

Labor Supply Effects of a Universal Cash Transfer*

Jan Gromadzki[†]

May 26, 2023

Abstract

I investigate the labor supply effects of the introduction of a large unconditional cash benefit. I exploit the unique design of the child benefit program in Poland to identify the income effects of the monthly transfer in a difference-in-differences design. On average, the marginal propensity to earn out of unearned income was equal to -0.14. For every extra 100 dollars in monthly child benefit transfers households receive, they spend 43 dollars on consumption and save 43 dollars. Additional evidence shows that the program had a positive impact on investments in human capital and home production efficiency.

JEL classification: I38, J21, J22

Keywords: unconditional cash transfer, income effects, labor supply, child benefit, poverty, difference-in-differences

*This paper has benefited from the financial support provided by the National Science Center, Poland (UMO-2018/31/N/HS4/00887) and the Polish-U.S. Fulbright Commission. I would like to thank Luca Bagnato, Michał Brzeziński, Paweł Bukowski, Ewa Galecka-Burdziak, Hilary Hoynes, Hannah Illing, Iga Magda, Nelson Mesker, Jesse Rohstein, Benjamin Schoefer, and Gabriel Zucman for their valuable feedback. I also thank the seminar and conference participants at the SOLE, ESPE, and PhD-EVS for their comments and remarks. This paper uses Statistics Poland data. Statistics Poland has no responsibility for the results and the conclusions, which are those of the author.

[†]SGH Warsaw School of Economics; Institute for Structural Research (IBS), Warsaw, Poland. E-mail: jan.gromadzki@ibs.org.pl.

1 Introduction

Unconditional cash transfers are increasingly being discussed in many countries (Banerjee et al., 2019; Hoynes and Rothstein, 2019). Do unconditional transfers discourage work? This paper estimates the labor supply effects of the introduction of a large universal child benefit in Poland. Compared to the previous attempts to estimate the effects of income shocks, examining the issue in the Polish setting offers four main advantages. First, I estimate the effects of a long-lasting income shock as opposed to one-time lottery winnings or a temporary cash assistance in randomized control trials. Second, the design of the transfer created a plausible control group, since households with one child received no unconditional transfers. Third, the size of the shock was exceptional, as the per child monthly amount of the newly introduced transfer was equal to 12 percent of average total household earnings. Fourth, the Polish child benefit program introduced a completely new transfer without changing the scale or the eligibility rules of existing social assistance programs. Therefore, the unique design of the program allows me to identify the income effects of the child benefit.

Drawing on data from a large survey on monthly income and expenditure, I compare the labor supply responses of two very similar groups using a difference-in-differences setup: namely, households with one child and households with two children. When comparing these two groups in the pre-treatment and the post-treatment period, the only difference between them was that households with two children received an unconditional cash transfer. Therefore, any differences in the labor supply responses of these two groups of households can be attributed to the income effect of this transfer.

The estimated labor supply effects of receiving the unconditional transfer are small. For every extra 100 dollars in monthly child benefit transfer households receive, they reduce their monthly earnings by 14 dollars. Parents are responsible for up to a half of these reductions, while the other half was due to adult children withdrawing from the labor market to continue their education. This pattern is particularly apparent among low-income households, characterized by a higher marginal propensity to earn out of unearned income (-0.36) and large positive effects on the educational enrollment of adult children. The introduction of the transfer led to robust growth in household income and a substantial reduction in child poverty despite the negative earnings effects at the bottom of the income distribution.

For every extra 100 dollars in monthly child benefit transfers households received, they increase their immediate consumption by 43 dollars. To differentiate between different types of spending, I categorize them into three groups: investment in human capital (such as education and health), recreation (such as tourism and television sets), and harmful spending (such as high-sugar foods and alcohol). Households substantially increase their spending on goods and services related to investment and recreation. There is also a modest increase in harmful spending (12 percent of the additional spending), primarily due to the consumption of energy-dense, nutrient-poor foods. Finally, households expand their savings by 43 dollars out of every 100 dollars in additional income they receive. However, I find no effects on the purchases of financial or tangible assets. Instead, households place their additional savings in cash.

This paper contributes to the literature on the labor supply effects of unconditional cash transfers. Previous evaluations of universal cash transfers have struggled to establish a credible control group, relying instead on synthetic controls for the identification of labor supply effects (e.g., Jones and Marinescu, 2022). In contrast, my study benefits from having a plausible control group, because one-child families were specifically excluded from the universal child benefit by lawmakers. Hence, I estimate the labor supply effects using standard DiD design. Unlike the Polish unconditional child benefit, many universal transfer schemes replace previously existing programs or reduce their availability (e.g., Price and Song, 2018; Salehi-Isfahani and Mostafavi-Dehzoeei, 2018; Verho et al., 2022). In such cases, the economic interpretation of the estimated effects is difficult. An example of such a policy is the 2021 expanded child tax credit in the U.S. While recent studies find that the expansion had modest labor supply effects (Enriquez et al., 2023; Pilkauskas et al., 2022), these estimates cannot be interpreted as pure income effects, as the levels of additional support households received depended on their income, and the expansion removed a potentially incentivizing phase-in of the credit.

Given the limitations of the evaluations of unconditional cash transfers, earnings responses to lottery winnings have been widely used to calculate marginal propensities to earn out of unearned income. My estimates of marginal propensity to earn out of unearned income are similar to modest propensities obtained by Cesarini et al. (2017) for Sweden. I can reject large propensities in the range of those obtained by Golosov et al. (2021) for the U.S. lottery winners. These differences may be partially attributable to differences in savings decisions.

In the U.S., the lottery winners tend to experience large and long-lasting increases in capital income, whereas in Poland, the introduction of unconditional cash transfers had no effect on the capital income of households because they chose to save their money in cash.

This paper also contributes to the literature on the effects of safety net programs targeted at families with children. Aizer et al. (2022) points out that the research on such programs has long focused on labor supply effects, while largely ignoring the benefits they generate. For example, Milligan and Stabile (2009) and Schirle (2015) find some negative effects of the introduction of a child benefit in Canada on parental labor supply. Previous research shows that cash transfers may improve children’s education and future earnings (e.g., Aizer et al., 2016; Bailey et al., forthcoming; Barr et al., 2022; Manoli and Turner, 2018). By contrast, Bulman et al. (2021) find that the relationship between parental lottery winnings and their children’s college attendance is very weak. Although it is too early to study the long-term effects of the Polish child benefit on children’s outcomes in adulthood, I provide evidence on the short-term effects of the transfer on consumption, savings, and poverty. In particular, exploiting rich information on households’ spending, I show that a considerable share of the additional spending can be classified as an investment in human capital or home production efficiency. Moreover, I find that the program had a positive impact on the educational enrollment of adult children in households who received the new transfer.

2 Institutional Background

The universal child benefit was introduced in Poland following the election of a new government in October 2015. In February 2016, the parliament passed the law introducing the child benefit program. Starting in April 2016, parents could apply for the child benefit, and received the first transfers for the month in which they applied for it.

In the baseline empirical analysis, I treat the years 2012-2015 as the pre-treatment period, and the years 2016-2018 as the post-treatment period. Although the first transfers to parents were received in April 2016, the introduction of the program was announced by the government at the beginning of 2016. Therefore, households may have adjusted their labor supply a few months before receiving the cash transfers. Alternatively, I define the beginning of the post-

treatment period as April 2016 and September 2016¹, and show that the results of the analysis remain the same.

The design of the child benefit program is illustrated in Figure 1. After the introduction of the program, all households were entitled to a monthly cash transfer of approximately 125 dollars (500 PLN) per child for the second child and for each subsequent child from birth to the age of 18. Hence, over a period of 18 years, the total payments a family could expect to receive per child amounted to nearly 30,000 dollars. Additionally, there was a means-tested component of the child benefit whereby households were entitled to a child benefit of the same amount for their first child as well if their per person household income did not exceed 215 dollars. The amount of the benefit per child was relatively large, as it was equal to 34 percent of the per capita disposable income among families with children. It was also large in absolute terms, as the purchasing power of the per child transfer was 25 percent larger than the Alaska Permanent Fund dividend. The annual cost of the program amounted to 1.2 percent of GDP. Receiving the child benefits did not affect the eligibility of households for the existing social assistance programs, and the additional income was not subject to income tax. Moreover, the Polish tax system remained unchanged. Hence, the child benefit amounts parents received for their second and each subsequent child were the same, regardless of their income levels. The process of the distribution of the child benefit was handled by local authorities (municipalities), who received earmarked grants for the child benefit program directly from the federal budget. Over 2.5 million households in Poland received the child benefits. The design of the program remained unchanged until July 2019, when it was extended to all children under the age of 18.

Magda et al. (2020) provides the most comprehensive evaluation to date of the Polish child benefit program's effects on maternal labor supply. They find that, overall, the introduction of the child benefit had a significant negative impact on maternal labor supply. However, they compare childless couples to couples with children. Hence, they analyze the joint effects of the conditional and the unconditional component of the transfer.

¹The child benefit program was introduced in April 2016, but the program did not achieve full coverage until September 2016.

3 Data and Identification Strategy

For my analysis, I use data from the Polish Household Budget Survey. The survey tracks the income and expenses of each household over one month. The Polish Household Budget Survey collects data on household spending using a diary method, with households recording all their purchases by filling in the name of the product or service purchased, as well as its quantity in kilograms or pieces and its value. Survey enumerators visit each surveyed household at least four times a month, providing instructions on record-keeping in the budget book and clarifying any questionable entries. Enumerators are also responsible for coding the names of the products and services as belonging to one of 400 detailed expenditure categories.

The respondents are also asked questions about the income they received in a given month. In 2016, a separate category for the child benefit was added to the income form. Hence, I can directly observe whether a household was receiving the child benefit. Moreover, the survey data contain information on household and individual characteristics, such as age, gender, and labor market status. In the original dataset, all variables related to income and expenditures are expressed in national currency (PLN). I convert those values into U.S. dollars using the annual average exchange rate for 2016, and adjusting the observations from other years for inflation.

In the baseline specification, I use repeated cross-section data to analyze the outcomes of households in which both parents are between the ages of 29 and 49 at the time of the introduction of the child benefit (born between 1967 and 1987). In the baseline, I focus on households with two parents, as they make up the vast majority of households with children in Poland. I also exclude households who own a farm because measuring labor supply in the small-size agriculture sector using monthly survey data would be subject to sizable measurement error.

