child benefit (UCB) proposed in 2015 in Poland by an opposition populist party PiS (Law and Justice) and implemented since 2016 after the party's electoral victory. Under the program families received a tax-free benefit of PLN 500 (approximately $125) per month for the second and any consecutive child until the age of 18.[2] In low-income families (with net income up to PLN 800 per month or up to PLN 1200 in families with a disabled child), all children became eligible for the UCB. The impact of the UCB on parliamentary election outcomes in Poland in 2015 and 2019 is estimated using a difference-in-differences design exploiting the fact that treatment intensity (the amount of the UCB per capita) varies at the level of municipalities.

Descriptively, we see a strong correlation between the change in the support for PiS and amount of the cash transfer received per capita (see Figure 1a) at the municipal level. This relationship was not observed before the introduction of the child benefit (Figure 1b). We show that these descriptive results hold even after controlling for a set of geographic, demographic, political, and economic variables as well as fixed region effects. This allows us to alleviate the concerns regarding the impact of confounding events and political polarization. We show that the effect was a decreasing function of average municipality income which suggests that the main channel of the effect was through improving the financial situation of recipients. We also find a significant positive impact on electoral turnout. Hence, the gains of the ruling party were to large extent due to attracting previously non-voting individuals. Finally, we find significant variation in the size of the effect depending on municipality size and historically determined preferences regarding the role of state and locus of control.

Our paper contributes to the literature on the electoral impact of social transfers by exploiting the unique features of the Polish UCB and its implementation. First, the existing literature has dealt

[2] In 2016, PLN 500 was equivalent to 37% of a net minimum wage in Poland.

(a) Treatment period: 2011-2019 (b) Pre-treatment period: 2007-2011

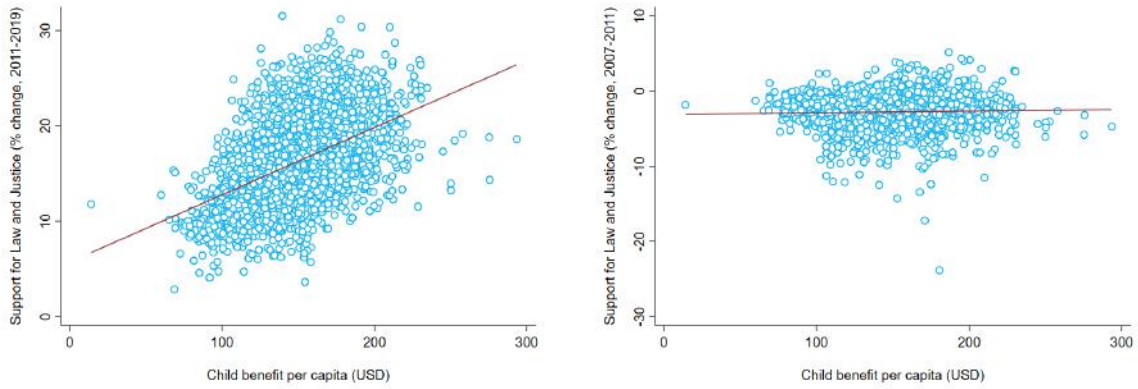

Figure 1: Child benefit and changes in the vote share for PiS

Notes: Figure presents the relationship between child benefit per capita and the change in the support for PiS (between 2011 and 2019 in Figure 1a and between 2007 and 2011 in Figure 1b) at the municipality-level. Child benefit per capita is the total amount of child benefit received in 2016 divided by municipality population. Vote shares for PiS are calculated as percentages of registered voters.

mainly with conditional money transfers, while the UCB is unconditional.[3] Second, the amount of the UCB has been very generous as has been equivalent to a third of a net minimum wage in Poland in 2016.[4]. Third, the UCB has been proposed in the 2015 electoral campaign by an opposition party, while the literature has usually studied transfers implemented by the incumbents. Together, these special characteristics allow us to make a novel contribution to the literature by estimating how a promise of the large, unconditional child benefit that was subsequently delivered translates into the party's electoral victory and retaining political power in the next elections.

The paper also contributes to the literature on the drivers of the recent rise of populism. The available literature on the political strategies used by populist parties to attract voters is scarce. Pastor and Veronesi (2018) show theoretically that when income inequality is high and voters are inequality-averse demand for populism may emerge endogenously even in a strong economy. Karakas and Mitra (2020) obtain a similar conclusion without the assumption of inequality-averse voters. Their model implies that in an economy with high (or increasing) income inequality the

[3]Between April 2016 and June 2019 the benefit was means-tested for the first child in a family, while since July 2019 all children in a family are eligible.

[4]To put this in a perspective, child benefits in Germany amounted to around 13% of the net minimum wage in 2016.The overall redistributive size of the UCB has been also large as its cost was about 1.2% GDP in 2017. As a comparison, the average budget of the CCTs in Latin America is around 0.3-0.4% GDP (Paes-Sousa, Regalia, and Stampini, 2013)

outsider candidate promising greater redistribution will receive higher support than the establishment candidate because voters perceive the outsider a being more likely to implement the more radical redistribution.[5] The populist party gains greater credibility in implementing larger redistributive transfers as it accentuates distance from and opposition to elites and interests groups that could block higher redistribution. Our paper confirms the prediction of this theory by showing that promising and delivering greater redistribution through the UCB brought significant electoral gains for PiS. We add to the empirical literature on the drivers of populism by demonstrating that the redistributive policy may be an effective political strategy of populist parties.

The remainder of the paper is organized as follows. Section 2 describes the design of the Family 500+ child benefit and recent political developments in Poland. Section 3 lays out our empirical strategy and describes the data. Section 4 presents the results. Section 5 concludes.

2 Institutional background

Since 2005, following the collapse of a post-communist party racked by corruption scandals, Polish politics has been dominated by two right-wing parties: the socially conservative populist PiS (in power from 2005-2007 and since 2015) and the neoliberal Civic Platform (in power from 2007-2015). Both parties have roots in the anti-communist Solidarity movement, but differ in their assessment of Poland's transition from communism to democracy. While Civic Platform was enthusiastic about the neoliberal reforms of the 1990s, PiS emphasized the social costs of the structural adjustments and criticized the accumulation of privatized wealth by post-communist elites and foreign business. Between 2005 and 2007, PiS dismantled its coalition nationalist and agrarian populist parties, discrediting their leaders and seizing some of their members. At the same time, it turned to nationalism and populism with a vision of illiberal democracy that defends conservative family values against the influence of Western liberalism. Starting as a party of mainly urban voters, by 2007 PiS had become a party of the rural and small-town electorate.

In early 2014, then Poland's largest opposition party, PiS, announced plans to introduce monthly child allowance for the second and each subsequent child under the age of 18 in a family. The

[5] According to the Distributional National Accounts data from the World Inequality Database, Poland is among the most unequal countries in Europe (Blanchet, Chancel, and Gethin, 2020).

program was given the catchy name *Family 500+* and became a major theme of the 2015 election campaigns, along with pension age reform and the refugee crisis. While the ruling liberal party argued that the program would be too expensive to implement, PiS attacked government's *impossibilism* and stated that *all you have to do is not steal*. In June 2015, a PiS candidate won presidential election, and in October 2015, PiS surprisingly won a majority of seats in the parliamentary elections. For the first time in the history of modern Poland, a single party won a majority of seats in parliament. The child benefit program was a priority for the new government and parents received their first checks as early as April 2016.

All households were entitled to a monthly cash transfer of approximately $125 (500 PLN) per child for the second and each subsequent child under 18. In addition, there was a means-tested component to the child benefit: households were also entitled to a child benefit of the same amount for the first child under age 18 if household income per person did not exceed $205. The amount of the transfer per child was relatively large: it amounted to 34% of disposable income per capita in Poland. Local authorities (municipalities) received targeted grants directly from the federal budget and were responsible for distributing the child allowance. The design of the program underwent another change in July 2019, when it was extended to all children under the age of 18.

