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Abstract: In 2016, a new child benefit was introduced in Poland: a universal benefit for the second and subsequent children in a family and means tested for the first child. Substantial transfers of the new child benefit were granted 60% of households with children. The generous child benefit, equal to 10% of monthly median households' income, caused an unexpected positive income shock for families with children. In this paper, we investigate how the new child benefit affects the household decisions to consume or save the child's income. Applying the difference-in-differences method and Polish Household Budget Survey data for the years 2012-2018, we find a positive effect of the child benefit on household saving. Our estimates indicate that families obtaining the child benefit (treatment group) increased the saving rate by 8 percentage points after the child benefit reform in 2016. Over time, the control group (not obtaining the child benefit) raised the saving rate by 2.9 percentage points.

Keywords: households, income, child benefit, saving

JEL codes: D14, G51, I38, P36

1. Introduction

The family child allowances are rarely examined in a household saving framework as if household income components were not fungible, and the child income was spent entirely on child consumption. Research on household expenditure reveals that, when the child benefit is introduced, families are inclined to spend the child benefits on consumption allotted to children's needs, but not entirely (Kooreman, 2000; Hener, 2017; Milligan, Stabile, 2007, 2011). In this sense, a child's income is labeled but is also fungible and can be partially saved.

The life cycle/permanent income theory predicts that households smooth consumption by saving transitional income increases. However, much research gives evidence that consumption is excessively sensitive to anticipated income increases and responds more strongly than is implied by standard models of consumption smoothing. There is also evidence that consumption is excessively smoothed when the income change is unanticipated (Jappelli and Pistaferri, 2010; Kueng, 2018; Campbell and Deaton, 1989; Flavin, 1993; Denizer et al., 2002; Liberda et al., 2003). Saving from child benefit would depend on households' perception of the additional benefit income as fully predicted and their expectations of rising life cycle income. At the macro scale, the effects of child allowance on household consumption and saving depend on whether the benefits are universal or means tested and redistribute households' income.

A growing literature on policies of granting child benefits to families concerns many goals of introducing such systems, like diminishing child poverty and improving child well-being and health (Van Lancker and Van Mechelen, 2015; Kooreman et al., 2000; Shon et al., 2018; Milligan and Stabile, 2011), fostering fertility and increasing family welfare (Riphahn and Wiynck, 2017; Milligan and Stabile, 2009; OECD, 2011), parental employment (Magda et al., 2020), reducing household income inequality (Bargain et al., 2017; Brzeziński and Najsztub, 2017; Goraus and Inchauste, 2016; Paradowski et al., 2020), and increasing household wealth (Stephens and Unayama, 2015; Hener, 2017). Research on child benefits also concerns other benefits for families (Cho, 2017; Verbist and Van Lancker, 2016) and other forms of universal benefits, like basic income or citizen income (Atkinson et al., 2017; Milligan and Stabile, 2007).

Most of the above research uses the difference-in-differences method for examining results of different child benefit policies. Riphahn and Wiynck (2017) applied the difference-

in-differences method to identify the effects on fertility of various amounts of child allowances to families after the child benefit reform in Germany in 1996. They find a positive effect of child benefit for the fertility of higher income couples deciding on a first child compared to lower income couples. Using the difference-in-differences method, Magda et al. (2020) investigate the effects of the child benefit reform of 2016 in Poland on women's employment based on Polish Labor Force Survey data. They find the negative impact of the new child benefit on mothers' labor market participation.

Few studies on the accumulation of family wealth link the family and child welfare approach with the analysis of household assets' structure. Stephens and Unayama (2015) investigated the effects of child benefit payments on household wealth accumulation in Japan, using household wealth information from the Japanese Family Income and Expenditure Survey. They find that higher cumulative benefits received increase current assets, and higher future benefit payments lower asset holding. They also show that these effects differ in liquidity-constrained and unconstrained households. Hener (2017) analyzed the child benefit reform in Germany between 1978-1983 and found that increased child benefits were invested more proportionally in housing savings plans that are likely to benefit children in the future than in other financial assets. Using a difference-in-differences approach, the Author estimated the positive effect of child benefits on household savings and a weak effect on children-assigned consumption.

In 2016, Poland introduced a new generous child benefit to increase the fertility rate and reduce child poverty. The sizeable universal child benefit was unanticipated by families in Poland until the parliamentary elections in October 2015. It was declared by the opposition party that subsequently won the elections. Since the reform in April 2016, the child cash transfers have become a predicted non-wage additional income for eligible households. By increasing non-wage family income lastingly, the child benefit would cause families to adjust consumption and savings depending on longevity and certainty about this additional income.

