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Distributional effects of the Polish Child Tax Credit and its potential reforms

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Abstract:

The Polish Child Tax Credit (CTC) in operation today differs substantially in its generosity and distributional implications from the original policy proposals. While initially designed as an instrument to target low income working families, the credit was implemented as a tax credit without any upper earnings limit, and its generosity was substantially extended in autumn 2007 implying an annual cost of about 0.5% of the Polish GDP. The current design grants highest gains in absolute terms to families in the upper half of the income distribution, while proportionally gains are most significant for those in the middle of the distribution. Households with children in the bottom decile of the income distribution gain on average about 7.60PLN per month, and those in the top 40% of the distribution gain over a hundred zloty per month on average. The paper also considers effects of potential reforms of the CTC aimed at reducing its cost. The recently discussed eligibility limitation to families with three or more children, would reduce the cost of the policy by between 80% and 90%, while a simulated reduction of generosity of the credit by 50%, would save the government about 2.2bn PLN per year. The latter policy would leave the incomes of families with children in the bottom deciles largely unchanged, and it would reduce the benefits from the credit to households in the upper half of the income distribution by about 50% on average.

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Distributional effects of the Polish Child Tax Credit and its potential reforms.[1]

Leszek Morawski and Michał Myck[♣]

1. Introduction

This paper presents distributional effects of one of the most important policies implemented by Polish governments in the area of direct personal taxation in the last twenty years, the Child Tax Credit (CTC) introduced in 2007. Using data from the Polish Household Budgets Survey from 2006 and applying the Polish microsimulation model SIMPL we analyse how the reform developed from a proposal of a modest tax reduction to a substantial fiscal giveaway, and how starting with the idea of a policy focused on poorest families, the reform ended up being most generous to families with highest incomes. We show that the distributional effects as well as the overall cost of the reform eventually implemented are vastly different from those which would have been brought about had the initial idea of the credit been introduced. Finally, given the recent financial constraints of the Polish government, and discussions concerning potential sources of government revenue, we analyse several hypothetical options for reforming the policy. We show that limiting the policy to families with 3 or more children would reduce its cost by 80%-90% (4.3bn-4.7bn PLN per year). Families across all income groups would see significant reductions in their incomes. On the other hand, a simulated reduction in the generosity of the current system in the form of lowering the maximum amount of the credit by 50% and maintaining the eligibility of all families with children, reduces the cost by about 40% (2.2bn PLN per year). This policy

[1] This analysis forms part of the microsimulation research programme at the Centre for Economics Analysis, CenEA (www.cenea.org.pl). The programme includes development of the Polish module in the European microsimulation model EUROMOD and the Polish national model SIMPL. Data used for the analysis have been provided by the Polish Central Statistical Office who bear no responsibility for the analysis and interpretation. The usual disclaimer applies.

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reduces the generosity of the CTC to higher income families by about 50% on average, but allows families in the lowest decile of the income distribution to keep on average about 90% of their current credit.

We begin the discussion by briefly outlining the history of the implementation of the CTC in Poland (Section 2). In Section 3 we describe the data we use for the analysis and the microsimulation model used for simulating the effects of the credit. Section 4 presents the results of the reform initially proposed by the Marcinkiewicz government and the introduced reforms as implemented in the 2007 system, and finally as extended to the current form by the Kaczyński government in September 2007. In Section 5 we analyse several scenarios of potential changes to the policy and show who would pay for the considered reduction in the generosity of the CTC under several scenarios. The list of analysed scenarios draws on recent discussions of potential approaches to reforming the income tax. Several other options for reform, implemented in other countries, are presented in the Conclusion.

2. The Polish Child Tax Credit – proposals and the final policy

The Child Tax Credit in Poland operates since January 2007 and was introduced as a small tax deduction of 120 PLN per child, equivalent to about 20% of the so called universal tax credit (UTC). The generosity of the policy, however, was dramatically increased at the end of that year during an election campaign which followed the early dissolution of the Parliament in September 2007. The extension increased the generosity of the policy to twice the value of the UTC for every child, at the total cost of about 5.4bn PLN or about 0.5% of the Polish GDP.[2] Such a significant tax reduction was announced and implemented with very little analysis and consultation, at the time of an unexpected electoral campaign, by a coalition of parties who initially announced a pro-family tax policy with significantly different distributional consequences and a substantially lower cost.

The official announcement of plans to introduce a tax credit for families with children was included in the 2005 electoral programme of the Law and Justice party (*Prawo i Sprawiedliwość, PiS*) which, following the elections, formed a coalition government with the League of Polish Families (*Liga Polskich Rodzin, LPR*) and the Self-defence party

[2] Estimates of the Ministry of Finance for 2007.