In the campaign ahead of the 2019 parliamentary elections, all parties pledged to maintain the child benefit program. Nevertheless, the ruling party claimed that if it lost power, the opposition parties would abolish the child allowance program, citing their declarations from the previous election campaign. In 2019, PiS again won a majority of seats in parliament, and in 2020, the PiS candidate in the presidential election was reelected.

3 Empirical Strategy and Data

We exploit a municipal level variation in the intensity of treatment to study the effects of cash transfer on electoral performance of PiS. We construct a measure of treatment intensity at the municipality level measured as the annual amount of child benefit in dollars in 2016 over the

municipality population:

$$CT_{m,2016} = \frac{ChildBenefitAmount_{m,2016}}{Population_{m,2016}} \tag{1}$$

Next, we estimate the following difference-in-differences equation:

$$\Delta Y_{m,2011-2019} = \beta CT_{m,2016} + X'_m\kappa + \epsilon_m \tag{2}$$

where $\Delta Y_{m,2011-2019}$ denotes the change in support for PiS (100 * votes for PiS divided by eligible voters) and X'_m is the set of controls measured in 2011. Our continuous treatment variable is measured in the year the child benefit was introduced. Child benefit per capita after 2016 may be partially endogenous if households adjusted their fertility decisions to the child benefit program. In 2016, the number of children is still the result of fertility decisions made in the pre-treatment period[6].

Additionally, we estimate the same equation for two alternative outcomes: $\Delta Y_{m,2011-2015}$ and $\Delta Y_{m,2007-2011}$. We use the first outcome to estimate the effects of the promise of a cash transfer as opposed to the effect of its introduction. The second outcome serves as a placebo to verify parallel trends assumption. We begin our analysis in 2007 due to a shift in the PiS political positions before the elections in 2007. Nevertheless, we additionally show results including the 2005 elections in the Appendix.

Our identification strategy is based on the quasi-experimental difference-in-differences design and not on conditioning on observables. Nevertheless, we control for a wide range of variables to address the issue of confounding events and processes such as urban-rural polarization. Fertility is correlated with a range of geographic, demographic and economic factors as well as political preferences and social norms. In order to control for the fertility preferences, we control for a share of individuals aged 12-17 in municipality population in 2011. While this variable is measuring the preferences to have children, parents of these children were not eligible to child benefit because in 2016 their children were already 18. Hence, our identifying variation comes not from the municipality-specific

[6]Child benefit was introduced in April 2016 so first 'child benefit' children should be born in January 2017.

deep-rooted fertility preferences but from temporary fertility patterns. Additionally, depending on the specification, we control for lattitude, longitude, rural area dummy, log population density, femininity ratio, average age, fraction of population above retirement age, personal income tax revenue, unemployment rate, support for PiS in the 2011 elections, support for the EU in the 2003 accession referendum, support for populist parties in 2005, incident of out-of-wedlock births and fixed electoral district effects.

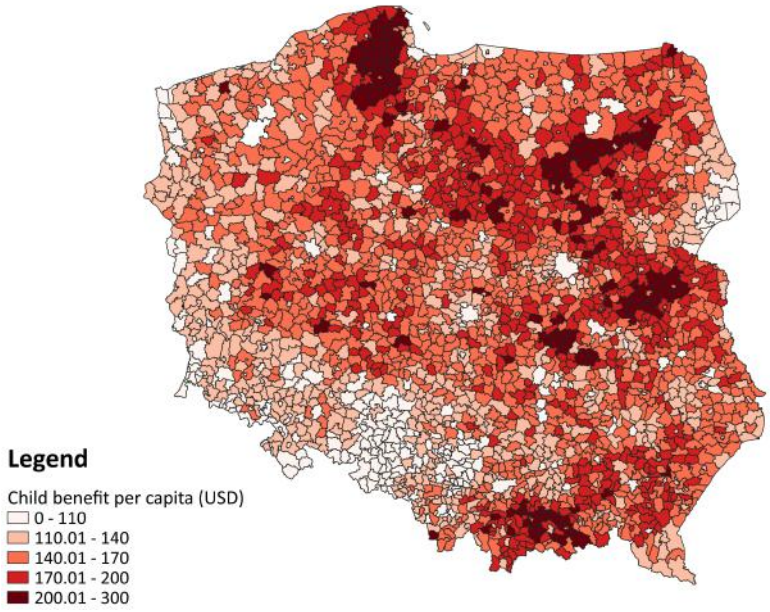

Figure 2: Child benefit per capita (USD)

Notes: Map displays the amount of child benefit per capita received in 2016 at the municipality level.

We combine municipality-level data from multiple sources (see a detailed description of all variables in Table A.1). The election results comes from Electoral Commission which publishes results of the parliamentary elections at the municipal level since 2005. Our treatment variable and most of control variables are generated by Statistics Poland. Additionally, we calculated geographic variables using GIS software. Finally, we use data on the participation in catholic masses and communion from the Institute for Catholic Church Statistics.

Map in Figure 2 displays our treatment variable, the amount of child benefit received in 2016 in Polish municipalities. The map shows clear spatial patterns in the distribution of the treatment

variable. We account for spatial correlation by using Conley standard errors throughout analysis.

4 Results

Table 1: Main results: child benefit per capita and the support for PiS

	(1)	(2)	(3)	(4)	(5)
Child benefit p.c.	0.070***	0.040***	0.035***	0.032***	0.016***
	(0.008)	(0.006)	(0.010)	(0.009)	(0.006)
Political controls	no	yes	yes	yes	yes
Geographic controls	no	yes	yes	yes	yes
Demographic controls	no	no	yes	yes	yes
Economic controls	no	no	no	yes	yes
Electoral district FE	no	no	no	no	yes
Adj. R-Squared	0.23	0.60	0.64	0.65	0.73
Mean of outcome	16.24	16.24	16.24	16.24	16.24
Mean of child benefit p.c.	149.36	149.36	149.36	149.36	149.36
N	2473	2473	2473	2473	2473

Notes: Table shows the effects of the child benefit on the change in the vote share for PiS at the municipality-level (2011-2019). Child benefit per capita is the total amount of child benefit received in 2016 divided by municipality population. Vote shares for PiS are calculated as percentages of eligible voters. Political variables include PiS vote share in 2011, vote shares for the right-wing populist parties in 2005, 'yes' vote shares in the 2003 EU membership referendum and the share of out-of-wedlock births. Geographic controls include lattitude and longitude. Demographic controls include log population density, mean age,femininity ratio, fraction of population with tertiary education, share of population aged 12-17, share of population above retirement age, and rural area dummy. Economic controls include registered unemployment rate and log tax revenue from personal income tax per capita. All control variables are measured in 2011 unless specified differently. Conley standard errors were calculated (50 km bandwidth). * p<.10; ** p<.05; *** p<.01

The introduction of child benefit had a significant positive effect on the change in the vote share for the ruling party (see Table 1). The most conservative estimate of the effects of one dollar of unconditional transfer on the ruling paty's vote share was 0.016 percentage points. We see that controlling for measures of social norms decreases the magnitude of the effect but it remains statistically significant and economically large. The gains from the cash transfer in the average municipality amount to a 2.4 pp. increase in the vote share for the ruling party: 15% of the average increase in the vote share for the governing party. PiS would not retain its majority in parliament after the 2019 elections without the child benefit program.