We test whether households consume the cash child benefit entirely or decide to save it partially. We analyze the 2016 child benefit reform in Poland as a natural policy experiment, which adds insights into household intertemporal response to predicted social cash transfers. The paper estimates the child benefit's effect on household saving using the microdata from Polish Household Budget Surveys for 2012-2018 and the difference-in-differences method. We

find that this effect is significantly positive for families obtaining the child benefit (treatment group).

This paper contributes to the relatively scarce literature that combines household saving with child allowances. We base on a rich household microdata source for Poland to examine one of the most generous and costly child allowance policies in Europe. The households that obtained the relatively high child benefit increased savings, which was not expected from the reform. In contrast, the primary goal of introducing the benefit – increasing fertility – has not been achieved yet.

The paper is structured in the following way. Section 2 describes the child benefit policy implemented in Poland. Section 3 examines the data used. Section 4 formulates the method. Section 5 presents the results of our analysis. Section 6 checks for heterogeneity of results, and section 7 concludes.

2. The objective: the new child benefit in Poland

In April 2016, a new quasi-universal child benefit of 500 PLN per child had been introduced in Poland, granted in addition to previous benefits for families with children. The new benefit was universal for the second and subsequent children in a family and means-tested for the first child. The benefit was granted for the first child only in households below a fixed income ceiling (800 PLN per person). Families get the new benefit through the child's life until age 18.

Before 2016 most of the family benefits in Poland were means tested. During 2010-2015 various benefits paid to families granted 2 million children, out of 6.8 million children aged below 18 in Poland. The new child benefit program called *Family 500plus* covered 3.8 million children in 2016 (Statistics Poland, 2016, 2019).

In 2015, the family benefits paid as cash transfers amounted to 0.9% of GDP. Around 1% of GDP was spent on services to finance childcare, early childhood education, and child tax credit. The new child benefit *500plus* doubled the public cash transfers for family benefits to 1.8% of GDP in 2016 and 2% of GDP in 2017. The expenditure on child services and family tax breaks stayed at 1% of GDP in 2016-2017. In effect, total public payments to households with children in Poland increased to 3% of GDP in 2017, above the average of public spending on family benefits in the European Union (2.6% of GDP) and OECD (2.3% of GDP) countries (OECD Social Expenditure Database).

The child benefit reform of 2016 in Poland made a vast increase in direct cash transfers to households with children without changing other family assistance (child services and family tax breaks). When introducing the child benefit reform in Poland, the household with children's monthly median income was 5200 PLN. The tax-exempt 500 PLN child benefit was equal to almost 10% of the median households' income. It shows a quite generous level of the *Family 500plus* child benefit in Poland.

Conversely, the eligibility income ceiling to get child benefit for the first child was set relatively low at a level of 800 PLN per person in the household (1200 PLN for a disabled child). The eligibility income was equal to half of the statutory minimum net wage (after tax) in Poland in 2016. Such a low level of eligible income strongly affects one child's single parents' families if a parent earns a minimum wage or families with more children if parents earn incomes close to minimum wage.

The 800 PLN income ceiling was not indexed for inflation and wage growth in the following years. In effect, due to raising the statutory minimum wage in 2017 and 2018, some low income families surpassed the income eligibility ceiling and lost their child benefit for the first child. According to mid-year Reports of the Ministry for Family, Labor, and Social Policy in Poland (2017, 2018), 250 thousand (6%) children eligible for child benefit in mid-2017 lost their benefits till mid-2018.[1] The reasons for these changes were not only rising household incomes but also other formal restrictions put on single parents, like the requirement of confirmation of the alimony paid by the second parent, even if the alimony was not paid in the past. These reasons were no longer decisive in 2019, when, before the Parliamentary Elections of 2019, the Polish Government decided to extend the child benefit program for the first child in the family (from July 2019) and embrace all 6.8 million children age under 18 raising the costs of the *Family 500plus* program by 65%.

3. Data

We apply the difference-in-differences method to identify the effect of the child allowance reform in Poland on the households' savings. For this purpose, we use Household Budget Survey (HBS) data collected by Statistics Poland. The survey is conducted every year and is

[1] Child benefits were granted to 3.99 million children in mid-2017 and to 3.74 million children in mid-2018 (Ministry for Family, Labor and Social Policy in Poland, Reports Family 500+, 2017, 2018).

very comprehensive. It provides detailed information on the level and structure of expenditure on goods and services, income sources, dwelling conditions, and household structure. Each year around 37,000 households are surveyed, and the sample is almost uniformly distributed across months.[2] For the purpose of our study, we restrict the sample to households with children. The treated group comprises households that got the allowance, what we know directly from the survey, and households that would have been eligible had the reform been introduced earlier.[3] Our control group comprises one child households that are not eligible for the allowance because of the disposable income of more than 800 PLN per person.[4] The reform entered into force in April 2016. Since we know the exact month each household was surveyed, we define the pre-treatment period from January 2012 to March 2016 and the post-treatment period from April 2016 to December 2018.