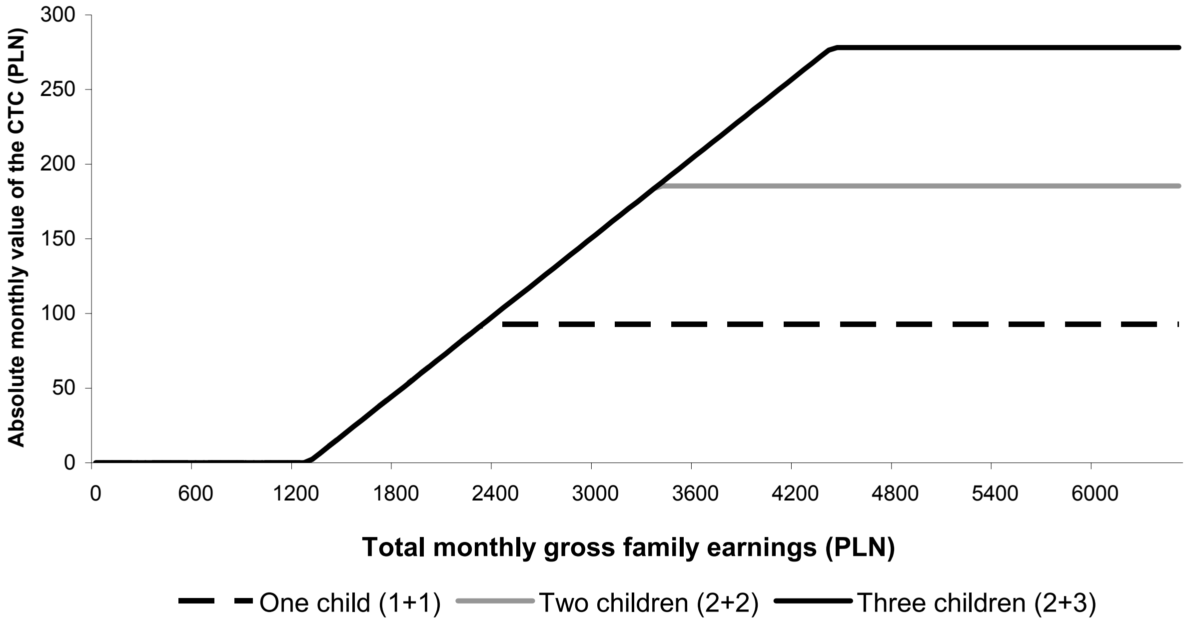
(*Samoobrona*). The electoral pledge was to introduce "pro-family" tax breaks for families with income below 500 PLN per person with the credit of 50 PLN for one child 200 PLN for two children and 100 PLN for every subsequent child.[3] A reference to this proposal was made in the *exposé* of prime minister Kazimierz Marcinkiewicz in November 2005, who suggested that as part of a package of policies aimed "*at counteracting the approaching demographic crisis*" his government would introduce "*a credit in the income tax system for families eligible to Family Benefits*".[4] As in the electoral pledge, eligibility for the credit was thus supposed to be limited to less prosperous families and the Family Benefits eligibility limit was close to the initially proposed 500 PLN per person. The *exposé* made no reference to the generosity of the credits.

The policies outlined in the electoral programme and in the PM's *exposé*, however, differed from the credit introduced just over a year later – for the fiscal year 2007 by the government of Jarosław Kaczyński. First of all, the introduced initial policy did not include an eligibility limit and was available to all families with children paying income tax, and secondly the amount of the credit was to be proportional to the number of children with a 120 PLN credit per year for each child. Following the dissolution of the Parliament in September 2007 this limit was raised to the equivalent of twice the level of the universal tax credit (i.e. to 1,145PLN in 2007) for every child. Importantly, the higher amounts were to be applied already for the tax accounts of that year. The policy of applying the value of twice the UTC for every child has been maintained in the Polish Child Tax Credit ever since. Recent financial difficulties of the central budget, the high level of the government deficit and the public debt, have raised questions over the sustainability of the policy and the ways to limit its generosity.

[3] „Ulgami objęte będą rodziny o dochodzie brutto nie większym niż 500 złotych na jedną osobę w rodzinie. Proponowane ulgi prorodzinne wynoszą 50 złotych na jedno, 200 złotych na dwoje oraz 100 złotych na każde kolejne dziecko." (PiS, 2005)

[4] „Dzisiaj mogę zadeklarować listę posunięć przeciwdziałających zbliżającemu się kryzysowi demograficznemu: (…) ulga na dzieci w podatku dochodowym dla rodzin uprawnionych do zasiłku rodzinnego." (Marcinkiewicz, 2005).

Figure 1. Generosity of the system conditional on earnings and family demographics.



Source: SIMPL model.
Notes: System: actual tax and benefit system in 2010.

Generosity of the current system

In Figure 1 we show the generosity of the Polish Child Tax Credit conditional on demographic characteristics of the family and gross earnings of family members. The values are computed for three stylised families: a single parent with one child (1+1), a couple with two children (2+2) and a couple with three children (2+3). The computation has been done using the actual 2010 tax and benefit system in which the maximum credit per child is 1112.04 PLN per year (i.e. 92.70 PLN per month).[5]

Three major tax credits are applicable in the Polish income tax system. Apart from the Universal Tax Credit and the CTC tax payers can also set a high proportion of their contributions to the public Health Insurance against their tax liabilities (HITC). Importantly, the sequence in which these credits are claimed is: UTC, HITC and only then the CTC. In addition to this couples can file their taxes jointly, which among other things doubles the value of the UTC for earners in one-earner couples. As we can see from Figure 1 the ability to claim the credit in the 2010 system starts at the level of gross earnings of about 1300PLN per month (about the level of the minimum wage), and for a family with one child the full credit can be claimed once gross earnings of the parent reach about 2320PLN per month. This is

[5] In Figure A1 in the Appendix we present these values as proportion of total disposable family income.

175% of the national minimum wage and about 70% of the national average salary. Families with two children can claim the full amount of the credit (i.e. begin to pay income tax) once their earnings reach about 3370PLN per month, and those with three children only with earnings higher than 4420PLN, i.e. when earnings reach 130% of the national average. Families where gross earnings are equal to the minimum wage do not see any benefit of the CTC.

3. Data and the microsimulation model

The data used for the analysis comes from the 2006 Household Budgets Survey and has been adapted for microsimulation analysis according to the procedures described in Bargain et al. (2007). The model dataset consists of 37,352 households representative of the Polish population. The microsimulation model SIMPL combines detailed regulations of the Polish tax and benefit system and allows to simulate different policy scenarios, including the actual 2006 system as well as other reforms, both actual and hypothetical. Using detailed information on the households' demographic structure and their various sources of incomes, the model simulates direct taxes, health insurance and social security contributions as well as all major benefits including family benefits, housing benefits and social assistance.[6]

4. The Polish CTC – proposed and introduced reforms

This section presents results of distributional analysis focusing on the different stages of announcement and introduction of the CTC in Poland. The proposals from the PiS 2005 election manifesto and PM Marcinkiewicz's *exposé* are simulated alongside those which were introduced in 2007 in the initial and in the final version.