Figure 3 suggests that the parallel trends assumption is satisfied: child benefit received in 2016 does not help explain the change in the vote shares for PiS before 2015. The effects of the child

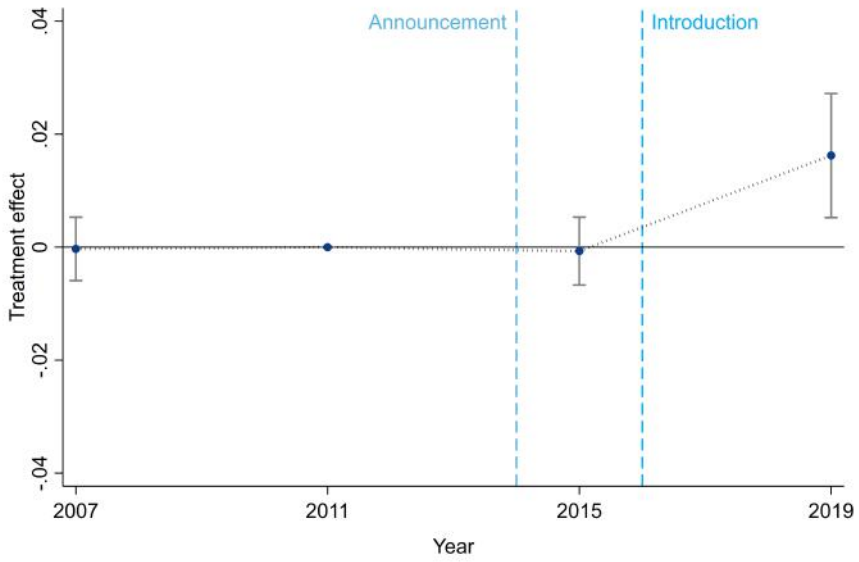

Figure 3: Leads and lags of the treatment effect

Notes: Figure shows the event-study coefficients from three regressions of the change in the vote shares between elections in year y (shown on the horizontal axis) and 2011 parliamentary elections on child benefit per capita. We control for political, geographic, demographic, and economic variables measured in the initial year as well as electoral district fixed effects (see note of Table 1 for the list of control variables). 95% confidence intervals are constructed based on Conley standard errors (50 km bandwidth).

benefit promise in the electoral campaign before the 2015 elections are very small and statistically insignificant. Voters rewarded PiS for introducing the cash transfer only after it was paid, not in advance.

Mechanisms

We study the heterogeneity of the effect as a function of average municipality income to show that the main mechanism of the effect runs through an increase in family income. If financial incentives are responsible for the effects, the estimated effect should be higher for low-income families than for high-income families since child benefit has a larger impact on the financial situation of the former. Figure 4 shows that the effects are largest in the bottom 50% of municipalities and decrease to almost zero in the richest municipalities.

In the Appendix, we explore alternative mechanisms (see Figure B.2). We find that child benefit doesn't explain changes in labor market situation, social norms, the municipality budget deficit and child care availability at the municipality level. Consequently, we can rule out these mechanisms. If

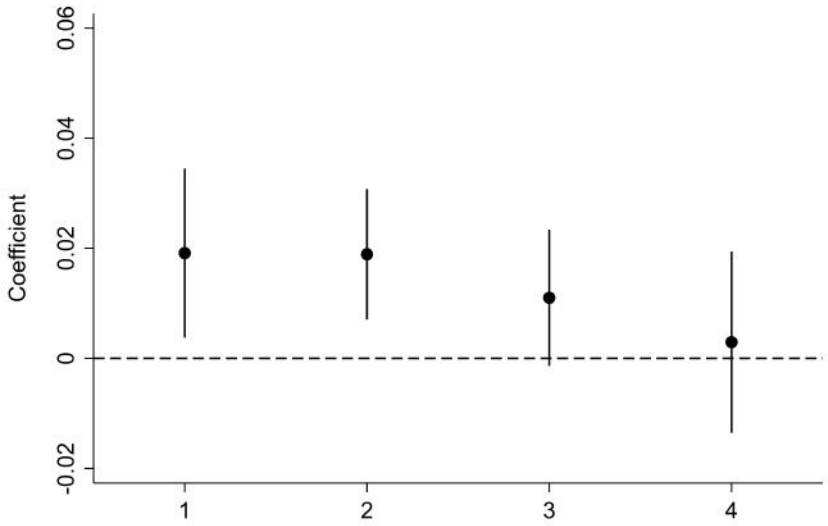

Figure 4: Treatment effect by quartile of average income

Notes: Table shows the effects of the child benefit on the change in the vote share for PiS at the municipality-level for quartiles of municipality average income. The coefficients are obtained from a regression with the interaction of the treatment dummy and income quartile dummies. Since direct measure of average or median income at the municipality level is not available, we approximate average income by average revenue from personal income tax. We control for political, geographic, demographic, and economic variables measured in the initial year as well as electoral district fixed effects (see note of Table 1 for the list of control variables). 95% confidence intervals are constructed based on Conley standard errors (50 km bandwidth).

anything, we observe a small negative impact on personal income tax revenue which may reflect the effect of the transfer on parental labor supply. We also show that child benefit had no significant impact on municipal spending in all categories except social assistance (Figure B.3). It seems that contact with the municipality during the child allowance application procedure may have encouraged parents to apply for other forms of social assistance as well.

Turnout

The analysis could potentially suffer from a special case of violation of the stable unit treatment value assumption. The effects could arise not from child benefit recepients reward the ruling party, but from childless individuals mobilizing to vote for opposition parties and punishing the ruling party for redistributing income from them to families with children. In this scenario, the regression results could be identical to those presented above. To alleviate this concern, we analyze the impact of child benefit on turnout in the elections. We see a significant positive effect of child benefit on election turnout (see Table 2). These findings reject the childless mobilization hypothesis: it is the

Table 2: Child benefit per capita and turnout

	(1)	(2)	(3)	(4)	(5)
Child benefit p.c.	0.024***	0.020**	0.020**	0.023***	0.009*
	(0.005)	(0.008)	(0.008)	(0.007)	(0.005)
Political controls	no	yes	yes	yes	yes
Geographic controls	no	yes	yes	yes	yes
Demographic controls	no	no	yes	yes	yes
Economic controls	no	no	no	yes	yes
Electoral district FE	no	no	no	no	yes
Adj. R-Squared	0.14	0.31	0.35	0.44	0.56
Mean of outcome	15.62	15.62	15.62	15.62	15.62
Mean of child benefit p.c.	149.36	149.36	149.36	149.36	149.36
N	2473	2473	2473	2473	2473

Notes: Table shows the effects of the child benefit on the change in the turnout in parliamentary elections at the municipality-level (2011-2019). Child benefit per capita is the total amount of child benefit received in 2016 divided by municipality population. Vote shares for PiS are calculated as percentages of eligible voters. We control for political, geographic, demographic, and economic variables measured in the initial year as well as electoral district fixed effects (see note of Table 1 for the list of control variables). Conley standard errors were calculated (50 km bandwidth).
* p<.10; ** p<.05; *** p<.01

recipients of the transfer who increasingly show up at polling stations. Importantly, these results also show that, to a large extent, the ruling party's electoral gains from the child benefit program were based on recruiting previously non-voting individuals, and only partly on attracting voters of other parties.

Robustness

Our results are robust to the various robustness checks shown in the Appendix. First, we show that the results remain unchanged when we additionally control for measures of religiosity (Table B.4)[7]. The results remain significant with alternative standard errors (Table B.5). Parallel trends also hold when the 2005 election is included (Figure B.1).

Heterogeneity

The child benefit had a significant positive impact on support for PiS in the presidential and European Parliament elections as well (Figure C.1). We find no significant variation of the treat-

[7]We do not control for religiosity in the baseline version because data is missing for 39 small municipalities (mostly municipalities without a catholic parish).

ment effect depending on the level of the initial support for PiS (Figure C.2). We observe strong variation depending on the municipality size: small rural municipalities respond significantly more strongly than large towns (Figure C.3). Finally, we exploit a unique historical event, the 19th century partition of Poland, to examine the role of social norms on the effects of cash transfer. We find stronger effects in municipalities that belonged to the Russian and Habsburg empires than in former Prussian municipalities (Figure C.4). This is probably due to the differences in norms between these regions. Additional survey evidence shows that Prussian partition is characterized by significantly higher support for free market economy and internal locus of control compared to the Russian and Habsburg partition.