I use the difference-in-differences approach, and estimate the following equation:

$$(1) \quad Y_{i,t} = \alpha_0 + \gamma T_i + \phi Y_t^{post} + \theta T_i * Post_t + \beta X_{i,t} + \epsilon_{i,t}$$

where $Y_{i,t}$ measures the outcome of interest. T_i is the treatment variable that is equal to one for the parents of two children and to zero for the parents of one child. Y^{post} is a dummy variable

that is equal to one for the post-treatment period and to zero for the pre-treatment period. The coefficient θ captures the effect of the introduction of the unconditional cash transfer. Additionally, I control for a set of individual characteristics, including age, education, disability, and the type of the area of residence ($X_{i,t}$). Household-level outcomes include monthly total disposable income, earnings, expenditure and savings. Disposable income includes income from work (employee and self-employment earnings), private income from investment and property, transfers between households, and social transfers (child benefit, unemployment benefits, old-age pensions etc.). Earnings include employee wages and self-employment earnings. Savings are calculated as the difference between disposable incomes and expenditure. Individual-level outcomes include dummy variables for employment (non-zero monthly earnings) and full-time employment.

Households can self-select into treatment by increasing their fertility. Ideally, the treatment variable should be constructed based on the number of children in the household before the introduction of the child benefit (in 2015). As I am using repeated cross-sectional data, I have limited information about the number of children each family had in 2015. For example, the 2012 data only provide information about the children born up to 2012. Thus, I construct the treatment variable based on the number of children aged 3-17 in the household. For example, in the 2015 data, the treatment group consists of mothers with two children born between 1998 and 2012, and the control group consists of mothers with one child born between 1998 and 2012. Since the last year of analysis is 2018, the treatment variable is not affected by potentially endogenous births after the introduction of the child benefit (in the 2018 data, the treatment group consists of mothers with two children born between 2001 and 2015, and the control group consists of mothers with one child born between 2001 and 2015). The DiD design is intent-to-treat for two reasons. First, eligible parents can decide whether or not to apply for the transfer. Second, I use the number of children aged 3-17 to assign households to groups, even though the child benefit is also paid for children under the age of three.

Figure 2a illustrates the "first stage" of the DiD study. Prior to 2016, the households in both the treatment and the control groups did not receive any child benefit payments. Following the introduction of the child benefit program, the households in the treatment group received significantly higher child benefit payments than those in the control group. One year into the program, over 92 percent of households in the treatment group reported receiving child

benefit payments in their diaries. I use the differences in the child benefit amounts received by the two groups to calculate the marginal propensity to earn out of unearned income.

The introduction of the unconditional cash transfer is also clearly seen in the evolution of the household disposable income (Figure 2b). Before the introduction of the child benefit, the average total household income was virtually the same for households with one child as for households with two children. During the post-treatment period, the household income in the treated group was clearly higher than that in the control group, with the difference being very close to the child benefit amount.

4 Results

Table 1 summarizes the DiD estimates of the effects of the unconditional cash transfer. The introduction of the child benefit had a substantial positive impact on recipients' income (7.5 percent of the pre-treatment mean). Household earnings experienced small and statistically insignificant reductions, with a 105 dollars unconditional transfer leading to a 15 dollars decrease in earnings. Consequently, the marginal propensity to earn out of unearned income was equal to -0.14, similar to the estimates obtained by Cesarini et al. (2017) for Sweden. At the individual level, the introduction of the child benefit had almost no impact on parental labor supply at the extensive and the intensive margin. Rather than extending their leisure or home production, households used their additional income to increase their consumption and savings. The effect on savings is particularly striking, as it was equal to more than 20 percent of pre-treatment levels.

Effects on Earnings

Figure 3 shows that before the introduction of the child benefit, there were no significant differences between the treatment and the control group in the evolution of their disposable income and earnings. Hence, I cannot reject the parallel trends assumption. The introduction of the child benefit permanently raised the disposable income in the treatment group, and had no significant effects on their earnings.

Additional tests show that the small reductions in earnings are driven by reductions in employee earnings, and are partly offset by small increases in income from self-employment (Table A.9). The hourly wages of full-time employees are not affected by the introduction of the transfer. While the effects on the individual earnings of mothers and fathers are statistically insignificant, I find precise modest negative effects on the earnings of adult children (Figure A.2). The lifetime amount of child benefit payments each family receives depends on the age of the older of their two children. I calculate the discounted sum of future monthly child benefit payments. Table A.10 shows that the impact of the shock to household wealth is again very similar to the modest effects estimated by Cesarini et al. (2017).

I carry out a series of additional checks to verify the robustness of the estimated effects. Theoretically, labor supply responses to unconditional cash transfers may be nonlinear if households face fixed adjustment costs. Since the size of the shock depends on the number of children in each household, I compare the control group to households with three or more children. I find that the size of the shock is more than twice as large as in the baseline but the estimated marginal propensity to earn out of unearned income was virtually identical (Table A.11).

The estimates could be downward biased if the households were unable to adjust their labor supply before they received the benefits. The first parents received the benefit in April 2016 (four months after the passage of the child benefit bill), and the program achieved its maximum coverage in September 2016. I estimate the effects for these alternative definitions of the start of the treatment period, and find that the results are unaffected. The results remain stable after households who own a farm were added. If anything, single parents slightly increased their labor supply after the introduction of the child benefit. Finally, the results without using sample weights are very similar to the baseline results (Table A.12).

The program seems to have considerable spillover effects on the adult children in the treated households. First, Table A.13 shows that the program led to a significant increase in the presence of children aged 19-24 years in the household, indicating a possible postponement of the decision to leave. No such effects were found for fertility or the presence of grandparents. Second, despite observing an increase in the presence of adult children in the household, I find a small reduction in their total earnings (Figure A.2). Finally, I detect a 10 percent rise in the

probability of these adult children being enrolled in education (Table A.14). Taken together, these results suggest that the program likely reduced the necessity for adult children to participate in the labor market, and that households invested in their children’s education. This effects is driven by low-socioeconomic status households who experience the largest earnings reductions due to adult children withdrawing from the labor market in order to continue their education (Appendix B). Finally, I find significant effects of the unconditional cash transfer on poverty. The introduction of the transfer reduced extreme and relative poverty by one third (Table A.15).

Effects on Consumption and Savings

The introduction of the child benefit increased households’ consumption by nearly five percent. I exploit the detailed information on spending by category to shed light on the purposes of the additional spending. I divide consumption spending into three broad categories: investment, recreation, and harmful spending. The investment category includes investments in human capital (health, healthy food, education) and home production equipment (e.g., dishwashers, refrigerators). The recreation category includes spending on tourism, recreation equipment (e.g., TV sets, audio systems, consoles), and culture (e.g., cultural and sports events). The harmful spending category includes spending on foods and beverages with the lowest nutritional score (energy-dense, nutrient-poor foods), as well as on alcohol and cigarettes.

The introduction of the child benefit had a substantial positive impact on investment spending (Figure 4). The six percent increase in spending on healthy food, health, and education likely has positive impacts on parents’ and children’ health and earnings, as suggested by Aizer et al. (2022). The purchases of new home appliances may increase the effectiveness of home production. Recreation spending was increased by a similar amount. Rather than increasing the time they spent on leisure, the households decided to spend a considerable share of their additional income on improving the quality of their leisure. The households also increased their spending on goods and services that could be classified both as investment and recreation. This includes large increases in spending on clothing and transport. Finally, around one tenth of additional spending can be classified as harmful. The increase in the spending in this category was driven by a five percent increase in spending on products high in sugar.

The treated households increased their savings by over 20 percent due to the introduction of the transfer. Figure A.3 shows that the households decided to place almost all of their additional savings in cash. I find very small and insignificant effects on loan repayments, purchases of tangible assets, or investments in deposits and stocks. These savings patterns may explain the lack of effects on capital income I find (Figure A.4).

5 Conclusion

In this paper, I investigated the impact of the introduction of a large unconditional cash transfer on the labor supply as well as on the consumption and savings patterns of households. The findings indicate that the households' labor supply responses were modest, and that they instead increased their consumption and savings. For every extra 100 dollars in monthly transfers households received, they reduced their after-tax earnings by 14 dollars, increased their immediate consumption by 43 dollars and held the remaining 43 dollars in cash savings. The estimated marginal propensity to earn out of unearned income is consistent with findings from the European lottery studies, which suggests that the obtained results are relevant in the context of the continental Europe.

Moreover, the estimated short-run effects suggest that the program may have positive long-run effects on children's outcomes. First, a large share of the additional spending may be classified as investments in human capital and home production efficiency. Second, the program substantially reduced child poverty, and had positive spill-over effects on adult children's educational attendance.

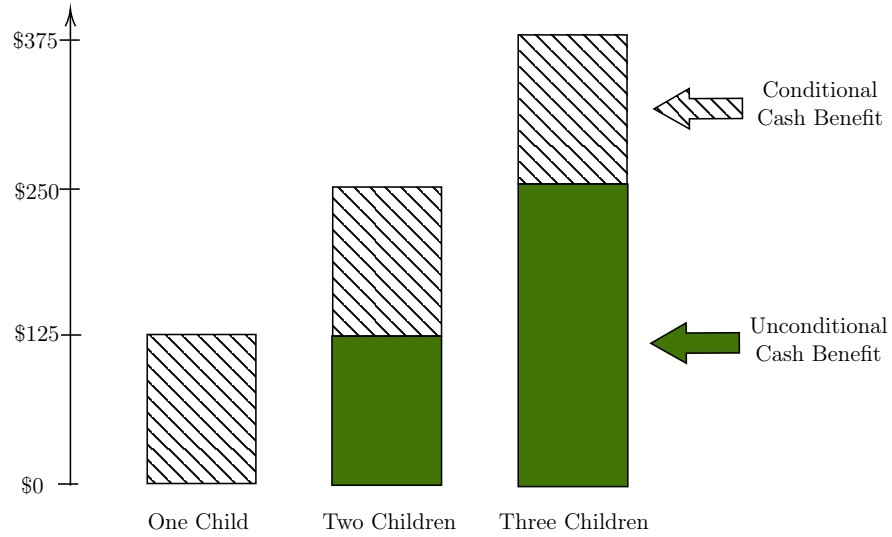
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Figures

Figure 1: Child Benefit Design



Notes: Figure summarizes the design of the child benefit program in Poland. Parents receive a monthly cash benefit of 125 dollars for their second and each subsequent child (unconditional cash transfer). Additionally, they may receive a monthly cash benefit of 125 dollars for their first child if their income per household member does not exceed 215 dollars (conditional cash transfer). In the baseline specification, I compare the outcomes of households with two children (treatment group who receive the unconditional cash benefit) and households with one child (control group).