4.1 The baseline system for the analysis

Several other important reforms to the system of taxes and benefits in Poland took place in parallel to the introduction of the Child Tax Credit.[7] In particular, disability insurance rates in the Social Security Contributions (SSCs) system were substantially cut in 2007 and 2008, and

[6] The SIMPL model is described in detail in Bargain, et al. (2007). For earlier applications of the model see for example: Haan et al. (2008); Levy et al. (2009); Morawski (2009); Morawski and Myck (2010); Myck (2008). For examples of applications using microsimulation models from other countries see for example: Blundell et al. (2000); Brewer et al. (2007); Clark et. al (2002); Steiner and Wrohlich (2004).
[7] For reform details see, e.g. Morawski (2009), and Morawski and Myck (2010).

the rates of the income tax were reduced in 2009 (from three rates of 19, 30 and 40 to two rates of 18 and 32 with the thresholds of the two bottom rates preserved). These policies have important implications for the modelling of the CTC, since taxable incomes depend on the value of SSCs, and eligibility to the CTC is conditional on the value of the income tax due. To make the baseline tax and benefit system consistent with the data from 2006 and at the same time account for the changes in the SSCs and in the rates of the personal income tax, we extend the 2006 system to include these reforms.[8] The *baseline system* therefore reflects the rules of the 2006 system and assumes the SSCs and income tax rates in force in 2009 and 2010. For consistency with this uprated tax system, the assumed value of the CTC is therefore 1,004 PLN per child (twice the value of the universal tax credit in 2006 assuming the new 18% lower tax rate).

4.2 Distributional consequences of the announced and implemented reforms

In the distributional analysis we show the average absolute and proportional gains the announced reforms would have brought to households and those resulting from the introduced policies conditional on the relative position of households in the income distribution. The distribution is divided into income deciles based on equivalised household disposable incomes.[9]

In this section effects of four scenarios are examined:

1) CTC-FB1: the PiS electoral proposal of limiting tax credits to recipients of Family Benefits and introducing it at values of 50/200/+100 *per year*.
2) CTC-FB2: the PiS electoral proposal of limiting tax credits to recipients of Family Benefits and introducing it at values of 50/200/+100 *per month*.
3) CTC-V0: the original reform introducing the proportional credit of 120 PLN per child *per year*.
4) CTC-Final: the extended policy, currently in place, introducing the proportional credit of twice the value of the universal tax credit per child *per year*.

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[8] Additionally, the system of Family Benefits has been reformed in September 2006 and we use the reformed structure of these benefits in the simulations.

[9] Income deciles are derived by dividing all households into 10 equal-sized groups according to disposable income adjusted for household size. Decile 1 contains the poorest 10% of the population, decile 2 the next poorest 10% and so on, up to the richest 10% in decile 10. Distribution of children in deciles is shown in the Appendix in Figure A2.

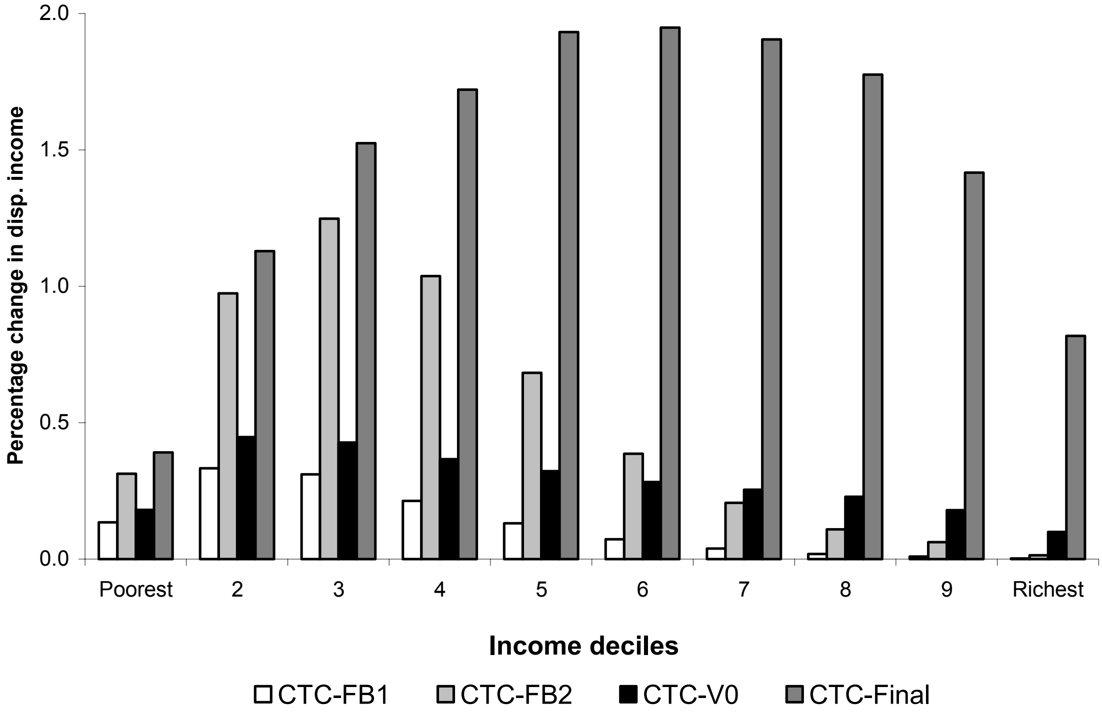
We distinguish between reforms CTC-FB1 and CTC-FB2 in terms of the generosity of the policies since the electoral pledge did not specify whether the values of credits were annual or monthly. As we shall see the different amounts of the credit makes a substantial difference even conditional on the eligibility income threshold.

Figures 2 and 3 present distributional results of the four scenarios in proportional and absolute terms. The average gains are computed for all households in each decile.[10] Both the proportional and absolute gains show a strong contrast between the policies which were initially announced and the one eventually implemented. If the CTC is limited only to families eligible to claim Family Benefits and the values from the PiS electoral manifesto are taken as annual (CTC-FB1), then the policy brings highest proportional gains to families in the second and third decile, since these are the income groups where low income working families are most likely to be found. The policy increases the average household income in the second and third decile by about 0.3%, and the average monthly gain per household is equal to 4.30PLN and 4.50PLN per month. The policy has essentially no effect beyond the fifth decile. Once we allow the announced values to imply monthly tax credits (CTC-FB2), the gains increase substantially, to 1.0% and 1.3% in deciles 2 and 3 respectively. While this policy has a small effect on household incomes also in the higher deciles, its main effect is still strongly concentrated on low income working families.