Confounding events

The PiS government introduced several other reforms that could potentially confound our results. First, it lowered retirement age and distributed extra pension payments to elderly. We control for the share of population above retirement age to address this issue. Second, it reduced the independence of courts which led the European Commission to launch infringement procedure against Poland. Unlike the pension reform, judiciary reforms were rather unpopular and sparked large protests. We control for the attitudes towards EU that may approximate the perceptions regarding the importance of the independent judiciary. Moreover, the positive impact of child benefit on turnout suggests that the effects are about rewarding the ruling party by child benefit recipients and not about punishing the government by municipalities with low number of children and presumably higher support for independent courts. Finally, the government introduced an education reform: mandatory school age was raised from 6 to 7 years and lower secondary schools were gradually phased out which reduced the period of compulsory education by one year. The education reform affected a small part of recipients of child benefit (parents of 3 birth cohorts), however, this would likely bias our results towards zero as institutional changes were associated with chaos and overcrowding in schools. Hence the estimated effects would be a lower bound of the effect.

5 Conclusions

The rise of illiberal populism in Poland since 2015 has been a surprising development that remains unexplained. In this paper, we show that the populist party PiS was able to keep the political power in Poland through promising and subsequently implementing a large cash transfer program. Using a difference-in-differences framework and exploiting the variation in the amount of cash transfer per capita received at the municipal level, we found sizable gains for PiS in the 2019 parliamentary elections. Cash transfer of $100 per capita translated into nearly 2 percentage points higher vote share for PiS. If not for the transfer, the ruling party would not be able to preserve the parliamentary majority in 2019.

Our findings show that the effect of the cash transfer operated mainly through increasing family incomes and has been especially strong in smaller, rural and poorer municipalities. The policy increased turnout and mobilized new voters. Attracting voters of other parties played a smaller role. We ruled out other mechanisms through which the program could affect electoral outcomes such as better local labor market situation, changing social norms, or improving budgets and provision of public goods at the municipality level. The main findings are robust to a number of sensitivity checks.

The paper's results are in line with the previous literature identifying positive electoral gains for the parties implementing social transfer program. While most of this literature focused on conditional transfers in developing or middle-income countries, we confirm that an unconditional cash transfer can generate higher support for the government in elections also in a high-income country. Our findings suggest also that redistributive income transfers can be an effective electoral strategy of populist parties.

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Appendix A Sources and descriptive statistics

Table A.1: Variable descriptions (i.)

Variable	Description	Source
Treatment Variables		
Child benefit p.c.	the 2015-2016 difference in the amount of earmarked subsidies received from the central government divided by population in 2016	Statistics Poland
Dependent Variables		
Support for PiS	the number of votes for PiS in parliamentary elections divided by the number of eligible voters (multiplied by 100)	National Electoral Commission (2005, 2007, 2011, 2015, 2019)
$\Delta Y_{m,2011-2019}$	the difference between Support for PiS in 2011 and 2019 parliamentary elections	National Electoral Commission
Turnout	the number of valid votes divided by the number of eligible voters (multiplied by 100)	National Electoral Commission (2005, 2007, 2011, 2015, 2019)
Support for PiS (presidential elections)	the number of votes for the PiS official candidate in the presidential elections divided by the number of eligible voters (multiplied by 100). Jarosław Kaczyński was the candidate of PiS in the 2010 presidential elections. Andrzej Duda was the candidate of PiS in the 2015 and 2020 presidential elections.	National Electoral Commission (2010, 2015, 2020)

Notes: Description of variables used in the analysis.

Table A.2: Variable descriptions (i.)

Variable	Description	Source
Control variables		
Populist vote share (2005)	the number of votes for populist parties (Samoobrona and LPR) in the 2005 parliamentary elections divided by the number of eligible voters (multiplied by 100)	National Electoral Commission
Support for the EU accession (2003)	the number of 'yes' votes in the 2003 Polish European Union membership referendum divided by the number of eligible voters (multiplied by 100)	National Electoral Commission
Incident of out-of-wedlock births	the number of births outside marriage divided by the number of all births	Statistics Poland
Tertiary education (2002)	the number of individuals with tertiary education divided by municipality population	Statistics Poland (2002 census)
Log population density	log of population per square kilometre	Statistics Poland
Femininity ratio	the number of females divided by municipality population	Statistics Poland
Average age	average age in municipality	Statistics Poland
Population aged 12-17	population aged 12-17 divided by municipality population	Statistics Poland
Population above retirement age	population aged 65 or more divided by municipality population	Statistics Poland
Rural area	a dummy variable: 1 if the share of population that lives in rural area is below 50% and 0 otherwise	Statistics Poland
Longitude	longitude of municipality centroid	own calculations using Geopandas and shapefiles from `https://gis-support.pl/`
Lattitude	lattitude of municipality centroid	own calculations using Geopandas and shapefiles from `https://gis-support.pl/`
Log PIT revenue p.c	log of personal income tax revenue divided by municipality population	Statistics Poland
Unemployment rate	registered unemployment rate	Statistics Poland
Catholic Mass participation (2008)	the number of participants of Sunday mass in parishes located in a municipality (12 October 2008) divided by municipality population	Institute for Catholic Church Statistics (ISKK)
Catholic Communion reception (2008)	the number of individuals who received Communion during a Sunday mass in parishes located in a municipality (12 October 2008) divided by municipality population	Institute for Catholic Church Statistics (ISKK)
Catholic groups membership (2008)	the number of Catholic groups members (altar servers, rosary groups, choirs, etc.) divided by municipality population	Institute for Catholic Church Statistics (ISKK)

Notes: Description of variables used in the analysis.

Table A.3: Descriptive statstics

	Obs.	Mean	Std. Dev.	Min.	Max.
$\Delta Y_{m,2011-2019}$	2473	16.24	4.62	2.86	31.51
Child benefit p.c.	2473	149.36	31.40	14.08	293.50
Populist vote share (2005)	2473	10.08	4.35	1.58	46.58
Support for the EU accession (2003)	2473	67.87	14.05	12.32	91.67
PiS vote share (2011)	2473	13.38	5.92	1.48	44.27
Incident of out-of-wedlock births	2473	0.20	0.12	0.00	0.64
Tertiary education (2002)	2473	0.04	0.02	0.01	0.25
Log population density	2473	4.29	1.19	1.46	8.31
Femininity ratio	2473	0.50	0.01	0.47	0.55
Average age	2473	38.53	1.98	32.36	52.41
Population aged 12-17	2473	0.07	0.01	0.04	0.11
Population above retirement age	2473	0.19	0.03	0.10	0.47
Rural area	2473	0.77	0.42	0.00	1.00
Longitude	2473	19.55	2.33	14.22	24.01
Lattitude	2473	51.80	1.36	49.15	54.81
Log PIT revenue p.c.	2473	5.75	0.50	4.46	7.84
Unemployment rate	2473	0.37	0.16	0.01	0.82
Catholic Mass participation (2008)	2461	0.28	0.13	0.00	1.06
Catholic Communion reception (2008)	2461	0.11	0.05	0.00	0.42
Catholic groups membership (2008)	2461	0.08	0.06	0.00	0.54

Notes: This table presents the following statistics for each variable: Number of Observations, Average Value, Standard Deviation, Maximum and Minimum Value. All variables are measured in 2011 if not specified otherwise. The sources and description of the variables can be found in Tables A.1 and A.2.