We also restrict our sample to households with non-negative incomes, disregarding 0,6% of the sample. Most of the negative incomes reported in Polish HBS belong to farmers due to methodological difficulties in calculating farm revenue. We also deflate or inflate households' incomes with CPI for the base year 2015.

We define saving rate – our primary variable of interest – in the following way:

$$SavingRate = \frac{Income - Expenditure}{Income} \quad (1)$$

Both income and expenditure in equation (1) are expressed in monthly terms. In other words, we consider savings from current income because we do not have information on households' wealth in the Polish HBS.

As a result of disregarding negative incomes, the saving rate is always less or equal to 1. We also cut the saving rate from below at -1 to remove extremely high negative saving rates in a month when the household makes massive purchases above the monthly income (Denizer et al., 2002). This leads to disregarding another 2.6% of the sample. We also

[2] Each household fills in a 'diary of expenses ' for one month. Then, at the end of a quarter, additional questions on large and rare expenses are asked.

[3] The transfer was paid monthly. Since it took some time for the municipalities to distribute payments and some eligible households got their first money (including overdue transfers) not in April, but in May or June, we correct for this issue in our definition of the treatment group, applying income threshold as eligibility criterion also in May and June 2016.

[4] For households with disabled children the eligibility income threshold was PLN 1200 per capita. We assign them to treated and control groups accordingly.

delete five outliers. Finally, our sample consists of 84,594 observations. The treated group accounts for 61%, and the control group for 39% of the total sample.

Table 1 Descriptive statistics of treated and control groups of households before and after the child benefit reform

	Before the Reform (Q1 2012 – Q1 2016)		After the Reform (Q2 2016 – Q4 2018)	
	Treated	**Control**	**Treated**	**Control**
Median Saving rate (%)	15.3	24.2	28.4	29.5
HH Savings	925	1 437	1 857	1 966
HH Per Capita Savings	194	406	396	545
HH Disposable Income Including Child Benefit	4 360	5 352	5 882	6 061
HH Disposable Income Excluding Child Benefit	4 360	5 352	5 092	6 061
HH Per Capita Disposable Income Excluding Child Benefit	954	1 575	1 126	1 739
Number of Household Members	4.7	3.5	4.6	3.6
Number of Children in the HH	2.1	1.0	2.2	1.1
Female Head of HH (% share)	25.3	24.5	27.2	26.1
Age	40.7	41.1	40.7	41.5
Education (% share)				
High	20.4	34.2	25.4	35.6
Middle	28.5	34.0	30.8	34.5
Low	51.1	31.9	43.8	29.9
Residence (% share)				
City, More Than 500,000 Inhabitants	8.5	15.4	10.1	15.6
City, 200,001-500,000 Inhabitants	7.6	11.8	7.6	9.8
City, 100,001-200,000 Inhabitants	8.1	9.6	7.7	10.2
Town, 20,001-100,000 Inhabitants	18.7	22.3	18.1	21.6
Town, Less Than 20,000 Inhabitants	13.3	13.0	13.6	12.4
Village	43.8	28.0	42.9	30.5
Primary Source of Income of HH Head (% share)				
Employment (Blue-Collar Worker)	42.8	34.3	38.9	34.9
Employment (White-Collar Worker)	26.7	44.1	30.3	43.7
Pension (Old Age)	4.6	4.8	3.9	4.2
Pension (Disability)	2.9	1.2	1.7	0.9
Farm Income	6.5	3.4	6.2	3.5
Self-Employment	10.3	11.1	11.1	12.1
Social Benefits	4.4	0.3	6.9	0.5
Other Non-Wage Income Sources	1.8	0.7	0.9	0.3
Number of observations	32 813	20 270	19 110	12 401