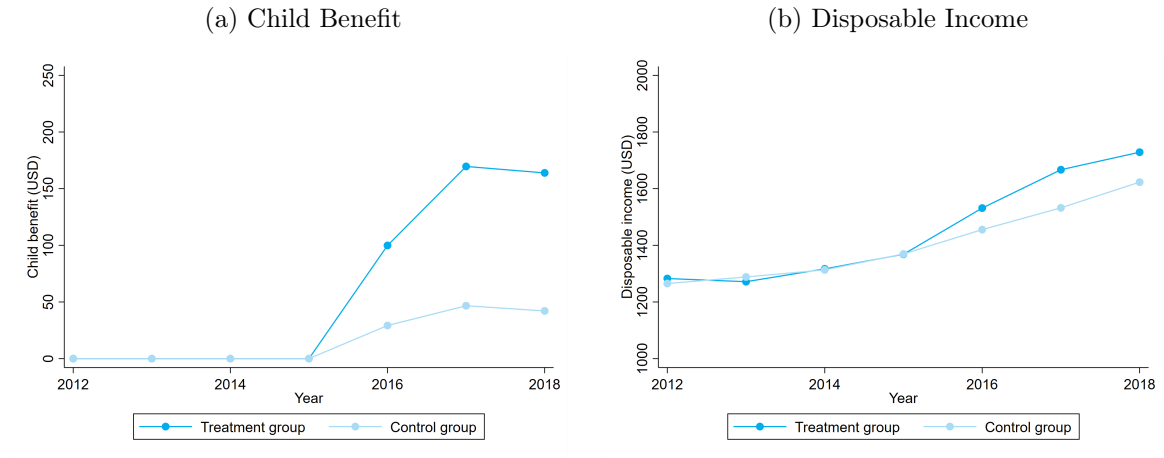


Figure 2: Child Benefit and Disposable Income

Notes: Figure 2a shows the average child benefit amount for households with two children aged 3-17 (treatment group) and households with one child aged 3-17 (control group). Figure 2b shows the average disposable income for households with two children aged 3-17 (treatment group) and households with one child aged 3-17 (control group). The sample includes households with two parents aged between 29 and 49 at the time of the introduction of the child benefit. I exclude households who own a farm. See Figure A.1 for the evolution of other outcome variables.

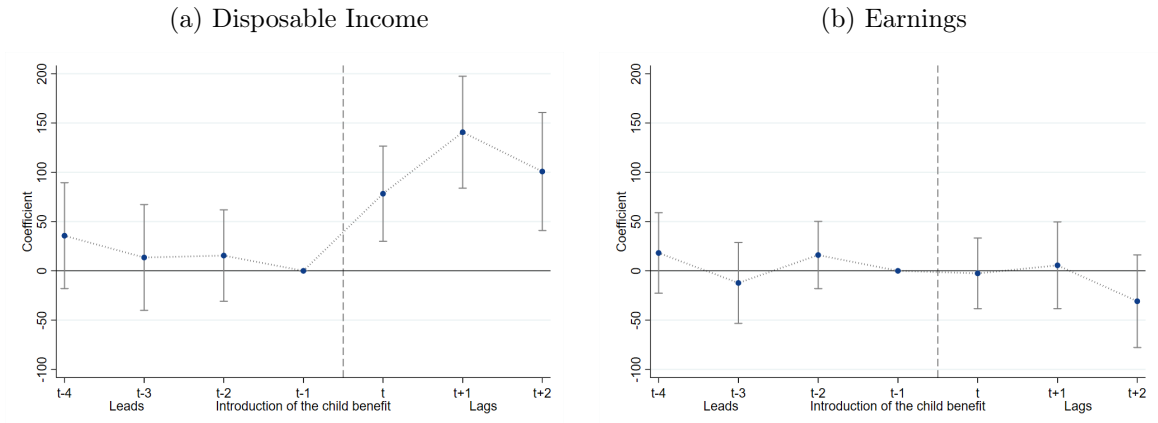
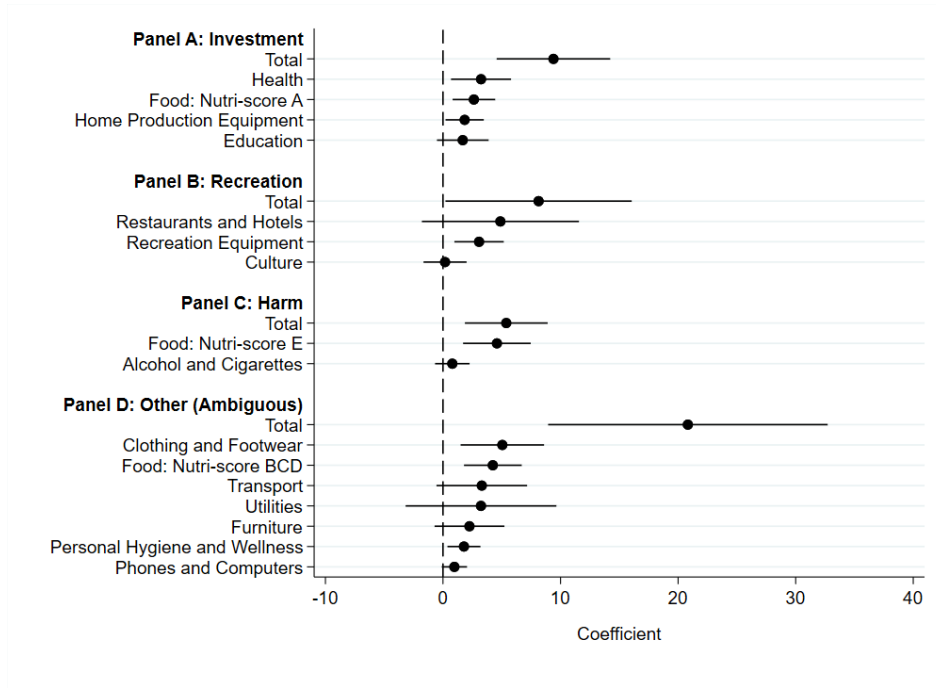


Figure 3: Effects on Income and Earnings

Notes: Figure shows the leads and lags of the effects of the introduction of the unconditional cash transfer on household disposable income and household earnings. Each data point represents the point estimate and the 95% confidence interval of the coefficient on interaction of the treatment group dummy and year. I control for demographic characteristics (mother's and father's age and educational level, as well as the type of residence area), year fixed effects, region fixed effects (NUTS-2 regions), and the monthly regional unemployment rate. The confidence intervals are based on standard errors that are clustered at the level of the household.

Figure 4: Spending Effects by Category



Notes: Figure shows the effects of the introduction of the unconditional child benefit on household spending divided into categories (point estimates and the 95% confidence intervals). I control for demographic characteristics (mother's and father's age and educational level, as well as the type of residence area), year fixed effects, region fixed effects (NUTS-2 regions), and the monthly regional unemployment rate. The confidence intervals are based on standard errors that are clustered at the level of the household. See Tables A.16-A.19 for the detailed regression results.

Tables

Table 1: Effects of the Unconditional Cash Transfer

	(1)	(2)	(3)	(4)	(5)	(6)
	Income	Earnings	Consumption	Savings	Employment	Full-time Employment
Treatment Group \times Post-treatment Period	90.703*** (17.551)	-14.871 (13.925)	45.636*** (12.040)	45.067*** (13.616)	-0.001 (0.006)	-0.004 (0.004)
Demographic characteristics	yes	yes	yes	yes	yes	yes
Year FE	yes	yes	yes	yes	yes	yes
Region FE	yes	yes	yes	yes	yes	yes
Regional unemployment rate	yes	yes	yes	yes	yes	yes
Adj. R-Squared	0.23	0.30	0.18	0.09	0.13	0.03
Mean of outcome	1311.98	1063.32	996.14	315.84	0.77	0.95
Mean of child benefit	105.11	105.11	105.11	105.11	105.11	103.36
Observations	42382	42382	42382	42382	84764	65519

Notes: Table shows difference-in-differences estimates of the effects of the introduction of the universal child benefit on six outcomes. Columns 1-4 show the results for household-level outcomes. Columns 5-6 show the results for parents' individual-level outcomes. The treatment group consists of households with two children aged 3-17. The control group consists of households with one child aged 3-17. The pre-treatment period includes observations from the 2012-2015 period, and the post-treatment period includes observations from the 2016-2018 period. The sample includes households with two parents aged between 29 and 49 at the time of the introduction of the child benefit. I exclude households who own a farm. The demographic characteristics include mother's and father's age and educational level, as well as the type of residence area (urban/rural). The region fixed effects are the fixed effects for NUTS-2 regions (16 voivodeships). The standard errors are clustered at the level of the household. Mean of outcome is the mean of a given outcome in the treated group in the pre-treatment period. See Tables A.3-A.8 for detailed regression results with varying sets of control variables.