Appendix B Additional results

Table B.1: Effects of the announcement of child benefit plans: (2011-2015)

	(1)	(2)	(3)	(4)	(5)
Child benefit p.c.	0.021***	0.011***	0.002	0.002	-0.001
	(0.005)	(0.003)	(0.005)	(0.004)	(0.003)
Political controls	no	yes	yes	yes	yes
Geographic controls	no	yes	yes	yes	yes
Demographic controls	no	no	yes	yes	yes
Economic controls	no	no	no	yes	yes
Electoral district FE	no	no	no	no	yes
Adj. R-Squared	0.08	0.37	0.38	0.40	0.48
Mean of outcome	5.41	5.41	5.41	5.41	5.41
Mean of child benefit p.c.	149.36	149.36	149.36	149.36	149.36
N	2473	2473	2473	2473	2473

Notes: Table shows the effects of the child benefit on the change in the vote share for PiS at the municipality-level (2011-2015). Child benefit was the key element of the electoral campaign program of PiS in the 2015 parliamentary elections. Child benefit per capita is the total amount of child benefit received in 2016 divided by municipality population. Vote shares for PiS are calculated as percentages of eligible voters. Political variables include PiS vote share in 2011, vote shares for the right-wing populist parties in 2005, 'yes' vote shares in the 2003 EU membership referendum and the share of out-of-wedlock births. Geographic controls include lattitude and longitude. Demographic controls include log population density, mean age,femininity ratio, fraction of population with tertiary education, share of population aged 12-17, share of population above retirement age, and rural area dummy. Economic controls include registered unemployment rate and log tax revenue from personal income tax per capita. All control variables are measured in 2011 unless specified differently. Conley standard errors were calculated (50 km bandwidth).
* p<.10; ** p<.05; *** p<.01

Table B.2: Pre-treatment: (2007-2011)

	(1)	(2)	(3)	(4)	(5)
Child benefit p.c.	0.002	0.005	0.001	-0.001	-0.000
	(0.004)	(0.004)	(0.004)	(0.004)	(0.003)
Political controls	no	yes	yes	yes	yes
Geographic controls	no	yes	yes	yes	yes
Demographic controls	no	no	yes	yes	yes
Economic controls	no	no	no	yes	yes
Electoral district FE	no	no	no	no	yes
Adj. R-Squared	0.00	0.28	0.32	0.32	0.45
Mean of outcome	-2.79	-2.79	-2.79	-2.79	-2.79
Mean of child benefit p.c.	149.36	149.36	149.36	149.36	149.36
N	2473	2473	2473	2473	2473

Notes: Table shows the effects of the child benefit on the change in the vote share for PiS at the municipality-level. Child benefit per capita is the total amount of child benefit received in 2016 divided by municipality population. Vote shares for PiS are calculated as percentages of eligible voters. Political variables include PiS vote share in 2011, vote shares for the right-wing populist parties in 2005, 'yes' vote shares in the 2003 EU membership referendum and the share of out-of-wedlock births. Geographic controls include lattitude and longitude. Demographic controls include log population density, mean age,femininity ratio, fraction of population with tertiary education, share of population aged 12-17, share of population above retirement age, and rural area dummy. Economic controls include registered unemployment rate and log tax revenue from personal income tax per capita. All control variables are measured in 2007 unless specified differently. Conley standard errors were calculated (50 km bandwidth). * p<.10; ** p<.05; *** p<.01

Table B.3: Pre-treatment: (2005-2011)

	(1)	(2)	(3)	(4)	(5)
Child benefit p.c.	0.065***	0.007	-0.003	-0.003	-0.003
	(0.010)	(0.008)	(0.008)	(0.008)	(0.005)
Political controls	no	yes	yes	yes	yes
Geographic controls	no	yes	yes	yes	yes
Demographic controls	no	no	yes	yes	yes
Economic controls	no	no	no	yes	yes
Electoral district FE	no	no	no	no	yes
Adj. R-Squared	0.19	0.66	0.68	0.68	0.74
Mean of outcome	5.42	5.42	5.42	5.42	5.42
Mean of child benefit p.c.	149.36	149.36	149.36	149.36	149.36
N	2473	2472	2472	2472	2472

Notes: Table shows the effects of the child benefit on the change in the vote share for PiS at the municipality-level. Child benefit per capita is the total amount of child benefit received in 2016 divided by municipality population. Vote shares for PiS are calculated as percentages of eligible voters. Political variables include PiS vote share in 2011, vote shares for the right-wing populist parties in 2005, 'yes' vote shares in the 2003 EU membership referendum and the share of out-of-wedlock births. Geographic controls include lattitude and longitude. Demographic controls include log population density, mean age,femininity ratio, fraction of population with tertiary education, share of population aged 12-17, share of population above retirement age, and rural area dummy. Economic controls include registered unemployment rate and log tax revenue from personal income tax per capita. All control variables are measured in 2005 unless specified differently. Conley standard errors were calculated (50 km bandwidth). * p<.10; ** p<.05; *** p<.01

Table B.4: Additional controls: strength of the Catholic church

	(1)	(2)	(3)	(4)
Child benefit p.c.	0.017***	0.016***	0.016***	0.016***
	(0.006)	(0.006)	(0.006)	(0.006)
Political controls	yes	yes	yes	yes
Geographic controls	yes	yes	yes	yes
Demographic controls	yes	yes	yes	yes
Economic controls	yes	yes	yes	yes
Electoral district FE	yes	yes	yes	yes
Catholic Mass participation	no	yes	yes	yes
Catholic Communion reception	no	no	yes	yes
Catholic groups membership	no	no	no	yes
Adj. R-Squared	0.80	0.80	0.80	0.80
Mean of outcome	16.24	16.24	16.24	16.24
Mean of child benefit p.c.	149.39	149.39	149.39	149.39
N	2461	2461	2461	2461

Notes: Table shows the effects of the child benefit on the change in the vote share for PiS in the parliamentary elections (2011-2019) at the municipality-level. Child benefit per capita is the total amount of child benefit received in 2016 divided by municipality population. Vote shares for PiS are calculated as percentages of eligible voters. In all columns, we control for a baseline set of emographic, economic, and social norms variables. In Column 4, we additionally control for the fraction of population participating in Catholic Mass. In Column 5, we add the fraction of population receiving Catholic Communion to the set of the control variables. In Column 6, we add the fraction of population belonging to Catholic groups (prayer groups, church choirs, altar servers) to the set of the control variables. All variables measuring the strength of the Roman Catholic church were collected in 2008. We removed observations with missing values for at least one of the three variables. Conley standard errors were calculated (50 km bandwidth).
* p<.10; ** p<.05; *** p<.01

Table B.5: Alternative standard errors

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Robust	Cluster: county	Cluster: electoral district	Conley (25 km)	Conley (50 km)	Conley (75 km)	Conley (100 km)
Child benefit p.c.	0.016***	0.016***	0.016***	0.016***	0.016***	0.016***	0.016***
	(0.004)	(0.005)	(0.006)	(0.005)	(0.006)	(0.006)	(0.006)
Political controls	yes	yes	yes	yes	yes	yes	yes
Geographic controls	yes	yes	yes	yes	yes	yes	yes
Demographic controls	yes	yes	yes	yes	yes	yes	yes
Economic controls	yes	yes	yes	yes	yes	yes	yes
Electoral district FE	yes	yes	yes	yes	yes	yes	yes
Adj. R-Squared	0.68	0.68	0.68	0.68	0.68	0.68	0.68
N	2473	2473	2473	2473	2473	2473	2473

Notes: Table shows the effects of the child benefit on the change in the vote share for PiS (2011-2019) at the municipality-level. Child benefit per capita is the total amount of child benefit received in 2016 divided by municipality population. Vote shares for PiS are calculated as percentages of eligible voters. We control for political, geographic, demographic, and economic variables measured in the initial year as well as electoral district fixed effects (see note of Table 1 for the list of control variables). In column 1, robust standard errors were calculated, column 2 shows standard errors clustered at the level of county, column 3 shows standard errors clustered at the level of electoral district, columns 4-7 show Conley standard errors with different choice of the distance cutoff.
* p<.10; ** p<.05; *** p<.01