The effects of the initial reform introduced for 2007 (CTC-V0) fall somewhere in between the first two reforms we model, though the effect of the income eligibility criteria can be clearly seen in the distributional effects. The reform has very similar absolute effect for households in deciles 2-10, since the small value of the credit implies that even families with low earnings can claim the full amount of the credit, and because those in the higher deciles can claim the equivalent amounts as well.

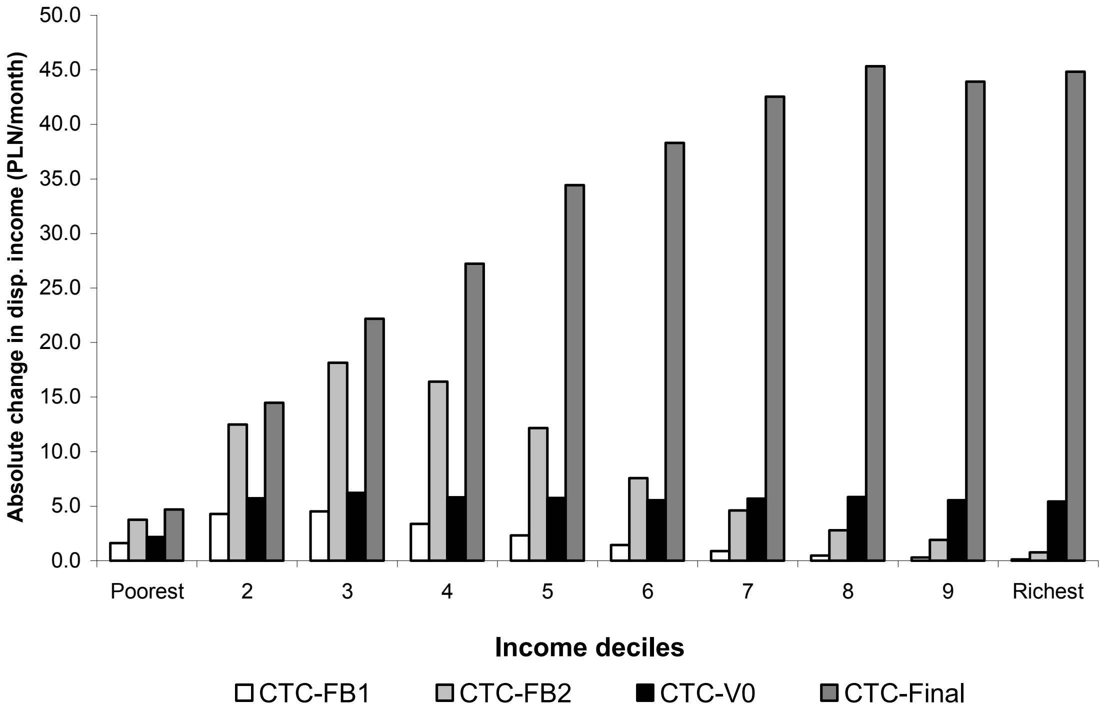
[10] In the appendix we show the results of the same reforms with absolute gains shown for households with children only, since these are the only households affected by the reform (Figure A3).

Figure 2. CTC - distributional consequences of proposed and implemented reforms. Proportional changes – all households.



Source: SIMPL model, based on BBGD 2006 data.
Notes: Reference system: Baseline.

Figure 3. CTC - distributional consequences of proposed and implemented reforms. Absolute changes – all households.



Source: SIMPL model, based on BBGD 2006 data.
Notes: Reference system: Baseline.

The simulation of the final reform actually in operation (CTC-Final) demonstrates the scale of the difference between the initial plans, the initial modest credit and the current policy. In proportional terms the policy is most generous to households in deciles 5-7, who see their disposable incomes grow on average by about 1.9%. While the policy is most generous of the four considered here also to households in the lower deciles, the poorest 10% of the population see their incomes grow by only about 0.4%. Proportional gains are also lower at the top of the income distribution (0.8%) because the effect of the policy is less substantial in proportion to their higher incomes. In absolute terms households in deciles 7-9 gain on average between 42-45PLN per month, which is about ten times more than the average household gain among those in the lowest decile. This largely relates to the fact that families in the lower deciles either do not have any earnings or their earnings are too low to take full advantage of the available credit (see Figure 1).

The different generosity of the policies which can be seen on Figures 2 and 3 translate also into very different total costs of the simulated reforms. The reforms limited to families receiving Family Benefits cost 0.3bn PLN (CTC-FB1) or 1.3bn PLN (CTC-FB2) per year, and the initial version of the CTC would have cost about 0.8bn PLN per year. The final policy currently in operation increased the cost by over 550% to 5.3bn PLN (according to out estimates).

5. CTC – beyond the status-quo

The September 2007 extension of the Child Tax Credit was strongly criticised and opposed by Zyta Gilowska, the Finance Minister at the time, as too costly and irresponsible. While the Donald Tusk government decided to maintain the credit in its generous form until now, the cost of the policy has come to the focus of the current government for similar reasons. Several lose proposals have been named as options for consideration, and in this section we analyse four different scenarios, each of which would, to a different degree, limit the cost of the CTC:

1) CTC-Ref1: tax credits applicable to all children but amounts per child equal to a single universal tax credit.
2) CTC-Ref2: tax credits applicable only to families with three or more children; eligibility granted to all children; amounts per child equal to two values of the universal tax credit.

3) CTC-Ref3: tax credits applicable only to families with three or more children and eligibility granted to all children; amounts per child equal to a single universal tax credit.
4) CTC-Ref4: tax credits applicable only to families with three or more children and eligibility granted only to the third and any subsequent child; amounts per child equal to two values of the universal tax credit.