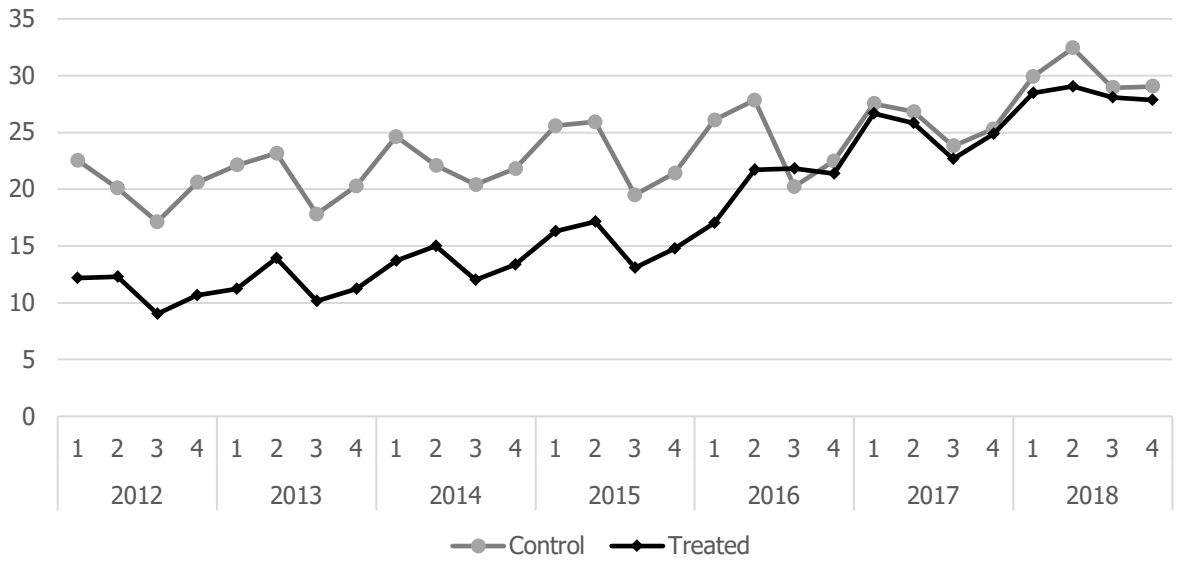
Notes: Sampling weights used. Unless otherwise indicated, mean values are shown. 'HH' stands for 'household'. All income and savings variables are expressed in Polish zlotys (PLN), monthly, in real terms (base year: 2015). Education levels: "low" means either no education or primary or intermediate or basic vocational, "middle" means finished high school or secondary vocational or post-secondary diploma, "high" means bachelor's degree or higher.
Source: Own calculations based on Polish Household Budget Surveys 2012-2018.

Descriptive statistics show that, on average, control households are better educated: about 35% of their heads completed higher education, compared to 20-25% in the treated

group, depending on the period (Table 1). The control group is also more likely to live in big cities, whereas more than 40% of the treated group lives in villages. Households in the control group are also more likely to be employed as white-collar workers, contrary to the treated, most often blue-collar workers. The shares of self-employed and pensioners in the two groups is similar (10-12% and 5-7%, respectively). Also, the household head's mean age does not significantly differ across the groups (around 41 years).

Treated households have, on average, more children and consequently are bigger than control households. Not surprisingly, since the benefit is means-tested for the first child, treated households also have lower disposable income, excluding the benefit (Table 1). Their saving rates before the reform, both mean (Figure 1) and median (Table 1), are lower than in the control group. In the post-reform period, the difference between the two groups in saving rates seems to disappear. In this study, we aim to check whether this is the reform's effect or a pure coincidence.

Figure 1 Mean saving rate [%]



Notes: Mean household saving rates in each quarter. Sampling weights used.
Source: Own calculations based on Polish Household Budget Surveys 2012-2018.

4. Method

We identify the effect of child benefit reform on household saving using a simple difference-in-differences approach (Angrist & Pischke, 2008; Wooldridge, 2012). We estimate the following equation:

$$y_{it} = \beta_0 + \beta_1 Treated_i + \beta_2 Post_t + \beta_3 Treated_i Post_t + \beta_4 X_{it} + \varepsilon_{it}, \quad (2)$$

where y_{it} denotes a saving rate of household i in period t, β_0 is a constant, $Treated_i$ is a binary variable indicating whether a household belongs to a treatment (1) or control (0) group, $Post_t$ is a binary indicator of pre-reform (0) and post-reform (1) period, X_{it} is a vector of household characteristics described in Table 1, ε_{it} is an error term, and β_1, β_2, β_3, and β_4 are parameters to be estimated. β_1 is interpreted as a difference between treated and control groups before the treatment, β_2 estimates a difference in the outcome variable between the post- and pre-reform period for the control group, and β_3, our parameter of interest estimates the treatment effect.