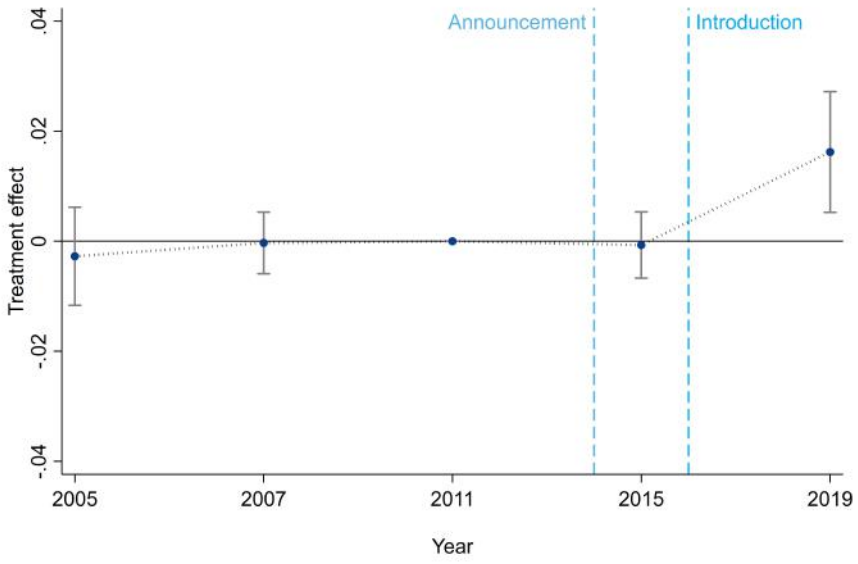

Figure B.1: Leads and lags of the treatment effect including the 2005 elections

Notes: Figure shows the event-study coefficients from four regressions of the change in the vote shares between elections in year y (shown on the horizontal axis) and 2011 parliamentary elections on child benefit per capita. We control for political, geographic, demographic, and economic variables measured in the initial year as well as electoral district fixed effects (see note of Table 1 for the list of control variables). 95% confidence intervals are constructed based on Conley standard errors (50 km bandwidth).

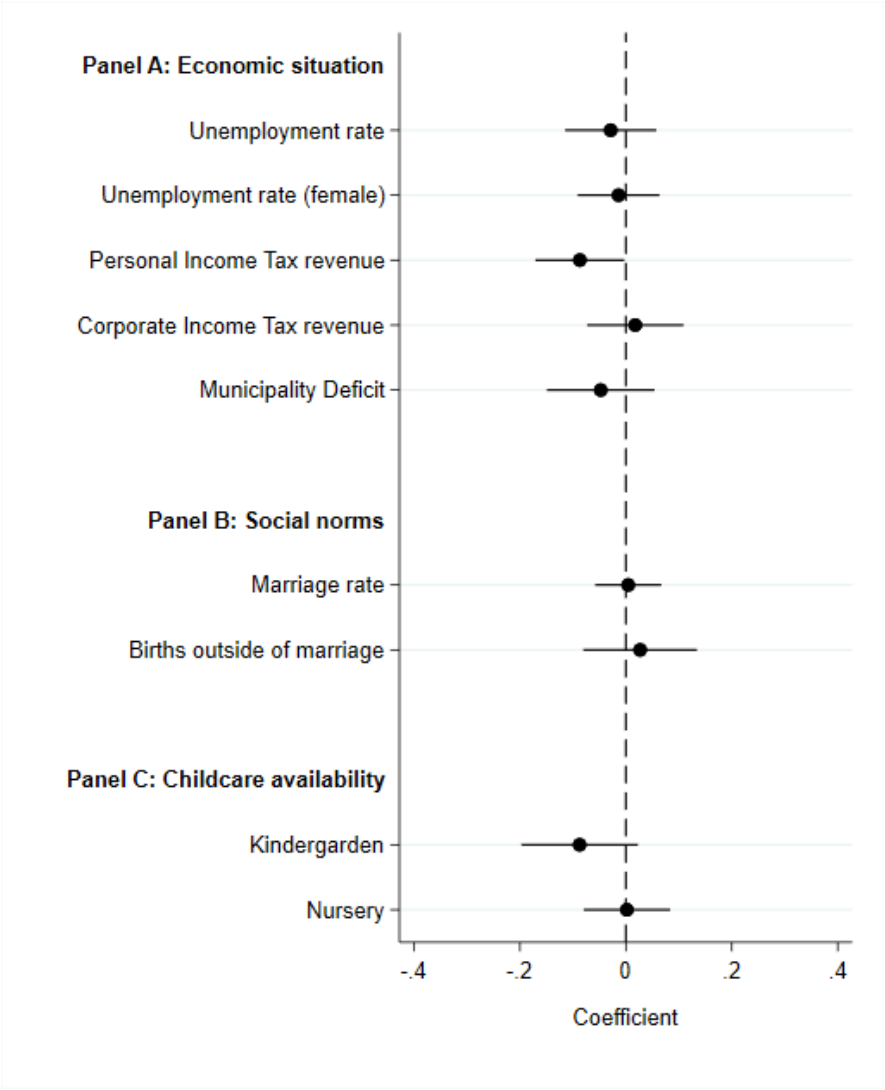

Figure B.2: Alternative mechanisms

Notes: Figure shows treatment effects for alternative outcome variables (2011-2019 differences). Figure shows point estimates of the treatment effects and 95% confidence intervals. For ease of interpretation, outcome variables were standarized to zero mean and standard deviation of one. We control for the 2011 values of outcome variables and baseline control variables. In each regression, we control for political, geographic, demographic, and economic variables measured in the initial year as well as electoral district fixed effects (see note of Table 1 for the list of control variables). Conley standard errors were calculated (50 km bandwidth).