Distributional effects of these reforms are shown in Figures 4 and 5. [11]

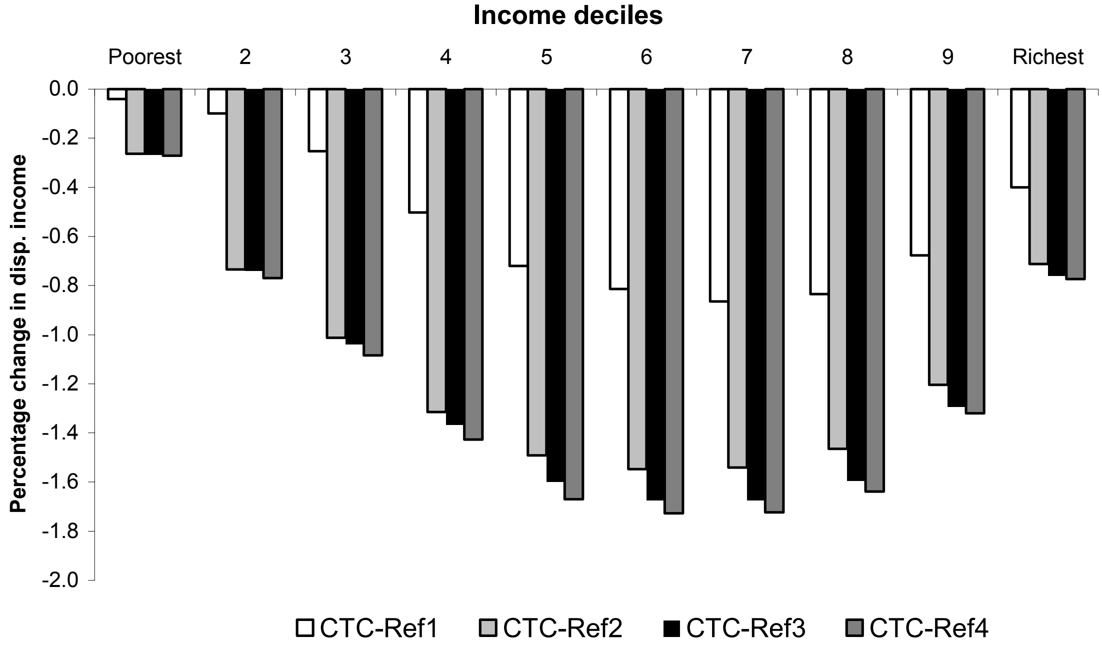
5.1 Distributional consequences of hypothetical reform scenarios

The distributional results presented in Figures 4 and 5 show that a significant proportion of the Polish CTC is targeted at families with one or two children, and limiting the reform to those families with three or more kids significantly reduces the scope of the policy. This is reflected in the budget gains resulting from any of the reforms which withdraw the credit from families with one or two children. These reforms of the CTC imply an annual tax increase of 4.3bn PLN (CTC-Ref2), 4.6bn PLN (CTC-Ref3) or 4.7bn PLN (CTC-Ref4), which means reducing the cost of the reform by between 80% and 90%. In comparison with this, the reduction of the maximum available credit to a single value of the UTC (CTC-Ref1) implies additional revenue to the government of 2.2bn PLN, implying reduction in the generosity of the reform by about 40%.

Interestingly for the cost and distributional implications, the difference between the three modelled versions of the policy which limit the CTC to families with three or more children is not very substantial. This is because of the relatively low proportion of large families among income tax payers and the fact that a significant proportion of 3+ families do not have high enough incomes to benefit from the entire credit the current system allows them (at least 6 times the UTC). The distributional effects of such a limitation are nearly a mirror image of the current policy (CTC-Final), with households in deciles 5-8 losing most as proportion of their incomes (on average between 1.5%-1.7%), and with those in deciles 7-10 losing most in absolute terms (on average between 39.20 PLN to 42.70 PLN per month).

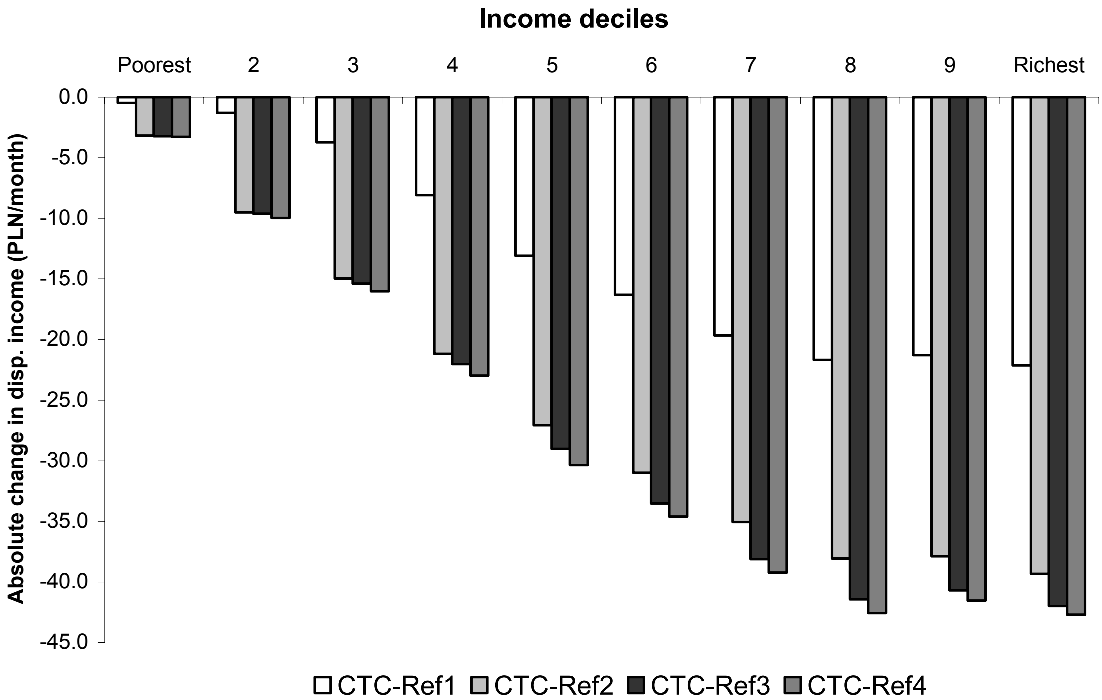
[11] As with the analysis of reform proposals, in the Appendix we show the results of the reforms with absolute gains shown for households with children only (Figure A4).