* $p < .10$; ** $p < .05$; *** $p < .01$

Appendix A Additional Figures and Tables

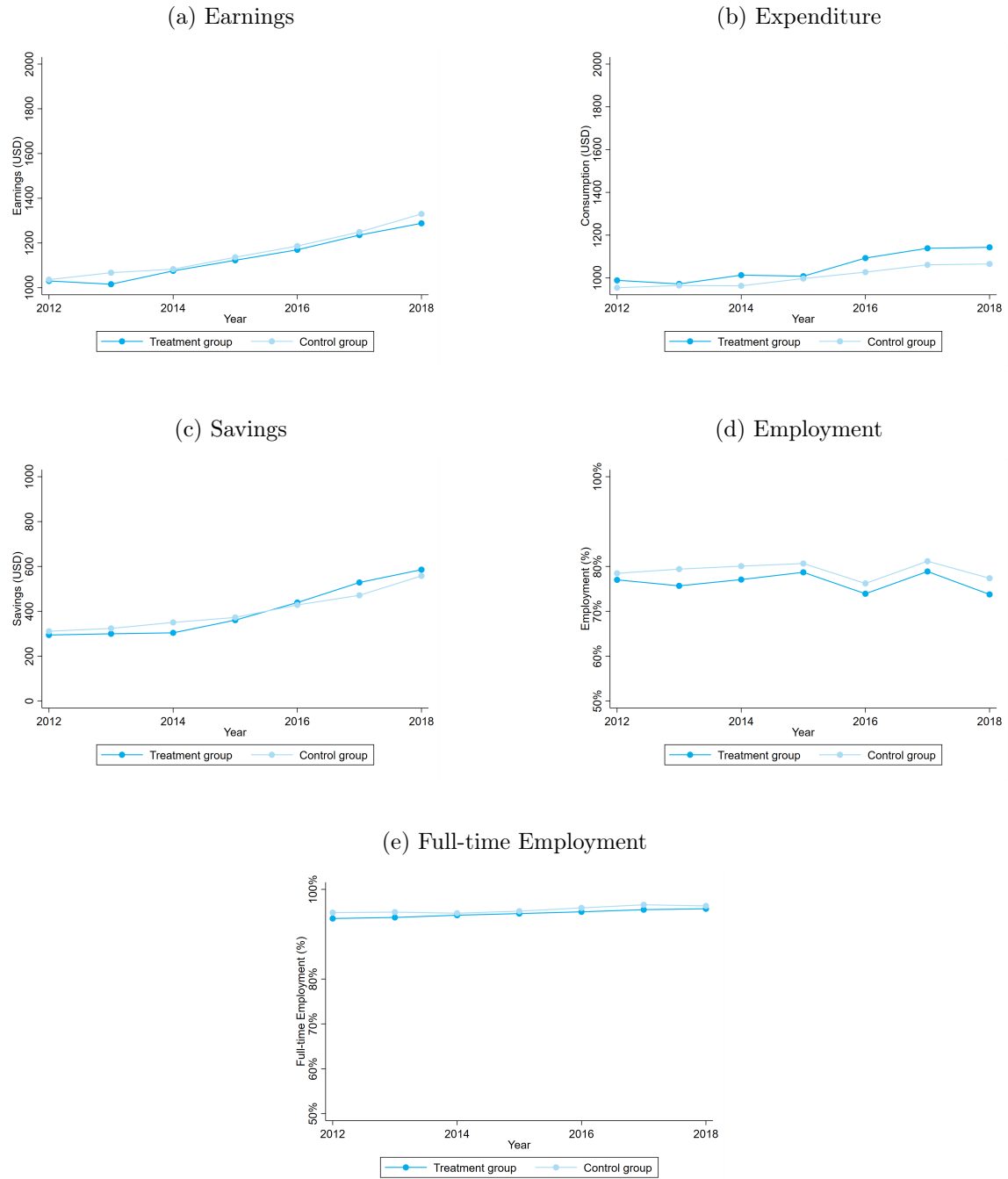
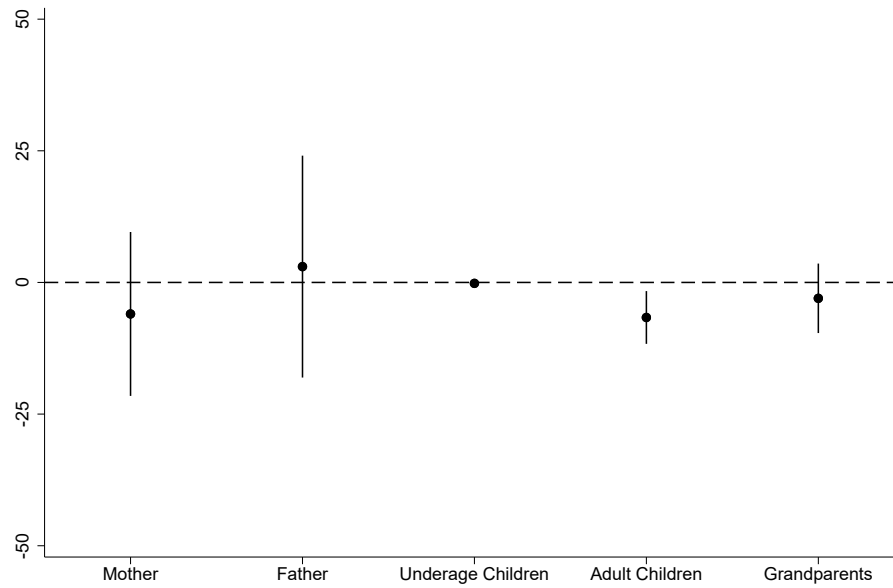


Figure A.1: The evolution of selected characteristics over time

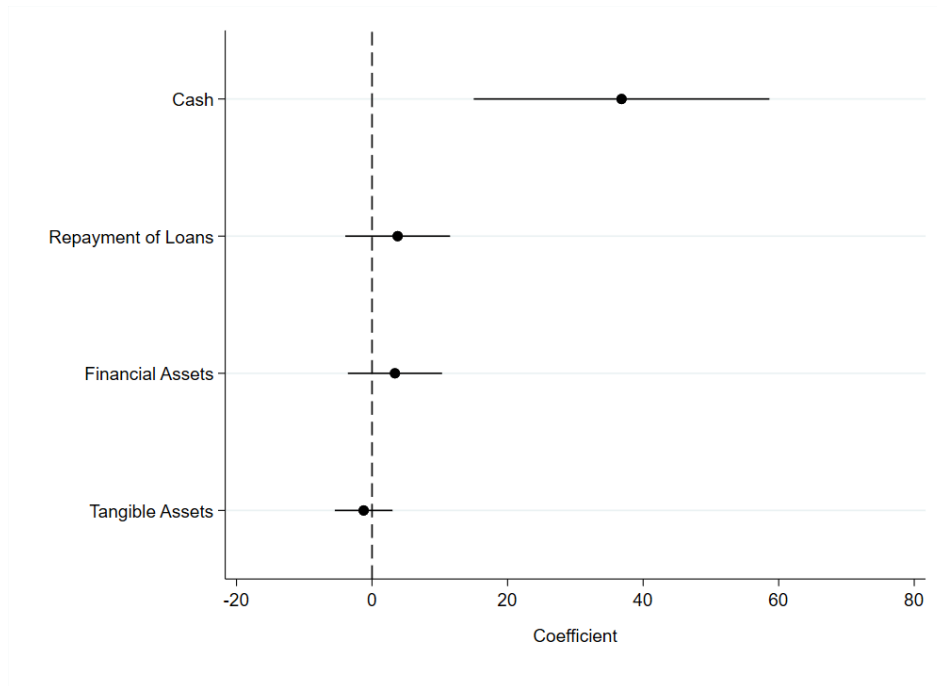
Notes: Figure shows the average values of selected characteristics in the treatment and control groups. The treatment group consists of households with three children aged 3-17. The control group consists of households with two children aged 3-17.

Figure A.2: Effects on Individual Earnings



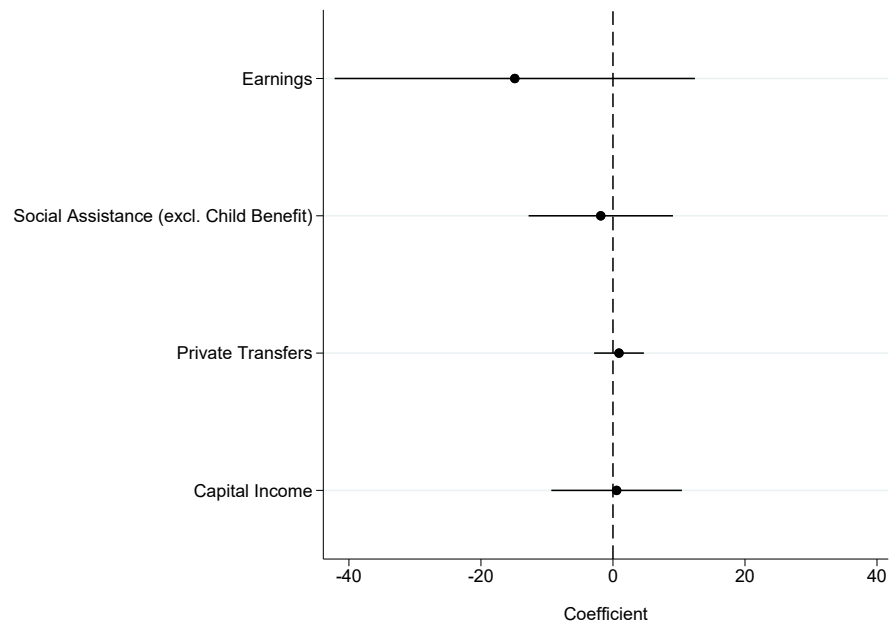
Notes: Figure shows the effects of the introduction of the unconditional child benefit on the individual earnings of mothers and fathers, as well as the total earnings of underage children, adult children, and grandparents. I control for demographic characteristics (age, education, and the type of residence area), year fixed effects, region fixed effects (NUTS-2 regions), and the monthly regional unemployment rate. See Table A.20 for additional outcomes of mothers and fathers.
Data: Household Budget Survey

Figure A.3: Effects on Savings



Notes: Figure shows the effects of the introduction of the unconditional child benefit on household savings expenditure divided into categories (point estimates and the 95% confidence intervals). I control for demographic characteristics (mother's and father's age and educational level, as well as the type of residence area), year fixed effects, region fixed effects (NUTS-2 regions), and the monthly regional unemployment rate. The confidence intervals are based on standard errors that are clustered at the level of the household. Data: Household Budget Survey

Figure A.4: Effects on Income from Sources Other than the Child Benefit



Notes: Figure shows the effects of the introduction of the unconditional child benefit on household income divided into categories (point estimates and the 95% confidence intervals). I control for demographic characteristics (mother's and father's age and educational level, as well as the type of residence area), year fixed effects, region fixed effects (NU TS-2 regions), and the monthly regional unemployment rate. The confidence intervals are based on standard errors that are clustered at the level of the household.
Data: Household Budget Survey

Table A.1: Summary Statistics

	Obs.	Mean	Std. Dev.	Min.	Max.
DID Variables					
Treatment group	42382	0.48	0.50	0.00	1.00
Post-treatment	42382	0.44	0.50	0.00	1.00
Dependent Variables					
Disposable Income	42382	1433.87	848.44	0.00	9676.92
Earnings	42382	1148.43	689.02	0.00	7074.04
Consumption	42382	1028.70	572.88	71.54	4572.78
Savings	42382	405.16	618.55	-3899.40	7254.18
Employment	84764	0.78	0.42	0.00	1.00
Full-time Employment	70339	0.95	0.22	0.00	1.00
Control Variables					
Age: Mother	42382	36.79	5.09	18.00	59.00
Age: Father	42382	38.72	5.27	19.00	67.00
Primary Education: Mother (ref. level)	42382	0.23	0.42	0.00	1.00
Primary Education: Father (ref. level)	42382	0.38	0.49	0.00	1.00
Secondary Education: Mother	42382	0.35	0.48	0.00	1.00
Secondary Education: Father	42382	0.34	0.47	0.00	1.00
Tertiary Education: Mother	42382	0.42	0.49	0.00	1.00
Tertiary Education: Father	42382	0.28	0.45	0.00	1.00
Small Town	42382	0.35	0.48	0.00	1.00
Large Town	42382	0.31	0.46	0.00	1.00

Notes: Table reports the summary statistics (number of observations, mean, standard deviation, minimum, maximum) of the DID, dependent and control variables.

Table A.2: Balance Table: Pre-treatment vs Post-treatment

	Households with one child		Households with two children	
	Pre-treatment (mean)	Post-treatment (mean)	Pre-treatment (mean)	Post-treatment (mean)
DID Variables				
Treatment group	0.00	0.00	1.00	1.00
Post-treatment	0.00	1.00	0.00	1.00
Dependent Variables				
Disposable Income	1309.59	1537.47	1311.98	1642.30
Earnings	1081.11	1255.60	1063.32	1230.88
Consumption	969.88	1051.25	996.14	1124.78
Savings	339.71	486.22	315.84	517.52
Control Variables				
Age: Mother	35.43	38.32	36.10	37.88
Age: Father	37.34	40.11	38.09	39.91
Primary Education: Mother (ref. level)	0.22	0.19	0.27	0.22
Primary Education: Father (ref. level)	0.38	0.34	0.44	0.37
Secondary Education: Mother	0.35	0.33	0.37	0.34
Secondary Education: Father	0.34	0.36	0.32	0.33
Tertiary Education: Mother	0.42	0.48	0.36	0.44
Tertiary Education: Father	0.28	0.31	0.24	0.30
Small Town	0.36	0.35	0.34	0.32
Large Town	0.33	0.34	0.27	0.28
Observations	13142	9243	11288	8709

Notes: Table reports average values of the DID, dependent and control variables in the treatment group (households with two children aged 3-17) and control group (households with one child aged 3-17), in the pre-treatment (2012-2015) and the post-treatment period (2016-2018).