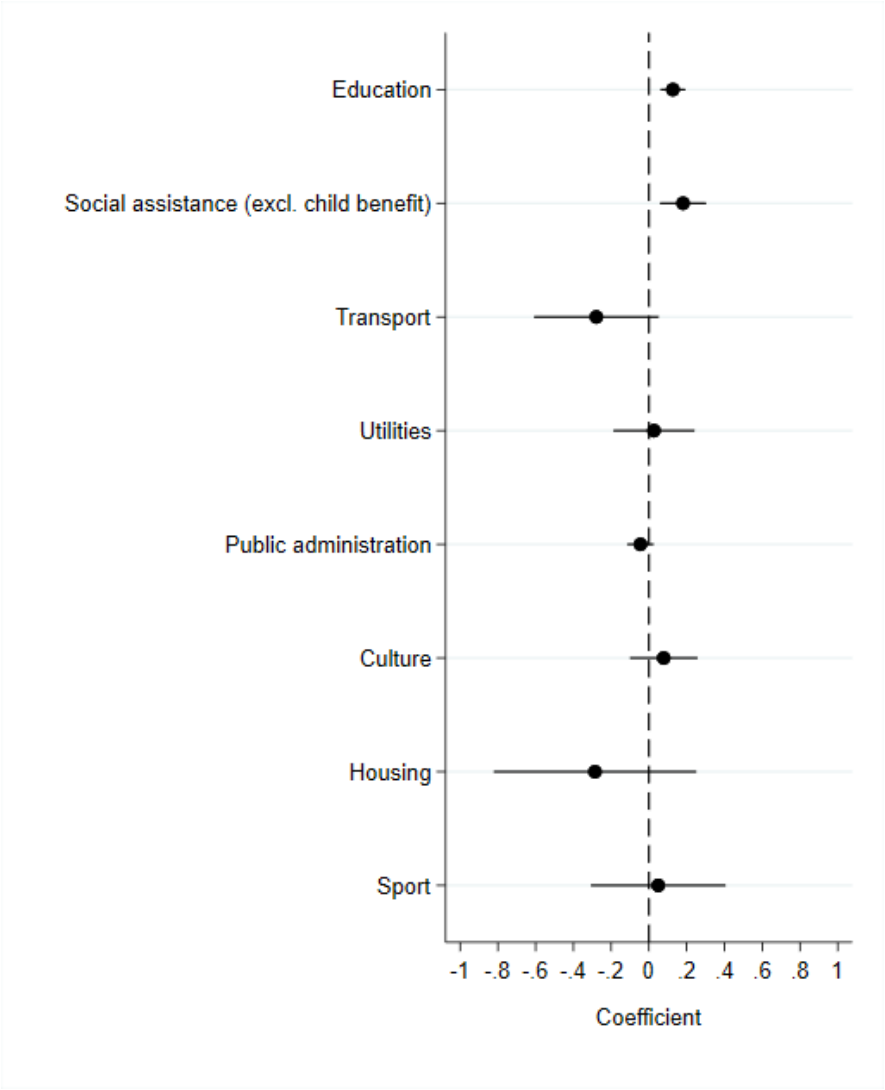

Figure B.3: Elasticity of municipality spending

Notes: Figure shows child benefit elasticities of municipality spending divided into categories. Figure shows point estimates of the treatment effects and 95% confidence intervals. For ease of interpretation, treatment variables is log child benefit per capita and outcomes are differences in log spending per capita. In each regression, we control for political, geographic, demographic, and economic variables measured in the initial year as well as electoral district fixed effects (see note of Table 1 for the list of control variables).Conley standard errors were calculated (50 km bandwidth).

Appendix C Heterogeneity

Table C.1: Treatment effects: presidential elections (2010-2020)

	(1)	(2)	(3)	(4)	(5)
Child benefit p.c.	0.035***	0.050***	0.032***	0.027***	0.022***
	(0.006)	(0.005)	(0.006)	(0.007)	(0.006)
Political controls	no	yes	yes	yes	yes
Geographic controls	no	yes	yes	yes	yes
Demographic controls	no	no	yes	yes	yes
Economic controls	no	no	no	yes	yes
Electoral district FE	no	no	no	no	yes
Adj. R-Squared	0.09	0.36	0.54	0.55	0.58
Mean of outcome	11.99	11.99	11.99	11.99	11.99
Mean of child benefit p.c.	149.36	149.36	149.36	149.36	149.36
N	2473	2473	2473	2473	2473

Notes: Table shows the effects of the child benefit on the change in the vote share for the official PiS candidate in the preseidential elections (2010-2020) at the municipality-level. Child benefit per capita is the total amount of child benefit received in 2016 divided by municipality population. Jarosław Kaczyński was the candidate of PiS in the 2010 presidential elections. Andrzej Duda was the candidate of PiS in the 2020 presidential elections. Vote shares are calculated as percentages of eligible voters. Political variables include PiS vote share in 2011, vote shares for the right-wing populist parties in 2005, 'yes' vote shares in the 2003 EU membership referendum and the share of out-of-wedlock births. Geographic controls include lattitude and longitude. Demographic controls include log population density, mean age,femininity ratio, fraction of population with tertiary education, share of population aged 12-17, share of population above retirement age, and rural area dummy. Economic controls include registered unemployment rate and log tax revenue from personal income tax per capita. All control variables are measured in 2010 unless specified differently. Conley standard errors were calculated (50 km bandwidth). * p<.10; ** p<.05; *** p<.01

Table C.2: Treatment effects: European Parliament elections (2009-2019)

	(1)	(2)	(3)	(4)	(5)
Child benefit p.c.	0.081***	0.033***	0.032***	0.028***	0.013**
	(0.011)	(0.007)	(0.009)	(0.009)	(0.005)
Political controls	no	yes	yes	yes	yes
Geographic controls	no	yes	yes	yes	yes
Demographic controls	no	no	yes	yes	yes
Economic controls	no	no	no	yes	yes
Electoral district FE	no	no	no	no	yes
Adj. R-Squared	0.09	.	0.72	0.73	0.80
Mean of outcome	11.99	11.99	11.99	11.99	11.99
Mean of child benefit p.c.	149.36	149.36	149.36	149.36	149.36
N	2473	2473	2473	2473	2473

Notes: Table shows the effects of the child benefit on the change the vote share for PiS in the elections to the European Parliament (2009-2019) at the municipality-level. Child benefit per capita is the total amount of child benefit received in 2016 divided by municipality population. Vote shares are calculated as percentages of eligible voters. Political variables include PiS vote share in 2011, vote shares for the right-wing populist parties in 2005, 'yes' vote shares in the 2003 EU membership referendum and the share of out-of-wedlock births. Geographic controls include lattitude and longitude. Demographic controls include log population density, mean age,femininity ratio, fraction of population with tertiary education, share of population aged 12-17, share of population above retirement age, and rural area dummy. Economic controls include registered unemployment rate and log tax revenue from personal income tax per capita. All control variables are measured in 2009 unless specified differently. Conley standard errors were calculated (50 km bandwidth).
* p<.10; ** p<.05; *** p<.01

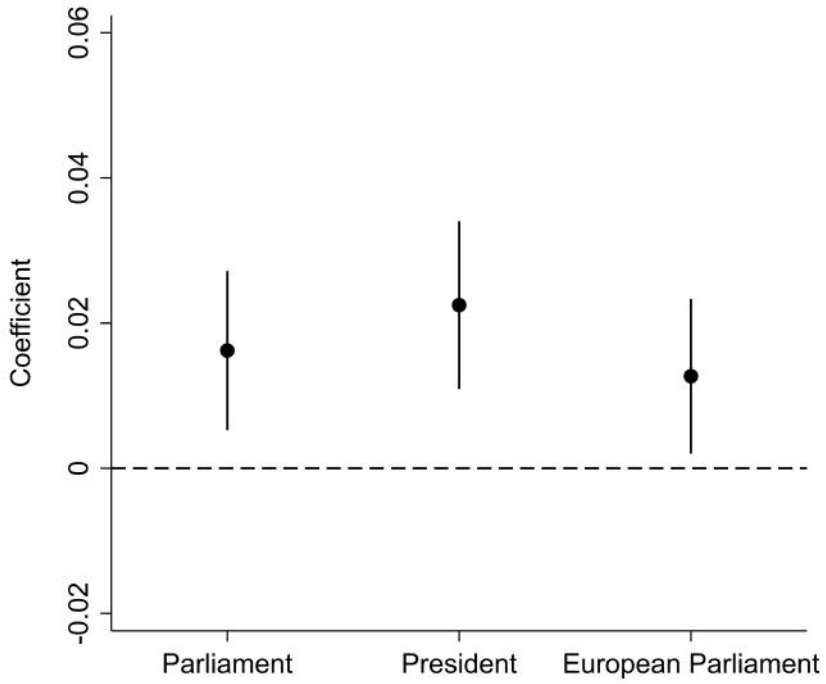

Figure C.1: Treatment effects by elections level

Notes: Figure shows the effects of the child benefit on the change in the vote share for PiS at the municipality-level in parliamentary, presidential and European Parliament elections. Figure shows point estimates of the treatment effects and 95% confidence intervals. The outcome variable in the parliamentary elections is the main outcome: change in the vote share for PiS (2011-2019) in the parliamentary elections. The outcome variable in the presidential elections is the change in the vote share for the official PiS candidate (Jarosław Kaczyński in 2010 and Andrzej Duda in 2020). The outcome variable in the European Parliament elections is change in the vote share for PiS (2009-2019) in the election to the European Parliament. Vote shares are calculated as percentages of eligible voters. We control for political, geographic, demographic, and economic variables measured in the initial year as well as electoral district fixed effects (see note of Table 1 for the list of control variables). Conley standard errors were calculated (50 km bandwidth).