Figure 4. Consequences of potential reforms. Proportional changes – all households.



Source: SIMPL model, based on BBGD 2006 data.
Notes: Reference system: Baseline with the Child Tax Credit (CTC-Final).

Figure 5. Consequences of potential reforms. Absolute changes – all households.

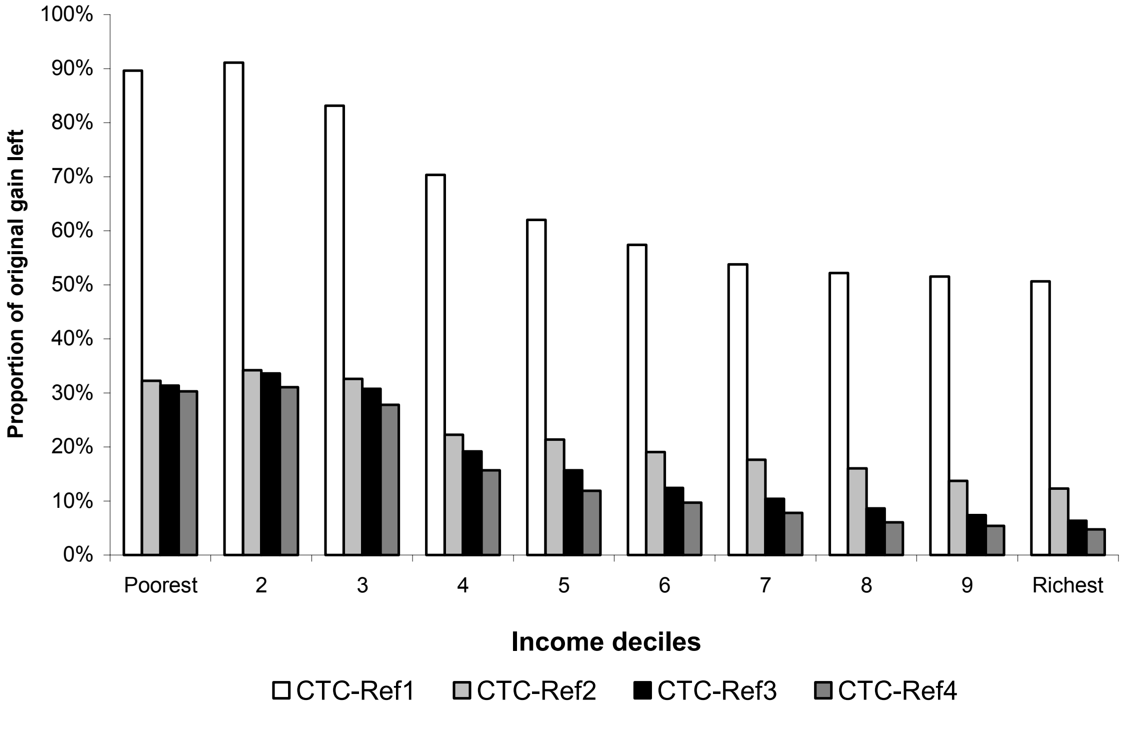


Source: SIMPL model, based on BBGD 2006 data.
Notes: Reference system: Baseline with the Child Tax Credit (CTC-Final).

As in the total budgetary gains from the reform there are also important differences in the distributional effects between limiting the generosity of the current policy (CTC-Ref1) and limiting its eligibility modelled in the three other reforms. Under the current rules a large proportion of families from the lowest deciles who benefit from the CTC have incomes which are too low to make use of their full eligibility.[12] Thus cutting the maximum amount of the credit these families could claim, has a much weaker effect compared to restricting the eligibility conditional on the number of children. The average losses of households in the lowest deciles resulting from reducing the maximum amount of the credit are minimal (on average 0.04% and 0.1% in deciles 1 and 2).

As we show in Figure 6, families in the lowest three deciles would keep on average over 80% of their gain from the policy. With growing family incomes, this proportion is significantly reduced – to the average of about 50% in the upper half of the income distribution.

Figure 6. CTC reforms: keeping the credit.
Average proportion of policy left after a hypothetical reform.



Source: SIMPL model, based on BBGD 2006 data.
Notes: Reference system: Baseline with the Child Tax Credit (CTC-Final).

[12] Only about 5% of families in the first decile and 7% in the second decile from among those who benefit from the CTC make use of the full credit they are eligible to. In deciles 9 and 10 the corresponding figures are 93% and 96%

6. Conclusions

The Child Tax Credit in operation today differs substantially in its generosity and distributional implications from the original policies aimed at supporting families which were announced by the Law and Justice (PiS) party in its election manifesto in 2005. From a policy designed to target poorest families on low earnings, eligible to Family Benefits, the Child Tax Credit, was implemented as a tax credit available to all families with children paying income tax. Its overall cost grew substantially, to over five billion PLN or 0.5% of the GDP, after the generosity of the policy was increased tenfold prior to an early parliamentary election in 2007.

The design of the policy which still operates today implies that highest gains in absolute terms accrue to families in the upper half of the Polish income distribution, while proportionally gains of those in the middle of the distribution are most significant. The average gain from the policy currently in place to households in the lowest decile of the distribution is about 4.70PLN per month, or 0.4%, while disposable incomes of those in the sixth decile (which proportionally gains most) are 2.0% higher with an average gain of 38.30PLN. When we only consider households with children, the figures are respectively 7.60PLN and 91.10PLN for those in the poorest decile and those in the sixth decile (see Figure A3 in the Appendix).

This paper, apart from simulations of the proposed and introduced reforms, considered also effects of potential reforms aimed at reducing the cost of the CTC and their distributional consequences. The proposed eligibility limitation to families with three or more children, depending on the specific rules applied, would limit the cost by between 80% and 90%, or 4.3bn-4.7bn PLN per year. A simulated reduction of generosity of the credit in the form of limiting the maximum credit available by 50%, would save the government about 2.2bn PLN per year. The latter policy would leave the incomes of families with children in the bottom deciles largely unchanged, and it would reduce the benefits from the credit to households in the upper half of the income distribution by about 50%.