Table A.3: Effects on Disposable Income

	(1)	(2)	(3)	(4)	(5)	(6)
Treatment Group \times Post-treatment Period	102.446*** (19.683)	88.408*** (17.800)	88.721*** (17.782)	90.800*** (17.558)	90.703*** (17.551)	84.442*** (17.788)
Demographic characteristics	no	yes	yes	yes	yes	yes
Year FE	no	no	yes	yes	yes	yes
Region FE	no	no	no	yes	yes	yes
Regional unemployment rate	no	no	no	no	yes	yes
Demographic characteristics \times Post-treatment Period	no	no	no	no	no	yes
Region FE \times Post-treatment Period	no	no	no	no	no	yes
Regional unemployment rate \times Post-treatment Period	no	no	no	no	no	yes
Adj. R-Squared	0.03	0.21	0.21	0.23	0.23	0.23
Mean of outcome	1311.98	1311.98	1311.98	1311.98	1311.98	1311.98
Mean of child benefit	105.11	105.11	105.11	105.11	105.11	105.11
Observations	42382	42382	42382	42382	42382	42382

Notes: Table shows difference-in-differences estimates of the effects of the introduction of the universal child benefit on household disposable income. The demographic characteristics include mother's and father's age and educational level, as well as the type of residence area (urban/rural). The region fixed effects are the fixed effects for NUTS-2 regions (16 voivodeships). Column 5 shows the baseline specification. In column 6, I additionally control for the interaction of all control variables with the post-treatment dummy. The standard errors are clustered at the level of the household. Mean of outcome is the mean of a given outcome in the treated group in the pre-treatment period.

* $p < .10$; ** $p < .05$; *** $p < .01$

Table A.4: Effects on Earnings

	(1)	(2)	(3)	(4)	(5)	(6)
Treatment Group \times Post-treatment Period	-6.926 (16.423)	-16.869 (14.190)	-16.564 (14.186)	-14.816 (13.927)	-14.871 (13.925)	-16.139 (14.097)
Demographic characteristics	no	yes	yes	yes	yes	yes
Year FE	no	no	yes	yes	yes	yes
Region FE	no	no	no	yes	yes	yes
Regional unemployment rate	no	no	no	no	yes	yes
Demographic characteristics x Post-treatment Period	no	no	no	no	no	yes
Region FE x Post-treatment Period	no	no	no	no	no	yes
Regional unemployment rate x Post-treatment Period	no	no	no	no	no	yes
Adj. R-Squared	0.02	0.27	0.27	0.30	0.30	0.30
Mean of outcome	1063.32	1063.32	1063.32	1063.32	1063.32	1063.32
Mean of child benefit	105.11	105.11	105.11	105.11	105.11	105.11
Observations	42382	42382	42382	42382	42382	42382

Notes: Table shows difference-in-differences estimates of the effects of the introduction of the universal child benefit on total household earnings. The demographic characteristics include mother's and father's age and educational level, as well as the type of residence area (urban/rural). The region fixed effects are the fixed effects for NUTS-2 regions (16 voivodeships). Column 5 shows the baseline specification. In column 6, I additionally control for the interaction of all control variables with the post-treatment dummy. The standard errors are clustered at the level of the household. Mean of outcome is the mean of a given outcome in the treated group in the pre-treatment period.

* p<.10; ** p<.05; *** p<.01

Table A.5: Effects on Consumption

	(1)	(2)	(3)	(4)	(5)	(6)
Treatment Group \times Post-treatment Period	47.272*** (13.203)	42.411*** (12.220)	42.403*** (12.221)	45.751*** (12.055)	45.636*** (12.040)	44.303*** (12.156)
Demographic characteristics	no	yes	yes	yes	yes	yes
Year FE	no	no	yes	yes	yes	yes
Region FE	no	no	no	yes	yes	yes
Regional unemployment rate	no	no	no	no	yes	yes
Demographic characteristics x Post-treatment Period	no	no	no	no	no	yes
Region FE x Post-treatment Period	no	no	no	no	no	yes
Regional unemployment rate x Post-treatment Period	no	no	no	no	no	yes
Adj. R-Squared	0.01	0.16	0.16	0.17	0.18	0.18
Mean of outcome	996.14	996.14	996.14	996.14	996.14	996.14
Mean of child benefit	105.11	105.11	105.11	105.11	105.11	105.11
Observations	42382	42382	42382	42382	42382	42382

Notes: Table shows difference-in-differences estimates of the effects of the introduction of the universal child benefit on total household expenditure. The demographic characteristics include mother's and father's age and educational level, as well as the type of residence area (urban/rural). The region fixed effects are the fixed effects for NUTS-2 regions (16 voivodeships). Column 5 shows the baseline specification. In column 6, I additionally control for the interaction of all control variables with the post-treatment dummy. The standard errors are clustered at the level of the household. Mean of outcome is the mean of a given outcome in the treated group in the pre-treatment period.

* p<.10; ** p<.05; *** p<.01

Table A.6: Effects on Savings

	(1)	(2)	(3)	(4)	(5)	(6)
Treatment Group \times Post-treatment Period	55.174*** (14.121)	45.997*** (13.698)	46.318*** (13.685)	45.049*** (13.616)	45.067*** (13.616)	40.139*** (13.794)
Demographic characteristics	no	yes	yes	yes	yes	yes
Year FE	no	no	yes	yes	yes	yes
Region FE	no	no	no	yes	yes	yes
Regional unemployment rate	no	no	no	no	yes	yes
Demographic characteristics \times Post-treatment Period	no	no	no	no	no	yes
Region FE \times Post-treatment Period	no	no	no	no	no	yes
Regional unemployment rate \times Post-treatment Period	no	no	no	no	no	yes
Adj. R-Squared	0.02	0.08	0.08	0.09	0.09	0.09
Mean of outcome	315.84	315.84	315.84	315.84	315.84	315.84
Mean of child benefit	105.11	105.11	105.11	105.11	105.11	105.11
Observations	42382	42382	42382	42382	42382	42382

Notes: Table shows difference-in-differences estimates of the effects of the introduction of the universal child benefit on total household savings. The demographic characteristics include mother's and father's age and educational level, as well as the type of residence area (urban/rural). The region fixed effects are the fixed effects for NUTS-2 regions (16 voivodeships). Column 5 shows the baseline specification. In column 6, I additionally control for the interaction of all control variables with the post-treatment dummy. The standard errors are clustered at the level of the household. Mean of outcome is the mean of a given outcome in the treated group in the pre-treatment period.

* p<.10; ** p<.05; *** p<.01

Table A.7: Effects on Employment

	(1)	(2)	(3)	(4)	(5)	(6)
Treatment Group \times Post-treatment Period	-0.002 (0.007)	-0.002 (0.006)	-0.002 (0.006)	-0.001 (0.006)	-0.001 (0.006)	0.004 (0.006)
Demographic characteristics	no	yes	yes	yes	yes	yes
Year FE	no	no	yes	yes	yes	yes
Region FE	no	no	no	yes	yes	yes
Regional unemployment rate	no	no	no	no	yes	yes
Demographic characteristics \times Post-treatment Period	no	no	no	no	no	yes
Region FE \times Post-treatment Period	no	no	no	no	no	yes
Regional unemployment rate \times Post-treatment Period	no	no	no	no	no	yes
Adj. R-Squared	0.00	0.13	0.13	0.13	0.13	0.04
Mean of outcome	0.77	0.77	0.77	0.77	0.77	0.77
Mean of child benefit	105.11	105.11	105.11	105.11	105.11	105.11
Observations	84764	84764	84764	84764	84764	84764

Notes: Table shows difference-in-differences estimates of the effects of the introduction of the universal child benefit on the probability of employment of mothers and fathers. The demographic characteristics include age, educational level, as well as the type of residence area (urban/rural). The region fixed effects are the fixed effects for NUTS-2 regions (16 voivodeships). Column 5 shows the baseline specification. In column 6, I additionally control for the interaction of all control variables with the post-treatment dummy. The standard errors are clustered at the level of the household. Mean of outcome is the mean of a given outcome in the treated group in the pre-treatment period.

* p<.10; ** p<.05; *** p<.01

Table A.8: Effects on Full-Time Employment

	(1)	(2)	(3)	(4)	(5)	(6)
Treatment Group \times Post-treatment Period	-0.000 (0.004)	-0.002 (0.004)	-0.002 (0.004)	-0.002 (0.004)	-0.002 (0.004)	0.001 (0.004)
Demographic characteristics	no	yes	yes	yes	yes	yes
Year FE	no	no	yes	yes	yes	yes
Region FE	no	no	no	yes	yes	yes
Regional unemployment rate	no	no	no	no	yes	yes
Demographic characteristics \times Post-treatment Period	no	no	no	no	no	yes
Region FE \times Post-treatment Period	no	no	no	no	no	yes
Regional unemployment rate \times Post-treatment Period	no	no	no	no	no	yes
Adj. R-Squared	0.00	0.03	0.03	0.03	0.03	0.01
Mean of outcome	0.94	0.94	0.94	0.94	0.94	0.94
Mean of child benefit	105.11	105.11	105.11	105.11	105.11	105.11
Observations	70339	70339	70339	70339	70339	70339

Notes: Table shows difference-in-differences estimates of the effects of the introduction of the universal child benefit on the probability of being in full-time employment for employed mothers and fathers. The demographic characteristics include age and educational level, as well as the type of residence area (urban/rural). The region fixed effects are the fixed effects for NUTS-2 regions (16 voivodeships). Column 5 shows the baseline specification. In column 6, I additionally control for the interaction of all control variables with the post-treatment dummy. The standard errors are clustered at the level of the household. Mean of outcome is the mean of a given outcome in the treated group in the pre-treatment period.

* $p < .10$; ** $p < .05$; *** $p < .01$

Table A.9: Effects on Employee Earnings, Self-employment Earnings and Hourly Wages

	(1) Employee Earnings	(2) Self-employment Earnings	(3) Any Employee Earnings	(4) Any Self-employment Earnings	(5) Hourly Wages
Treatment Group \times Post-treatment Period	-31.175** (14.770)	16.305 (10.801)	-0.004 (0.007)	0.008 (0.009)	-0.006 (0.008)
Demographic characteristics	yes	yes	yes	yes	yes
Year FE	yes	yes	yes	yes	yes
Region FE	yes	yes	yes	yes	yes
Regional unemployment rate	yes	yes	yes	yes	yes
Adj. R-Squared	0.19	0.04	0.01	0.02	0.33
Mean of outcome	893.89	169.43	0.89	0.19	1.15
Observations	42382	42382	42382	42382	55216

Notes: Table shows difference-in-differences estimates of the effects of the introduction of the universal child benefit on five outcomes. In column 1, the dependent variable is total household employee earnings. In column 2, the dependent variable is total household self-employment earnings. In column 3, the dependent variable is a dummy variable that is equal to one for households with non-zero household employee earnings. In column 4, the dependent variable is a dummy variable that is equal to one for households with non-zero total household self-employment earnings. In column 5, the dependent variable is log hourly wage for full-time employees. See Table 1 for a description of the independent variables.