The difference-in-differences method assumes that both treated and control groups show parallel trends in the outcome variable. Figure 1 shows trends in mean saving rate from 2012 to 2018, quarterly, and seems to confirm this assumption. Quite apparently, the trends seem to be parallel up to the second quarter of 2016. Then, in the third quarter of 2016, the expected (due to seasonality of saving) sharp decrease in the treated group's saving rate seems to be prevented. The effect seems to persist at least until the beginning of 2018.

We also test for the parallel trends formally, estimating the following equation:

$$y_{it} = \beta_0 + \beta_1 Treated_i + \beta_2 Year_t + \beta_3 Treated_i Year_t + \beta_4 X_{it} + \varepsilon_{it}, \quad (3)$$

with the base year 2015. Now β_2 is a vector of "leads" $\beta_{2,2012}$, $\beta_{2,2013}$, $\beta_{2,2014}$ and "lags" $\beta_{2,2016}$, $\beta_{2,2017}$, $\beta_{2,2018}$. The results validate the parallel trends assumption and are presented in Appendix Table A2. The first quarter of 2016 is excluded, but including it leads to similar results (available from the authors upon request).

5. Effects of child benefit on household saving

The results of our primary specification are presented in Table 2. After adjusting for differences between treated and control groups, it seems that the saving rate for households belonging to the treated group was 3.6 percentage points lower than the control group's saving rate in the

pre-treatment period. Over time, the control group's saving rate rose by 2.9 p.p. Obtaining the child benefit results in 8 percentage points increase in the saving rate among the treated. When the treated group is narrowed down to households with only one child, the effect is even larger and amounts to 11 percentage points (Appendix Table A1). This is not surprising since the child benefit was not fully unconditional: it was granted for the first child in a household only for households below the eligibility income ceiling.[5] However, the income ceiling was relatively low: in 2017, 58% of households obtaining the benefit got it also for the first child (Statistics Poland, 2018). In 2018, the corresponding number was 54% (Statistics Poland, 2019). Thus in our alternative specification, the group of households with one child splits into treated and control only by the eligibility criterion, with eligible households being poorer and saving less before the treatment.

This, of course, brings about the question of the endogeneity of income in our regressions. On the one hand, household income is one of the most important factors influencing the household saving rate. Income is widely used as an explanatory variable in household saving literature (Deaton, 1997; Browning & Lusardi, 1996; Hener, 2017). Excluding income from regressions would result in an omitted variables bias. On the other hand, the child benefit is means-tested for the first child in a family. By design, then, income is correlated with the saving rate and with being treated.

Moreover, the saving rate may potentially influence income. The latter issue, however, is not likely to appear in monthly data. In any case, to partially address this issue, we use household income without child benefit as an explanatory variable in the regressions.

Table 2 Effect of child benefit on household savings

	Difference-in-difference regression estimates Dependent variable: saving rate
Treated	-0.036***
	(0.003)
Post: April 2016	0.029***
	(0.003)
Treated x Post	0.080***
	(0.004)
Income	0.103***
	(0.004)
Education groups	Yes

[5] In mid-2019 the Polish government made this benefit fully universal, granted to all children. The analysis presented in this paper focuses on time period 2012-2018.

Age groups	Yes
Main source of income groups	Yes
Residence groups	Yes
Regional fixed effects	Yes
Constant	0.086***
	(0.008)
Number of observations	84,587
R-squared	0.138

Note: Robust standard errors in parentheses. For detailed results for group variables see Appendix Table A1.
Income: household monthly per capita disposable income excluding child benefit, in thous. PLN, real terms.
Significance levels: *** p<0.01, ** p<0.05, * p<0.1.
Source: Own calculations based on Polish Household Budget Surveys 2012-2018.

6. Testing for heterogeneity of results

To check whether the effect of child benefit on savings is similar across different social groups of the treated households, we test for heterogeneity of our results. We estimate the following equation:

$$y_{it} = \beta_0 + \beta_1 Treated_i + \beta_2 Post_t + \beta_3 Treated_i Post_t + \beta_4 Treated_i V_{it} + \beta_5 Post_t V_{it} + \beta_6 Treated_i Post_t V_{it} + \beta_7 X_{it}^v + \varepsilon_{it}, \quad (4)$$

where variables $Treated_i$ and $Post_t$ are the same as in equation (2), but we additionally add interaction terms with the variable V_{it}, the effect of which we want to study. Consequently, X_{it}^v is now a vector of all control variables, excluding V_{it}. We estimate equation (4) five times, denoting by V_{it} sequentially: age group, education group, residence, the primary source of income, and gender of the household head.