The reforms analysed in this paper are clearly only examples of potential changes to the CTC and have focused on such variants which would reduce its cost. Many other options could be considered with different cost and distributional consequences. For example the policy could be modelled on the US's Earned Income Tax Credit, with the credit withdrawn from a certain earnings threshold (e.g. Brewer, 2001) which would make it more in line with the original proposals from the PiS electoral manifesto in 2005. This type of reform, depending of course on the specific design, could also have important cost implications.

Another option which would also focus the policy on low-income families would be to implement the CTC as a refundable credit along the lines of the UK's Child Tax Credit and Working Tax Credit (e.g. Brewer, et al. 2001). These instruments also focus more on lower income families, with the main difference being that they offer support also out of work and support families with low earnings by providing a "refundable" credit, the value of which is not limited by the amount of payable income tax.

A further option of reform which could be considered would be to use the platform of the current system of support to families with children, based largely on the Family Benefits and the CTC, and use these two instruments to introduce a universal child benefit. Since as demonstrated in Levy et al. (2009) almost all children receive some support through these two mechanisms, it seems possible that they could be merged to construct a universal child benefit. Such a design could significantly reduce administration costs of the currently means-tested Family Benefits and simplify the procedures, potentially at no or at very low cost to the government budget.

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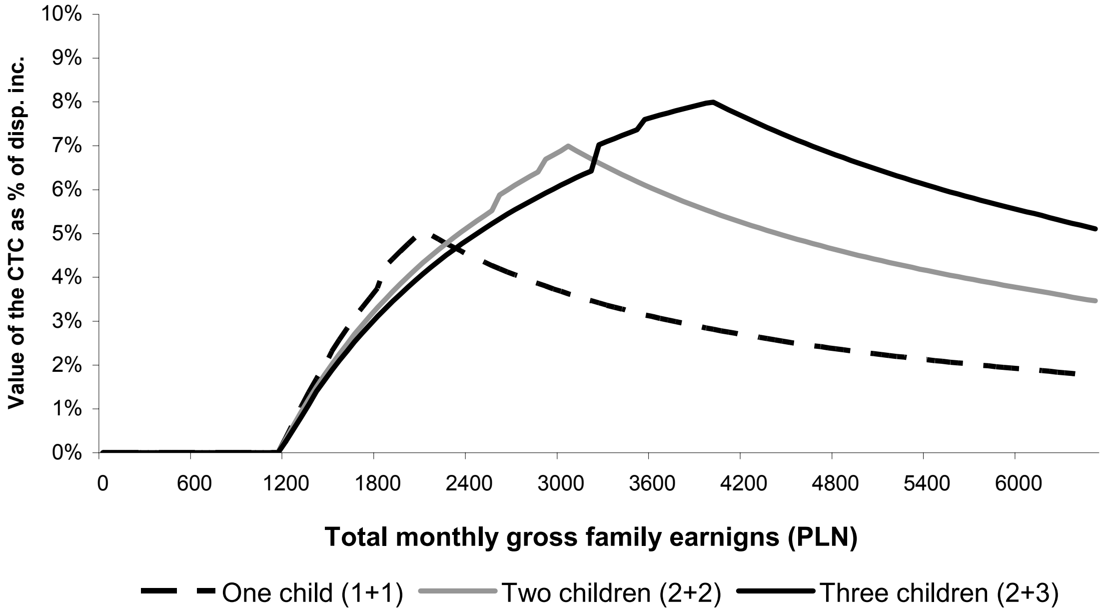
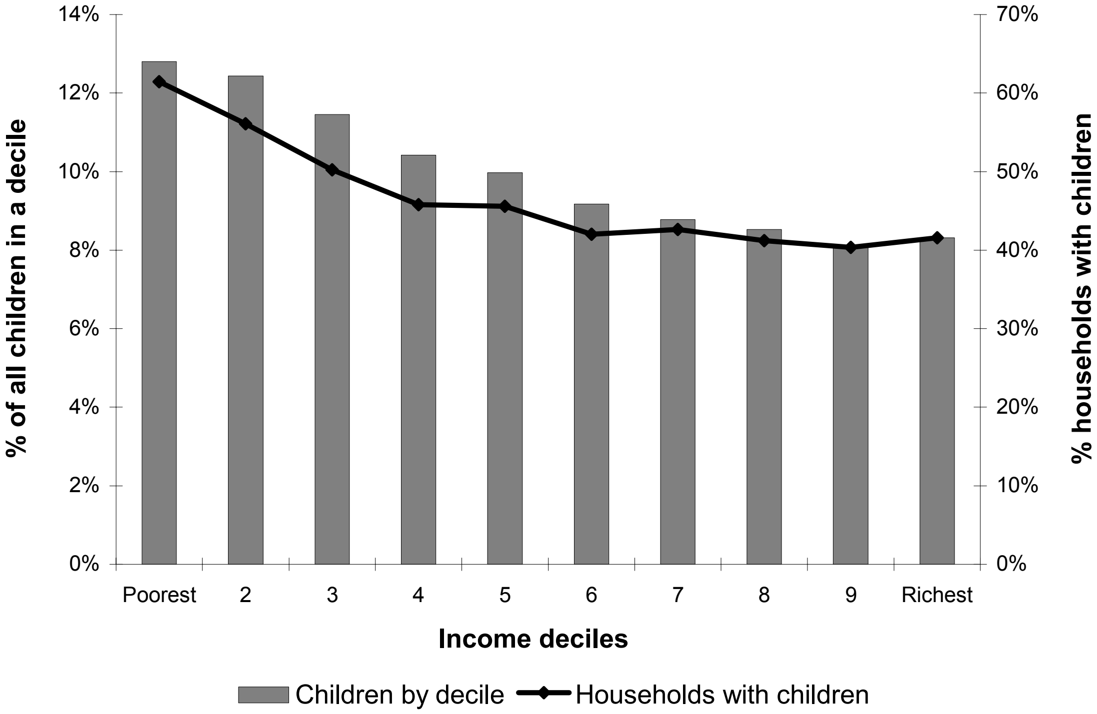
Appendix

Figure A1. Generosity of the system conditional on earnings and family demographics. CTC as proportional of total disposable income.