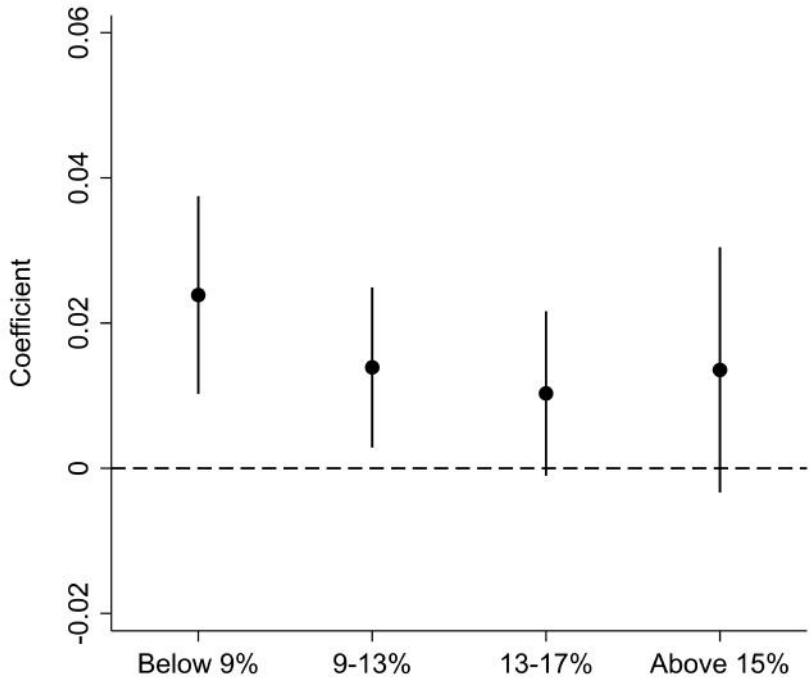

Figure C.2: The heterogeneity of the main effect: initial support for PiS

Notes: Figure shows the effects of the child benefit on the change in the vote share for PiS (2011-2019) at the municipality-level obtained from a regression with the interaction of the treatment dummy and initial support category dummies. Figure shows point estimates of the treatment effects and 95% confidence intervals. Child benefit per capita is the total amount of child benefit received in 2016 divided by municipality population. Vote shares for PiS are calculated as percentages of eligible voters. We control for political, geographic, demographic, and economic variables measured in the initial year as well as electoral district fixed effects (see note of Table 1 for the list of control variables). Horizontal axis labels denote the range of the support for PiS in the 2011 parliamentary elections in municipalities. Conley standard errors were calculated (50 km bandwidth).

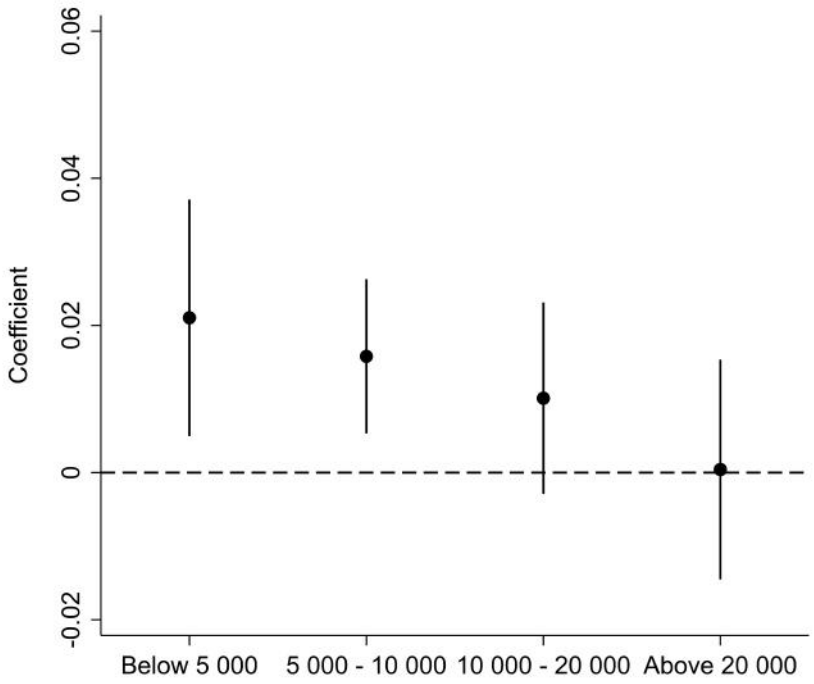

Figure C.3: The heterogeneity of the main effect: municipality size

Notes: Figure shows the effects of the child benefit on the change in the vote share for PiS (2011-2019) at the municipality-level obtained from a regression with the interaction of the treatment dummy and municipality size category dummies. Figure shows point estimates of the treatment effects and 95% confidence intervals. Child benefit per capita is the total amount of child benefit received in 2016 divided by municipality population. Vote shares for PiS are calculated as percentages of eligible voters. We control for political, geographic, demographic, and economic variables measured in the initial year as well as electoral district fixed effects (see note of Table 1 for the list of control variables). Horizontal axis labels denote the range of the municipality population. Conley standard errors were calculated (50 km bandwidth).

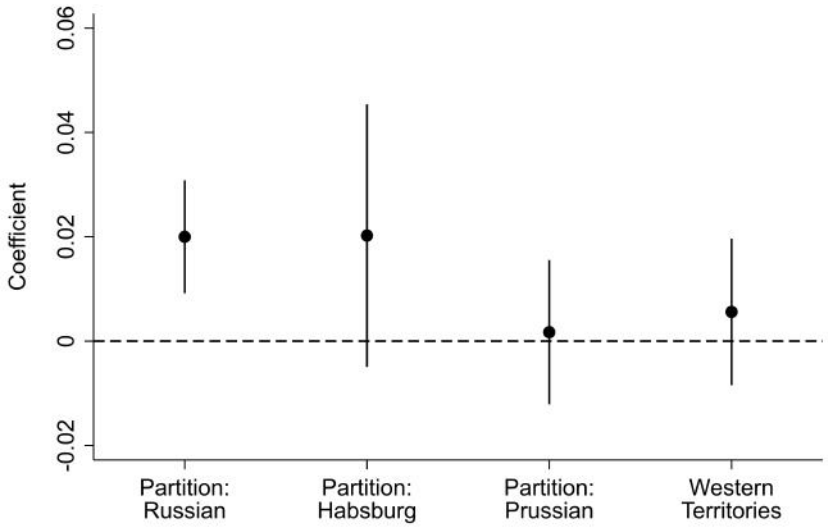

Figure C.4: The heterogeneity of the main effect: historical region

Notes: Figure shows the effects of the child benefit on the change in the vote share for PiS (2011-2019) at the municipality-level obtained from a regression with the interaction of the treatment dummy and historical region dummies. Figure shows point estimates of the treatment effects and 95% confidence intervals. Poland lost its independence in the late 18th century and was divided by the Russian Empire, the Habsburg Monarchy, and the Kingdom of Prussia. The final changes of borders were decided during the Congress of Vienna. Poland regained its independence in 1918. In 1945, former German regions were given to Poland (Western Territories). Child benefit per capita is the total amount of child benefit received in 2016 divided by municipality population. Vote shares for PiS are calculated as percentages of eligible voters. We control for political, geographic, demographic, and economic variables measured in the initial year as well as electoral district fixed effects (see note of Table 1 for the list of control variables). Horizontal axis labels denote the partition municipalities belonged to after the Congress of Vienna or Western Territories. Conley standard errors were calculated (50 km bandwidth).