The results are presented in Table 3. For all base categories, the treatment effect is significant. We observe no significant heterogeneity of the effect regarding the age of respondents – it seems that households of different ages reacted similarly to the treatment. We observe, however, the heterogeneity of results regarding respondents' education: the effect of the benefit was the largest in low-educated households, amounting to 11 p.p. Households with a middle and high level of education increased their saving rates by 6 p.p. and 4.9 p.p. due to treatment, respectively. Regarding residence, the observable difference appears only between large cities and villages, with the effect on saving rate being 4.7 p.p. higher among the villagers. The inhabitants of middle and small cities and towns seem not to differ from those living in large cities.

The primary income source also matters for the treatment effect. The effect of the benefit on the saving rate of blue-collar workers is a 9.2 p.p. increase. This effect is 4 p.p. lower for white-collar workers and almost 5 p.p. higher for farmers. The result for white-collar workers is in line with other results: the white-collars are better educated and more likely to live in a big city than blue-collars. The effect for farmers is associated with their lower incomes and higher fertility (having on average more children than white-collars), but it should be treated with caution, as farmers' incomes are the least reliable in the Polish HBS data. Regarding gender of household head, we observe no significant difference between male-headed and female-headed households concerning treatment effect.

Table 3 Heterogeneity of treatment effects of child benefit on saving

Model	Coefficient
Model with interactions for age group	
Treatment effect for age group [30;40)	0.073***
Difference in treatment effect for age group [16;30)	0.022
Difference in treatment effect for age group [40;50)	0.004
Difference in treatment effect for age group 50+	0.019
Model with interactions for education	
Treatment effect for low level of education	0.113***
Difference in treatment effect for high level of education	-0.067***
Difference in treatment effect for middle level of education	-0.053***
Model with interactions for residence	
Treatment effect for city with more than 500,000 inhabitants	0.055***
Difference in treatment effect for city with 200,001-500,000 inhabitants	0.006
Difference in treatment effect for city with 100,001-200,000 inhabitants	-0.015
Difference in treatment effect for town with 20,001-100,000 inhabitants	0.006
Difference in treatment effect for town with less than 20,000 inhabitants	0.014
Difference in treatment effect for village	0.047***
Model with interactions for main source of income of HH head	
Treatment effect for employment (blue-collar worker)	0.092***
Difference in treatment effect for employment (white-collar worker)	-0.039***
Difference in treatment effect for pension (old age)	-0.015
Difference in treatment effect for pension (disability)	-0.038
Difference in treatment effect for farm income	0.048**
Difference in treatment effect for self-employment	-0.033**
Difference in treatment effect for social benefits	0.100*
Difference in treatment effect for other non-wage income sources	-0.029
Model with interactions for female HH head	
Treatment effect for female-headed HH	0.077***
Difference in treatment effect for male-headed HH	0.012

Notes: All models include all variables used in base regression (Table 2, Appendix Table A1). 'HH' stands for 'household'. Robust standard errors used. Education levels: "low" means either no education or primary or intermediate or basic vocational, "middle" means finished high school or secondary vocational or post-secondary diploma, "high" means bachelor's degree or higher. Significance levels: *** p<0.01, ** p<0.05, * p<0.1.
Source: Own calculations based on Polish Household Budget Surveys 2012-2018.

7. Conclusions

In 2016, Poland introduced a new quasi-universal child benefit that doubled direct cash transfers to households with children from 0.9% to 1.8% of GDP. The benefit was universal for the second and subsequent children in a family and means-tested for the first child. Significant transfers of new child benefits were granted 60% of households with children. The new benefit was worth PLN 500, equal to 10% of households' monthly median income. In this paper, we aim to identify the child benefit's effect on household decisions to save a part of the child's income. Applying the difference-in-differences method and Polish Household Budget Survey data for the years 2012-2018, we find a positive effect of the child benefit on household saving. We show that families obtaining child benefit (treatment group) increased the saving rate by 8 percentage points after the child benefit reform in 2016. When the treatment group is narrowed down to households with only one child, the effect amounts to 11 percentage points.