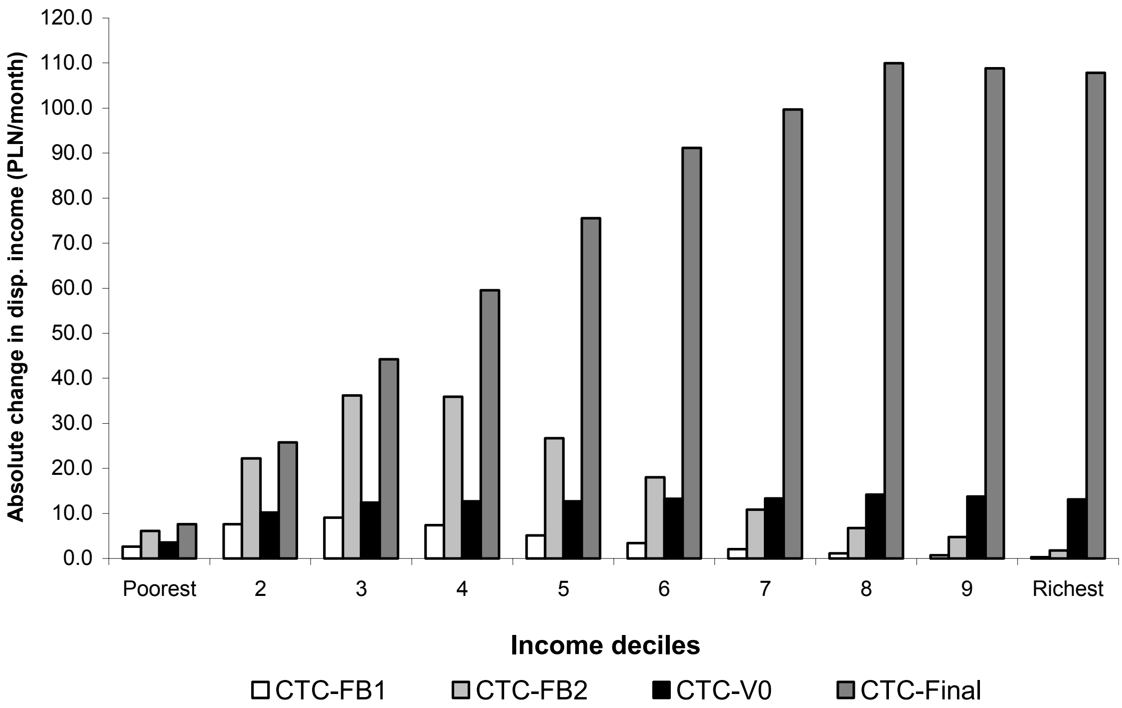
Source: SIMPL model.
Notes: System: actual tax and benefit system in 2010.

Figure A2. Children in the income distribution in Poland.



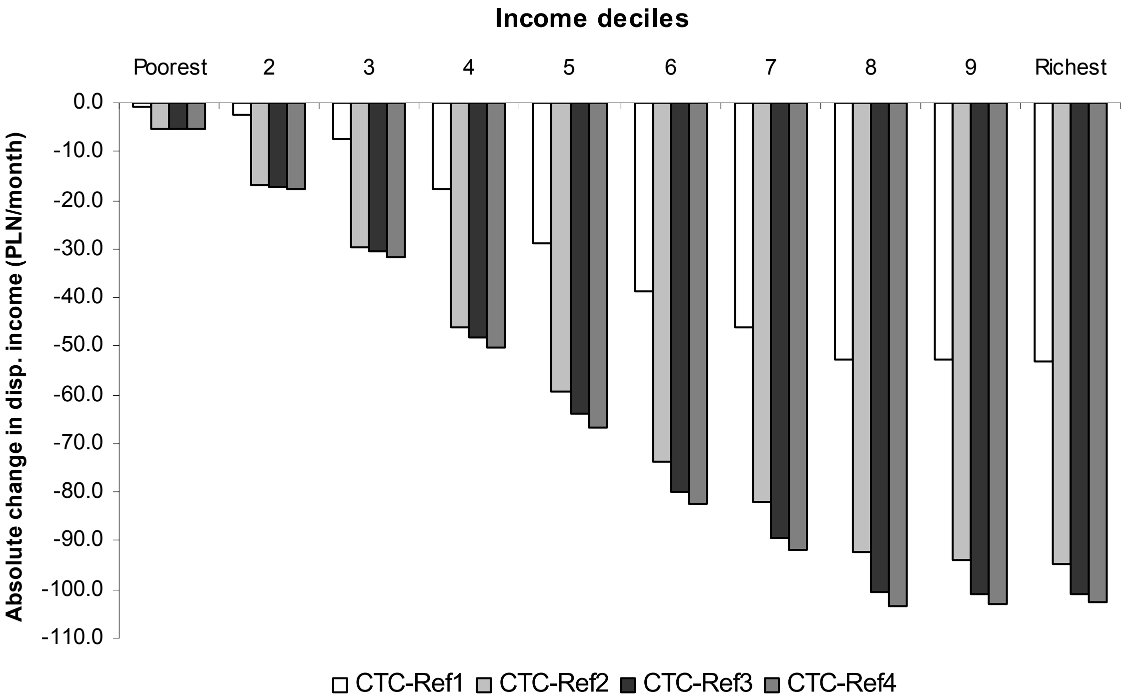
Source: SIMPL model, based on BBGD 2006 data.

Figure A3. CTC - distributional consequences of proposed and implemented reforms. Absolute changes – households with children.



Source: SIMPL model, based on BBGD 2006 data.
Notes: Reference system: Baseline.

Figure A4. Consequences of potential reforms. Absolute changes – households with children.



Source: SIMPL model, based on BBGD 2006 data.
Notes: Reference system: Baseline with the Child Tax Credit (CTC-Final).