* $p < .10$; ** $p < .05$; *** $p < .01$

Table A.10: Effects of the Unconditional Cash Transfer: Wealth Shock Approach

	(1) Annual Earnings (per \$100)	(2) Employment (per \$100,000)	(3) Full-time Employment (per \$100,000)
Post-treatment Period \times Child Benefit Wealth	-1.279 (1.626)	0.016 (0.057)	0.004 (0.033)
Demographic characteristics	yes	yes	yes
Year FE	yes	yes	yes
Region FE	yes	yes	yes
Regional unemployment rate	yes	yes	yes
Adj. R-Squared	0.30	0.13	0.03
Observations	42382	84764	65519

Notes: Table shows difference-in-differences estimates of the effects of the introduction of the universal child benefit on three measures of labor supply. Instead of the dummy treatment variable, I use a continuous measure of the shock to household wealth. Specifically, I calculate the wealth shock as the sum of the discounted monthly child benefit payments (until the oldest underage child in the treated group reaches 18 years old). I use a discount rate of 2.5 percent following Golosov et al. (2021).

* $p < .10$; ** $p < .05$; *** $p < .01$

Table A.11: Effects of the Unconditional Cash Transfer: Households with Three or More Children

	(1) Income	(2) Earnings	(3) Consumption	(4) Savings	(5) Employment	(6) Full-time Employment
Treatment Group \times Post-treatment Period	247.453*** (25.189)	-26.502 (20.043)	134.206*** (18.062)	113.247*** (20.524)	-0.018* (0.010)	-0.002 (0.007)
Demographic characteristics	yes	yes	yes	yes	yes	yes
Year FE	yes	yes	yes	yes	yes	yes
Region FE	yes	yes	yes	yes	yes	yes
Regional unemployment rate	yes	yes	yes	yes	yes	yes
Adj. R-Squared	0.23	0.30	0.18	0.09	0.15	0.03
Mean of outcome	1178.90	848.48	937.69	241.21	0.67	0.93
Mean of child benefit	259.27	259.27	259.27	259.27	259.27	250.77
Observations	27349	27349	27349	27349	54698	41488

Notes: Table shows difference-in-differences estimates of the effects of the introduction of the universal child benefit on six outcomes. The treatment group consists of households with three or more children aged 3-17. The control group consists of households with one child aged 3-17. Mean of outcome is employment rate among mothers of three children in the pre-treatment period. See Table 1 for the description of dependent and independent variables.

* $p < .10$; ** $p < .05$; *** $p < .01$

Table A.12: Effects of the Unconditional Cash Transfer: Robustness

	(1) Treatment start: April	(2) Treatment start: September	(3) Including farms	(4) Single parents	(5) Unweighted
Treatment Group \times Post-treatment Period	-14.236 (14.262)	-15.154 (14.937)	-18.472 (13.781)	14.386 (24.455)	-13.314 (12.977)
Demographic characteristics	yes	yes	yes	yes	yes
Year FE	yes	yes	yes	yes	yes
Region FE	yes	yes	yes	yes	yes
Regional unemployment rate	yes	yes	yes	yes	yes
Adj. R-Squared	0.30	0.30	0.31	0.18	0.30
Mean of outcome	1067.07	1077.95	1003.93	752.88	1046.39
Mean of child benefit	114.26	121.33	105.90	119.68	100.99
Observations	42382	42382	45122	7920	42382

Notes: Table shows difference-in-differences estimates of the effects of the introduction of the universal child benefit on total household earnings. The treatment group consists of households with three or more children aged 3-17. Compared to the baseline specification, the following modifications were made. Column 1 sets the post-treatment period to start in April 2016. Column 2 sets the post-treatment period to start in September 2016. In column 3, households who own a farm are additionally included. Column 4 is restricted to households with single parents. Column 5 shows the baseline regression without sample weights. See Table 1 for the description of dependent and independent variables.

* $p < .10$; ** $p < .05$; *** $p < .01$

Table A.13: Effects on Household Composition

	(1) Fertility	(2) Adult Children	(3) Grandparents
Treatment Group \times Post-treatment Period	0.007 (0.005)	0.026*** (0.008)	-0.006 (0.009)
Demographic characteristics	yes	yes	yes
Year FE	yes	yes	yes
Region FE	yes	yes	yes
Regional unemployment rate	yes	yes	yes
Adj. R-Squared	0.04	0.23	0.09
Mean of outcome	0.04	0.10	0.16
Mean of child benefit	105.11	105.11	105.11
Observations	42029	42382	42382

Notes: Table shows difference-in-differences estimates of the effects of the introduction of the universal child benefit on household composition. In column 1, the dependent variable that is equal to one for households with a child under one year old, and zero otherwise. In column 2, the dependent variable that is equal to one for households with at least one non-parent aged 18-34 years old, and zero otherwise. In column 3, the dependent variable that is equal to one for households with at least one non-parent aged 41 years old or older, and zero otherwise. The age brackets are selected based on the assumption that individuals can have a child when they are 16 years old or older. See Table 1 for a description of the independent variables.

* $p < .10$; ** $p < .05$; *** $p < .01$

Table A.14: Effects on Educational Attendance

	(1)	(2)
	Adult Children	Parents
Treatment Group \times Post-treatment Period	0.062* (0.035)	0.000 (0.002)
Demographic characteristics	yes	yes
Year FE	yes	yes
Region FE	yes	yes
Regional unemployment rate	yes	yes
Adj. R-Squared	0.10	0.01
Mean of outcome	0.59	0.02
Mean of child benefit	128.84	105.11
Observations	4374	42382

Notes: Table shows difference-in-differences estimates of the effects of the introduction of the universal child benefit on educational attendance. In column 1, the dependent variable is the share of non-parents aged 19-24 attending a university or other type of educational institution. In column 2, the dependent variable is the share of parents attending a university or other type of educational institution. See Table 1 for a description of the independent variables.

* $p < .10$; ** $p < .05$; *** $p < .01$

Table A.15: Effects on Poverty

	(1)	(2)
	Extreme poverty	Relative poverty
Treatment Group \times Post-treatment Period	-0.012*** (0.003)	-0.027*** (0.005)
Demographic characteristics	yes	yes
Year FE	yes	yes
Region FE	yes	yes
Regional unemployment rate	yes	yes
Adj. R-Squared	0.01	0.04
Mean of outcome	0.03	0.08
Mean of child benefit	105.11	105.11
Observations	36303	36303

Notes: Table shows difference-in-differences estimates of the effects of the introduction of the universal child benefit on the probability of a household living in poverty. In column 1, the dependent variable is extreme poverty (equivalized expenditures below the poverty line in Poland). In column 2, the dependent variable is relative poverty (equivalized expenditures below 50% of the national mean).

* $p < .10$; ** $p < .05$; *** $p < .01$

Table A.16: Consumption Effects: Investment

	(1)	(2)	(3)	(4)	(5)
	Total	Health	Food: Nutri-score A	Home Production Equipment	Education
Treatment Group \times Post-treatment Period	9.394*** (2.464)	3.237** (1.302)	2.630*** (0.924)	1.846** (0.832)	1.682 (1.121)
Demographic characteristics	yes	yes	yes	yes	yes
Year FE	yes	yes	yes	yes	yes
Region FE	yes	yes	yes	yes	yes
Regional unemployment rate	yes	yes	yes	yes	yes
Adj. R-Squared	0.15	0.06	0.09	0.01	0.12
Mean of outcome	151.39	38.25	82.02	9.02	22.10
Observations	36360	36360	36360	36360	36360

Notes: Table shows difference-in-differences estimates of the effects of the introduction of the universal child benefit on consumption spending divided into categories. Mean of outcome is average spending in a given category in the treated group in the pre-treatment period. See Table 1 for a description of the independent variables.

* p<.10; ** p<.05; *** p<.01

Table A.17: Consumption Effects: Recreation

	(1)	(2)	(3)	(4)
	Total	Restaurants and Hotels	Recreation Equipment	Culture
Treatment Group \times Post-treatment Period	8.132** (4.041)	4.886 (3.408)	3.069*** (1.070)	0.177 (0.933)
Demographic characteristics	yes	yes	yes	yes
Year FE	yes	yes	yes	yes
Region FE	yes	yes	yes	yes
Regional unemployment rate	yes	yes	yes	yes
Adj. R-Squared	0.16	0.12	0.06	0.09
Mean of outcome	135.93	73.26	24.44	38.22
Observations	36360	36360	36360	36360

Notes: Table shows difference-in-differences estimates of the effects of the introduction of the universal child benefit on consumption spending divided into categories. Mean of outcome is average spending in a given category in the treated group in the pre-treatment period. See Table 1 for a description of the independent variables.

* p<.10; ** p<.05; *** p<.01

Table A.18: Consumption Effects: Harm

	(1)	(2)	(3)
	Total	Food: Nutri-score E	Alcohol and Cigarettes
Treatment Group \times Post-treatment Period	5.383*** (1.796)	4.588*** (1.467)	0.795 (0.749)
Demographic characteristics	yes	yes	yes
Year FE	yes	yes	yes
Region FE	yes	yes	yes
Regional unemployment rate	yes	yes	yes
Adj. R-Squared	0.06	0.07	0.01
Mean of outcome	113.78	93.22	20.56
Observations	36360	36360	36360

Notes: Table shows difference-in-differences estimates of the effects of the introduction of the universal child benefit on consumption spending divided into categories. Mean of outcome is average spending in a given category in the treated group in the pre-treatment period. See Table 1 for a description of the independent variables.

* p<.10; ** p<.05; *** p<.01

Table A.19: Consumption Effects: Other (Ambiguous)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total	Clothing and Footwear	Food: Nutri-score BCD	Transport	Utilities	Furniture	Personal Hygiene and Wellness	Phones and Computers
Treatment Group \times Post-treatment Period	20.830*** (6.065)	5.050*** (1.813)	4.240*** (1.253)	3.302* (1.967)	3.232 (3.272)	2.254 (1.515)	1.782** (0.715)	0.970* (0.548)
Demographic characteristics	yes	yes	yes	yes	yes	yes	yes	yes
Year FE	yes	yes	yes	yes	yes	yes	yes	yes
Region FE	yes	yes	yes	yes	yes	yes	yes	yes
Regional unemployment rate	yes	yes	yes	yes	yes	yes	yes	yes
Adj. R-Squared	0.11	0.07	0.06	0.09	0.03	0.02	0.11	0.00
Mean of outcome	565.76	67.61	130.47	87.48	225.25	20.99	29.76	4.20
Observations	36360	36360	36360	36360	36360	36360	36360	36360

Notes: Table shows difference-in-differences estimates of the effects of the introduction of the universal child benefit on consumption spending divided into categories. Mean of outcome is average spending in a given category in the treated group in the pre-treatment period. See Table 1 for a description of the independent variables.