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Appendix

Table A1. Detailed regression results: weighted and unweighted base regressions and regressions on the sample restricted to households with one child

	(1) Base regression, not weighted	(2) Base regression, weighted	(3) HH with 1 child, not weighted	(4) HH with 1 child, weighted
Treated	-0.036***	-0.031***	-0.126***	-0.123***
	(0.003)	(0.003)	(0.005)	(0.005)
Post: April 2016	0.029***	0.031***	0.030***	0.033***
	(0.003)	(0.003)	(0.003)	(0.003)
Treated x Post	0.080***	0.077***	0.111***	0.108***
	(0.004)	(0.004)	(0.007)	(0.007)
Income	0.103***	0.103***	0.090***	0.090***
	(0.004)	(0.003)	(0.004)	(0.003)
Female head of HH	-0.028***	-0.025***	-0.025***	-0.024***
	(0.002)	(0.002)	(0.003)	(0.003)
Education - base: Low				
High	-0.033***	-0.036***	-0.047***	-0.049***
	(0.004)	(0.004)	(0.005)	(0.005)
Middle	-0.018***	-0.019***	-0.022***	-0.023***
	(0.002)	(0.003)	(0.003)	(0.004)
Age group - base: [30;40)				
[16;30)	-0.012***	-0.012***	0.003	0.003
	(0.003)	(0.003)	(0.004)	(0.005)
[40;50)	-0.021***	-0.020***	-0.016***	-0.014***
	(0.002)	(0.002)	(0.003)	(0.003)
50+	-0.017***	-0.012***	-0.006	-0.001
	(0.003)	(0.003)	(0.004)	(0.004)
Primary source of income of HH head – base: Employment (blue-collar worker)				
Employment (white-collar worker)	-0.015***	-0.014***	-0.019***	-0.019***
	(0.003)	(0.003)	(0.004)	(0.004)
Pension (old age)	0.006	0.005	0.004	0.000
	(0.005)	(0.005)	(0.007)	(0.007)
Pension (disability)	-0.082***	-0.082***	-0.069***	-0.065***
	(0.008)	(0.008)	(0.010)	(0.010)
Farm income	0.010*	0.010*	0.004	0.004
	(0.006)	(0.006)	(0.008)	(0.009)
Self-employment	-0.045***	-0.045***	-0.051***	-0.051***
	(0.004)	(0.004)	(0.005)	(0.005)
Social benefits	-0.066***	-0.057***	-0.087***	-0.083***
	(0.006)	(0.006)	(0.011)	(0.012)
Other non-wage income sources	-0.108***	-0.110***	-0.109***	-0.113***
	(0.009)	(0.010)	(0.014)	(0.014)
Residence - base: city, more than 500,000 inhabitants				

City, 200,001-500,000 inhabitants	0.012**	0.013**	0.023***	0.024***
	(0.005)	(0.005)	(0.007)	(0.007)
City, 100,001-200,000 inhabitants	0.011**	0.012**	0.005	0.005
	(0.005)	(0.005)	(0.007)	(0.007)
Town, 20,001-100,000 inhabitants	0.020***	0.021***	0.018***	0.020***
	(0.004)	(0.004)	(0.005)	(0.005)
Town, less than 20,000 inhabitants	0.018***	0.019***	0.011*	0.013**
	(0.005)	(0.005)	(0.006)	(0.006)
Village	0.013***	0.017***	0.017***	0.021***
	(0.004)	(0.004)	(0.005)	(0.005)
Voivodship - base: Dolnoslaskie				
Kujawsko-Pomorskie	-0.003	-0.006	0.000	-0.003
	(0.005)	(0.006)	(0.008)	(0.008)
Lubelskie	-0.011*	-0.009	-0.014*	-0.011
	(0.006)	(0.006)	(0.008)	(0.008)
Lubuskie	0.019***	0.017***	0.019**	0.017*
	(0.006)	(0.007)	(0.009)	(0.009)
Lodzkie	-0.050***	-0.051***	-0.052***	-0.052***
	(0.005)	(0.005)	(0.007)	(0.007)
Malopolskie	0.029***	0.039***	0.029***	0.039***
	(0.005)	(0.005)	(0.007)	(0.007)
Mazowieckie	-0.014***	-0.014***	-0.013**	-0.010*
	(0.004)	(0.004)	(0.006)	(0.006)
Opolskie	-0.045***	-0.045***	-0.041***	-0.041***
	(0.007)	(0.007)	(0.010)	(0.010)
Podkarpackie	-0.009*	-0.011**	0.000	0.001
	(0.005)	(0.005)	(0.007)	(0.007)
Podlaskie	0.032***	0.025***	0.030***	0.024**
	(0.007)	(0.007)	(0.010)	(0.010)
Pomorskie	0.025***	0.025***	0.027***	0.028***
	(0.005)	(0.005)	(0.007)	(0.008)
Slaskie	-0.014***	-0.013***	-0.012**	-0.010
	(0.004)	(0.005)	(0.006)	(0.006)
Swietokrzyskie	0.042***	0.044***	0.059***	0.062***
	(0.007)	(0.007)	(0.009)	(0.009)
Warminsko-Mazurskie	0.063***	0.064***	0.060***	0.060***
	(0.006)	(0.006)	(0.008)	(0.009)
Wielkopolskie	0.043***	0.045***	0.053***	0.055***
	(0.005)	(0.005)	(0.006)	(0.007)
Zachodniopomorskie	0.011**	0.013**	0.010	0.012*
	(0.005)	(0.005)	(0.007)	(0.007)
Constant	0.086***	0.086***	0.106***	0.105***
	(0.008)	(0.007)	(0.009)	(0.009)
Number of observations	84,587	84,587	42,435	42,435
R-squared	0.138	0.136	0.153	0.151