* p<.10; ** p<.05; *** p<.01

Table A.20: Effects on Parental Labor Supply by Gender

	Mothers			Fathers		
	Earnings	Employment	Full-time Employment	Earnings	Employment	Full-time Employment
	(1)	(2)	(3)	(4)	(5)	(6)
Treatment Group \times Post-treatment Period	-4.150 (7.983)	-0.011 (0.010)	-0.004 (0.007)	2.106 (10.777)	0.012* (0.007)	0.002 (0.003)
Demographic characteristics	yes	yes	yes	yes	yes	yes
Year FE	yes	yes	yes	yes	yes	yes
Region FE	yes	yes	yes	yes	yes	yes
Regional unemployment rate	yes	yes	yes	yes	yes	yes
Adj. R-Squared	0.24	0.11	0.03	0.17	0.02	0.01
Mean of outcome	339.36	0.63	0.90	691.66	0.91	0.97
Observations	42382	42382	30519	42382	42382	39820

Notes: Table shows difference-in-differences estimates of the effects of the introduction of the universal child benefit on individual monthly earnings, as well as the probability of employment, and full-time employment for mothers (columns 1-3) and fathers (columns 4-6). The demographic characteristics include age and educational level, as well as the type of residence area (urban/rural). The region fixed effects are the fixed effects for NUTS-2 regions (16 voivodeships). Column 5 shows the baseline specification. In column 6, I additionally control for the interaction of all control variables with the post-treatment dummy. The standard errors are clustered at the level of the household. Mean of outcome is the mean of a given outcome in the treated group in the pre-treatment period.

* p<.10; ** p<.05; *** p<.01

Appendix B Heterogeneity Depending on Socioeconomic Status

In this section, I present the heterogeneity of the effects depending on socioeconomic status. Table B.1 shows that the size of the earnings effects depend on various dimensions of socioeconomic status. The effects are largest for households with less educated or young parents, or for households living in rural areas.

Unfortunately, because of the lack of panel data, I have no information on pre-treatment incomes for parents observed in the data in the post-treatment period, and their post-treatment incomes are endogenous to the introduction of the cash transfer. Hence, it is impossible to directly analyze the heterogeneity of effects depending on income level.

I address the problem of the missing panel data by analyzing the variation in the effects depending on the predicted income based on the model estimated for the pre-treatment period. To this end, I estimate the following model

$$(2) \quad Y_{i,t} = \alpha_0 + \beta X_{i,t} + \epsilon_{i,t}$$

where $Y_{i,t}$ denotes household disposable income and $X_{i,t}$ is a set of covariates (mother's and father's age and education, urban/rural area, and region fixed effects). The R-squared of the estimated model is 0.24 (see Table B.2). I then predict the household income for all observations in the sample and divide the observations in each year into income tertiles, separately for the control and the treatment group. The drawback of this approach is that it relies on the variation in individual and household characteristics, which may themselves affect the size of the effects. Hence, these findings should be interpreted as the synthesis of the variation in the size of the effects depending on the socioeconomic status.

Table B.2 summarizes the effects of the unconditional cash transfer on labor supply for tertiles of predicted income. For the bottom tertile, I find statistically significant negative effects on total household earnings. The marginal propensity to earn out of unearned income was equal to -0.36, more than twice the average propensity.

However, a closer look shows that the spillover effects on adult children explain a large share of these differences. Earnings of adult children were substantially reduced in the bottom tertile and accounted for more than one third of the total earnings effect. In addition, for the poorest households, the introduction of the transfer increased the probability of adult children continuing their education by more than 30 percent. Thus, the large negative labor supply effects for the bottom tertile are mainly attributable not to more time spent on leisure, but to more time spent on education.

Before the introduction of the transfer, the households in the middle and the top tertile relied on adult children's earnings to a much lesser extent. For these households, no significant reductions in the earnings of adult children or effects on the educational enrollment of adult children are found. Therefore, it appears that the introduction of the transfer closed a half of the gap in the educational enrollment between the bottom and the top tertile.

Table B.1: Effects on Earnings: Heterogeneity

	(1)	(2)	(3)
Panel A. Mother's Education			
	Primary	Secondary	Tertiary
Treatment Group \times Post-treatment Period	-43.652*	-25.514	-20.982
	(22.481)	(20.028)	(25.531)
Adj. R-Squared	0.10	0.12	0.18
Mean of outcome	578.84	814.46	1406.69
Observations	11204	16212	17706
Panel B. Mother's Age			
	29-35 years old	36-42 years old	43-49 years old
Treatment Group \times Post-treatment Period	-19.402	-23.393	0.040
	(22.180)	(19.920)	(34.460)
Adj. R-Squared	0.26	0.33	0.34
Mean of outcome	807.87	982.27	985.66
Observations	15752	22712	8851
Panel C. Urban vs. Rural Areas			
	Rural Area	Small Town	Large Town
Treatment Group \times Post-treatment Period	-15.478***	-2.314	-3.599
	(5.485)	(4.967)	(2.480)
Adj. R-Squared	0.06	0.05	0.01
Mean of outcome	13.76	11.17	4.32
Mean of child benefit	118.43	105.82	91.02
Mean of income	956.10	1170.43	1788.84
Observations	14131	14128	14123
Demographic characteristics	yes	yes	yes
Year FE	yes	yes	yes
Region FE	yes	yes	yes
Regional unemployment rate	yes	yes	yes

Notes: Table shows difference-in-differences estimates of the effects of the introduction of the universal child benefit on earnings depending on individual and household characteristics. Panel A shows the effects depending on mother's education. Panel B shows the effects depending on mother's age at the year of the introduction of the child benefit (birth cohort). Panel C shows the effects depending on the type of residence area. In all regressions, I control for demographic characteristics (parents' age and education, as well as the type of residence area), regional unemployment rate, year fixed effects, and region fixed effects.

* $p < .10$; ** $p < .05$; *** $p < .01$

Table B.2: Prediction of Household Income

	(1)
	Disposable income
Age: Mother	15.666*** (1.495)
Age: Father	-0.210 (1.459)
Secondary Education: Mother	153.819*** (12.626)
Secondary Education: Father	86.296*** (11.684)
Tertiary Education: Mother	450.356*** (14.714)
Tertiary Education: Father	470.507*** (14.814)
Small Town	-74.008*** (11.218)
Large Town	95.127*** (12.315)
Regional unemployment rate	-1771.232*** (506.530)
Region FE	yes
Adj. R-Squared	0.24
Observations	24430

Notes: Table shows the OLS estimates of the model of household disposable income in the pre-treatment period (2012-2015).

* p<.10; ** p<.05; *** p<.01

Table B.3: Effects of the Unconditional Cash Transfer, Predicted Income Tertiles

	(1)	(2)	(3)
	Bottom Tertile	Middle Tertile	Top Tertile
Panel A. Earnings			
Treatment Group \times Post-treatment Period	-36.575** (18.501)	-14.475 (20.808)	-18.467 (29.943)
Adj. R-Squared	0.09	0.10	0.15
Mean of outcome	720.97	935.40	1514.17
Mean of child benefit	118.43	105.82	91.02
Mean of income	956.10	1170.43	1788.84
Observations	14131	14128	14123
Panel B. Parental Earnings			
Treatment Group \times Post-treatment Period	-14.513 (16.702)	-6.359 (19.545)	-11.781 (30.308)
Adj. R-Squared	0.08	0.09	0.15
Mean of outcome	680.85	904.34	1488.21
Mean of child benefit	118.43	105.82	91.02
Mean of income	956.10	1170.43	1788.84
Observations	14131	14128	14123
Panel C. Earnings of Adult Children			
Treatment Group \times Post-treatment Period	-15.478*** (5.485)	-2.314 (4.967)	-3.599 (2.480)
Adj. R-Squared	0.06	0.05	0.01
Mean of outcome	13.76	11.17	4.32
Mean of child benefit	118.43	105.82	91.02
Mean of income	956.10	1170.43	1788.84
Observations	14131	14128	14123
Panel D. Educational Enrollment of Adult Children			
Treatment Group \times Post-treatment Period	0.146*** (0.054)	-0.017 (0.058)	0.011 (0.070)
Adj. R-Squared	0.05	0.06	0.03
Mean of outcome	0.49	0.62	0.80
Mean of child benefit	134.06	122.36	126.58
Mean of income	1045.64	1142.27	1761.38
Observations	1912	1683	779
Demographic characteristics	yes	yes	yes
Year FE	yes	yes	yes
Region FE	yes	yes	yes
Regional unemployment rate	yes	yes	yes

Notes: Table shows difference-in-differences estimates of the effects of the introduction of the universal child benefit for tertiles of predicted income. Panel A shows the effects on total household earnings. Panel B shows the effects on total earnings of parents. Panel C shows the effects on total earnings of non-parents aged 18-34. Panel D shows the effects on enrollment in education of non-parents aged 19-24. In all regressions, I control for demographic characteristics (parents' age and education, as well as the type of residence area), regional unemployment rate, year fixed effects, and region fixed effects.

* $p < .10$; ** $p < .05$; *** $p < .01$

Appendix C Data Appendix

Table C.1: Variable Descriptions

Variable	Description
<i>Treatment Variables</i>	
Treatment group	dummy variable, 1: household with two children aged 3-17, 2: household with one child aged 3-17
Post-treatment	dummy variable, 1: 2016-2018, 0: 2012-2015
<i>Dependent Variables</i>	
Child Benefit	income from the child benefit introduced in 2016 (świadczenie wychowawcze)
Disposable Income	sum of current household income (in a given month) less prepayments of personal income tax paid by the payer on behalf of the taxpayer (on income from employment and on certain social security and other benefits), taxes on property income, taxes paid by self-employed persons, social and health insurance contributions.
Earnings	total household net wage earnings, severance pay, income from self-employment, and income support due to paid leave (in a given month)
Consumption	sum of expenditures on consumer goods and services, private transfers, and taxes paid directly by individuals (in a given month).
Savings	the difference between household disposable income and household expenditure
Employment	dummy variable, 1: non-zero individual earnings, 0: zero individual earnings
Full-time Employment	dummy variable, 1: reported working full-time, 0: reported working part-time
<i>Control Variables</i>	
Age	age in years
Education: primary	the highest level of education that a person has successfully completed: basic vocational (zasadnicze zawodowe), elementary education (gimnazjum / podstawowe / niepełne podstawowe) or no education
Education: secondary	the highest level of education that a person has successfully completed: general secondary (średnie ogólnokształcące), vocational secondary (średnie zawodowe) or post-secondary (policealne / pomaturalne)
Education: tertiary	the highest level of education that a person has successfully completed: college degree (wyższe)
Rural area	a person living in a village
Small town	a person living in a small town (2,000 - 100,000 inhabitants)
Large town	a person living in a large town (over 100,000 inhabitants)

Notes: Description of the variables used in the analysis. Disposable income, earnings, savings, and child benefit are expressed in 2016 U.S. dollars (I adjust nominal values by the USD/PLN exchange rate from 2016 and Harmonized Index of Consumer Prices).

Consumption Expenditure Categories

To facilitate the analysis, detailed expenditure categories are aggregated into broader categories, and the value of each variable is the sum of expenditure in the detailed categories belonging to the corresponding broad category. The list below provides the expenditure variables and the detailed categories included in each variable.

Additionally, I assigned nutritional rating letters from A (best) to E (worst) to detailed food and beverages categories, using the Nutri-Score rating system created by Santé Publique France.² The nutritional score is positively affected by content of fruits, vegetables, nuts and legumes fiber content, protein content, content rapeseed, walnut and olive oil. It is negatively affected by high energy density per 100 g or per 100 ml, high sugar content, high content of saturated fatty acids, and high salt content. I use data from *OpenFoodFacts* to determine the nutritional score of a product.³

Health: pharmaceutical products; pregnancy tests and mechanical contraceptives; other medical products not elsewhere classified; corrective glasses and contact lenses; hearing aids; repair of therapeutic equipment and devices; other therapeutic equipment and devices; general practitioner services; specialist physician services; dental services; medical laboratory and radiology services; thermal baths, corrective exercise, emergency medical services, and rental of therapeutic equipment; auxiliary medical and unconventional medicine services; hospital and sanatorium services.

Food: Nutri-score A: rice; wheat flour; other flours; groats and grains; bread; other baked goods; pasta and noodle products; other cereal products; curd cheese; eggs; citrus fruits; bananas; apples; berries; stone fruits; other fruits; frozen fruits; dried fruits and nuts; fruit preserves; lettuce; cabbage; cauliflower; tomatoes; cucumbers; carrots; beets; onions; other vegetables and mushrooms; frozen vegetables and mushrooms; potatoes; other root vegetables and root vegetable preserves; food for children.

Home Production Equipment: refrigerators, freezers, and fridge-freezers; washing, drying, and dishwashing appliances; cookers and stoves; heating and ventilation equipment; cleaning equipment; other durable household equipment; food preparation and processing appliances;

²<https://www.santepubliquefrance.fr/determinants-de-sante/nutrition-et-activite-physique/articles/nutri-score>

³<https://world.openfoodfacts.org/>

coffee makers and kettles; irons; toasters and grills; other small household electrical appliances; repair of household appliances; home and garden equipment and tools.

Education: kindergartens and primary schools; secondary schools, technical and vocational schools, high schools; post-secondary non-tertiary education institutions; tertiary education institutions; education undefined by level of teaching.

Restaurants and Hotels: restaurants; cafes, tea rooms; tips in restaurants, cafes, tea rooms; fast food bars and takeaway food; canteens; accommodation; hotels, motels, and similar accommodation services; tips in hotels, motels, and similar accommodation services; campsites, tent sites, and shelters; dormitories, student dorms, and other accommodation services; organized tourism; expenditures abroad on tourism.

Recreation Equipment: equipment for receiving, recording, and playing sound; equipment for receiving, recording, and playing sound and image; portable sound and video players; other equipment and accessories for receiving, recording, and playing sound and image; photographic and cinematographic equipment; accessories for photographic and cinematographic equipment; optical instruments; recorded media; recording media; other recording media not previously specified; expenses on recreational vehicles such as motorhomes, caravans and trailers; aircraft, gliders, hang gliders and balloons; boats, outboard engines and boat equipment; horses, ponies and equestrian accessories; other durable equipment for outdoor sports and recreation; musical instruments; durable equipment for indoor recreation; maintenance and repair of other durable equipment related to recreation and culture; games and collectibles; toys and novelty items; sports equipment; camping equipment for outdoor recreation; repair of sports equipment, camping equipment and outdoor recreational equipment; gardening supplies; plants and flowers; pets; pet supplies; veterinary services and other services for pets.

Culture: services related to recreation and sports - spectators; services related to recreation and sports - participants; cinemas, theaters, concerts; museums, libraries, zoological gardens; radio and television fees; rental of equipment and accessories related to culture; photographic services; other services related to culture; gambling; fiction books; textbooks; other books; bookbinding and purchase of e-books; newspapers; magazines; various prints; stationery; other writing, painting and drawing materials.

Food: Nutri-score E: condensed and powdered milk; butter; other animal fats; chocolate; confectionery products; non-alcoholic beverages not elsewhere classified.

Alcohol and Cigarettes: spirit drinks; liqueurs; low-alcohol drinks; grape wine; wine from other fruits; fortified wine; wine-based drinks; Lager beer; other alcoholic beer; low-alcohol and non-alcoholic beer; beer-based drinks; cigarettes; cigars; other tobacco products; illicit drugs.

Clothing and Footwear: clothing materials; men's clothing; men's underwear; men's hosiery products; women's clothing; women's underwear; women's hosiery products; children's clothing (up to 13 years old); children's underwear (up to 13 years old); children's hosiery products (up to 13 years old); other clothing articles; haberdashery products; clothing cleaning, dyeing, washing services; other clothing services; men's shoes; women's shoes; children's shoes (up to 13 years old); shoe services.

Food: Nutri-score BCD: offal and offal products; fresh or chilled fish; frozen fish; fresh whole milk; low-fat fresh milk; yogurt; sauerkraut; other vegetable and mushroom products; potato products; artificial sweeteners; tea; cocoa and powdered chocolate; vegetable and vegetable-fruit juices; breakfast cereals; chickens, roosters, and young chickens; other poultry; poultry cold cuts; fresh or chilled seafood; frozen seafood; dried, smoked, or salted fish and seafood; other fish and seafood products; milk-based beverages and other dairy products; margarine and other vegetable fats; sauces, spices; salt; spices and herbs; fruit juices; pizza and other pasta products; beef; veal; pork; lamb and goat meat; other meats; deli meats, except poultry; mixed ground meat; other meat products; mature and melted cheeses; cream; olive oil; other edible oils; chips; sugar; jams, marmalades; honey; ice cream; coffee.

Transport: tires; spare parts for private transportation; accessories for private transportation; diesel fuel; gasoline; other fuels for private transportation; lubricants, oils, fluids; maintenance and repair of private transportation; renting garages or parking spaces for private transportation; fees for tolls and parking; driving lessons, driver's license exams, driver's licenses, mandatory technical inspections of vehicles; passenger transport by train; passenger transport by subway and tram; passenger transport by bus and coach; passenger transport by taxi or hired car with driver; tips for taxi drivers; domestic flights; international flights; passenger transport by sea; inland passenger transport; mixed passenger transport; cable car

transport, cable cars, chairlifts; moving and storage services; other transportation services not elsewhere classified.

Utilities: actual rent for renting real estate - first house or apartment; actual rent for renting second and subsequent houses or apartments; actual rent for using garage or parking space related to first and subsequent houses or apartments; materials for repairing and maintaining apartments or houses; plumbing services; electrical services; maintenance of heating systems; painting services; carpentry services; other services related to the maintenance of apartments or houses; supply of cold water; waste removal services; sewage services; administrative costs and other fees related to housing; security services; other services related to housing; electricity; natural gas and city gas; liquid gas; liquid fuels; coal; firewood; other solid fuels; hot water; central heating; delivery of letters; other postal services; tips for couriers; landline telephone services; mobile telephone services; internet services; telecommunication services.

Furniture: furniture for apartments or houses; garden furniture; lighting equipment; other furniture and decorative items; carpets and carpeting; other floor coverings; laying of floor coverings; furniture repair and articles for furnishing and decorating apartments; upholstery fabrics and curtains; bed linen; table linen and bathroom linen; repair of textile articles; other textile articles for household use; glassware and tableware; cutlery and silverware; non-electric household appliances and articles; repair of glassware, tableware, and other household appliances and articles.

Personal Hygiene and Wellness: hairdressing services for men and children; tips for hairdressing services for men and children; hairdressing services for women; tips for hairdressing services for women; cosmetic and grooming services; tips related to cosmetic and grooming services; electric personal hygiene devices; repair of electric personal hygiene devices; non-electric personal hygiene devices; cosmetic and hygiene products.

Phones and Computers: landline telephone equipment; mobile telephone equipment; other telecommunications equipment; repair of telecommunications equipment; computers; accessories for information processing equipment; software; calculators and other information processing equipment.

Savings Expenditures Categories

Cash: an increase in cash (cash at the end of the month less cash at the end of the previous month).

Repayment of Loans: repayment of loans and mortgages (including interest); repayment of loans and credit card debts taken out from banks (including interest); repayment of remaining loans and credits taken out from banks (including interest); repayment of loans and credits taken out from other institutions (including interest); repayment of monetary loans taken from private individuals (including interest).

Financial Assets: deposits paid into housing societies; other deposits paid into banks; deposits paid into other institutions; advance payments, security deposits; purchase of securities.

Tangible Assets: purchase of buildings and structures for non-business purposes; materials for construction, reconstruction, expansion, renovation, and modernization of buildings and structures for non-business purposes; services related to the construction, reconstruction, expansion, renovation, and modernization of buildings and structures for non-business purposes; renovation fund; purchase of land for non-business purposes; expenses for future business activities; other capital expenses.

Additional Income Categories

Social Assistance (excl. Child Benefit): pensions; pensions for transferred agricultural holdings; disability pensions; survivor's pensions; maternity benefits; other social insurance benefits; family allowances; allowances for child care during parental leave; allowances for single-parent child care; other supplements to family allowances; care allowances, special caregiver's allowances; care allowances; assistance for childbirth; benefits from the Alimony Fund; housing allowances; social pensions; permanent, periodic benefits and other monetary, material and service assistance; assistance from non-commercial institutions; scholarships; other social benefit income; unemployment benefits; other benefits for the unemployed.

Private Transfers: alimony payments from private individuals; other gifts from private individuals to the household.

Capital Income: income from property; income from renting buildings and structures not related to business activity; income from renting land not related to business activity; sale of used consumer goods; sale of buildings and structures not related to business activity; sale of land not related to business activity; sale of movable property remaining after liquidation of business activity; sale of other capital goods; income from loans granted to other private individuals; income from advance payments, security deposits; income from deposits made in banks; income from deposits made in other institutions; benefits received from life insurance; compensation received from home insurance; benefits received from voluntary health and accident insurance; compensation received from transport-related insurance; compensation received from other types of insurance.