Notes: Dependent variable: saving rate. Robust standard errors in parentheses. Columns (1) and (2) differ only by the usage of sampling weights. Our preferred specification is the unweighted one, since we know that the weights to HBS provided by Statistics Poland over-represent children and under-represent people aged 20-49, relative to external statistics (Myck and Najsztub, 2015). The same note applies to the difference between columns (3) and (4). Fortunately, the difference between weighted and unweighted regressions is very small and does not change general conclusions. 'HH' stands for 'household'. Income: household monthly per capita disposable income excluding child benefit, in thous. PLN, real terms. Education levels: "low" means either no education or primary or intermediate or basic vocational, "middle" means finished high school or secondary vocational or post-secondary diploma, "high" means bachelor's degree or higher. Significance levels: *** p<0.01, ** p<0.05, * p<0.1.

Table A2. Testing for parallel trends

	Dependent variable: saving rate
Treated	-0.030***
	(0.005)
Year - base: 2015	
2012	-0.029***
	(0.006)
2013	-0.015***
	(0.006)
2014	-0.006
	(0.005)
2016	-0.005
	(0.006)
2017	0.013**
	(0.006)
2018	0.049***
	(0.006)
Treated x Year (base: 2015)	
Treated x 2012	-0.006
	(0.007)
Treated x 2013	-0.011
	(0.007)
Treated x 2014	-0.007
	(0.007)
Treated x 2016	0.066***
	(0.008)
Treated x 2017	0.078***
	(0.007)
Treated x 2018	0.072***
	(0.007)
Income	0.102***
	(0.004)
Female head of HH	-0.030***
	(0.002)
Education - base: Low	
High	-0.034***
	(0.004)
Middle	-0.019***

	(0.003)
Age group - base: [30;40)	
[16;30)	-0.011***
	(0.003)
[40;50)	-0.022***
	(0.002)
50+	-0.018***
	(0.003)
Primary source of income of HH head - base: Employment (blue-collar worker)	
Employment (white-collar worker)	-0.015***
	(0.003)
Pension (old age)	0.008
	(0.005)
Pension (disability)	-0.079***
	(0.008)
Farm income	0.012**
	(0.006)
Self-employment	-0.044***
	(0.004)
Social benefits	-0.064***
	(0.006)
Other non-wage income sources	-0.105***
	(0.009)
Residence - base: city, more than 500,000 inhabitants	
City, 200,001-500,000 inhabitants	0.013**
	(0.005)
City, 100,001-200,000 inhabitants	0.009*
	(0.005)
Town, 20,001-100,000 inhabitants	0.019***
	(0.004)
Town, less than 20,000 inhabitants	0.018***
	(0.005)
Village	0.012***
	(0.004)
Voivodship - base: Dolnoslaskie	
Kujawsko-Pomorskie	-0.003
	(0.005)
Lubelskie	-0.011*
	(0.006)
Lubuskie	0.019***
	(0.007)
Lodzkie	-0.050***
	(0.005)
Malopolskie	0.029***
	(0.005)
Mazowieckie	-0.013***
	(0.004)
Opolskie	-0.044***

	(0.007)
Podkarpackie	-0.009*
	(0.005)
Podlaskie	0.032***
	(0.007)
Pomorskie	0.024***
	(0.005)
Slaskie	-0.014***
	(0.005)
Swietokrzyskie	0.043***
	(0.007)
Warminsko-Mazurskie	0.063***
	(0.006)
Wielkopolskie	0.044***
	(0.005)
Zachodniopomorskie	0.012**
	(0.005)
Constant	0.099***
	(0.008)
Observations	81,479
R-squared	0.142

Notes: Robust standard errors in parentheses. First quarter of 2016 excluded. 'HH' stands for 'household'. Income: household monthly per capita disposable income excluding child benefit, in thous. PLN, real terms. Education levels: "low" means either no education or primary or intermediate or basic vocational, "middle" means finished high school or secondary vocational or post-secondary diploma, "high" means bachelor's degree or higher. Significance levels: *** p<0.01, ** p<0.05, * p<0.1.

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