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The Effect of Child Allowance on Multidimensional Poverty during the First Period of the Democratic Party of Japan

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Abstract

Since the year 2009, after a period of neo-liberalism in Japan, a set of more comprehensive and universal social policies were enacted. Among these, the child allowance policy was amended in 2010 by the Democratic Party of Japan, which introduced a universal child allowance policy, and increased the amounts of the benefits provided to households compared to the previous policy. In this respect, my goal is to analyse the impact of the modification of the child allowance to inspect its effect on different dimensions, such as on gross family earnings, education, and homeownership for adult, children and young individuals. Similarly, my aim is to inspect the impact of this policy on being above or below the average value of the same dimensions. This analysis contributes to the academic debate because it inspects the effects of this more inclusive policy compared the old, means-tested policy on two big issues in Japan, poverty and inequalities. The outcomes indicate that this intervention has a positive effect both on adults and children and young individuals with regards to poverty, wellbeing, and with regards to their positions about different dimensions in society.

Keywords: Poverty reduction, social policy, children, labor market outcomes, well-being

1. Introduction

One of the goals of social protection is to include individuals and families in different dimensions of wellbeing (Dreze' and Sen 1991). In this regard, the aim of child benefits is to provide children with important human rights that contribute to letting them thrive and to letting them be included in society as adults. These goals are pursued by providing resources that allow children and families to obtain crucial freedoms, and to reproduce valued freedoms at a good level. Specifically, child benefits can affect family environment and wellbeing, and in turn can help children flourish (Sen 2007). In this regard, My article attempts to analyse the effect of the child allowance policy amended by the Democratic Party of Japan in 2010 on capabilities, income and multidimensional poverty, and on inequalities for children and young individual, for adults, and for all recipients.

Specifically, this policy changed the previous one enacted by the Aso government in three main respects: first, it increased the monthly amounts of transfers from a minimum of 5,000 yen to 13,000 yen for each child. Secondly, it removed the means-tested structure of the child allowance and included all families with a child up to 15 years old. Finally, the new policy increased the age of eligibility of children from 12 to 15 years (Abe 2017; Ministry of Health, Labour and Welfare 2010). This changes suggest that this policy can help income poor families and it directs its effects on all families with children and teenagers.

Therefore, the structure of this policy can be very important because it can have a preventive role against income poverty, against multidimensional poverty and against inequalities. In fact, first a narrow poverty line may exclude families and children with a higher family income but with similar deprivations to income poor households and children. On the other hand, a universal or quasi-universal policy can have the power to tackle deprivations of non-poor families in order to reduce the level of multidimensional poverty. This kind of policy can avoid wellbeing deterioration, can prevent deprivations and inequalities above the poverty line. Similarly, universal or quasi-universal policies can have a preventive effect against the risk of becoming income poor and against increasing income and multidimensional inequalities. Finally, this kind of policy can also tackle income, multidimensional poverty, and inequalities for poor families and children. All these advantages are more likely if a universal policy provides enough amounts of transfers to recipients. In this respect, this piece of research fills a gap regarding the Japanese literature by analysing the effects of this new child policy with a universal structure and greater amounts of transfers on monetary and non-monetary dimensions for all recipients, for child and young recipients, as well as for adult recipients compared to the previous targeted and means-tested child benefit policy. Similarly, this article contributes to the academic debate by inspecting the effects on the position of beneficiaries with respect to the mean level of each dimension for all recipients, for child and young recipient as well as for adult recipients compared to the targeted and means-tested child policy introduced by the Japanese Liberal-Democratic party.

As for the methodology, I used the Luxemburg Income Study dataset and employed a cross-sectional, quasi-experimental analysis by applying a propensity score matching technique and a difference-in-difference methodology. Specifically, I computed a first difference between treatment and control group regarding different dimensions in the baseline period, the year 2008, when Aso's government child allowance was already established. Afterwards, I computed a first difference between treatment and control group regarding the previous dimensions in the year 2010, when the amended child allowance policy was introduced. Finally, I estimated the difference of the previous two differences in order to estimate the net impact of the new child allowance policy. The results indicate positive effects on income and non-income freedoms as well as on the position of recipients with regards to different dimensions. Similarly, it shows a positive impact on a multidimensional poverty index for all claimants, and or all beneficiaries.

The structure of this article includes an introduction, the research questions, and the literature review. The following three sections cover the structure of the policy, the dataset and methodology of the analysis. After those sections, the results of the empirical article are highlighted. The article concludes with a discussion of the results.

2. Literature review

As for the literature on the effects of child benefits in Japan, Stephens and Unayama (2015) inspect the association between cumulative child benefits reception over time and family wealth accumulation. The results indicate that higher cumulative benefits increase current family assets. Ma (2009) points out that pro-natalist policies since 1990s do not affect decisions related to have a second and third child. However, it may have a positive impact on the decision to have a first child.

Further, Bessho (2018) applies microsimulation analysis and highlights that the child benefit system reform in 2010 and the abolition of tax allowance for dependents in 2011 contribute to decreasing the labour supply of parents. Fukawa (2016) indicates that child benefits since 2012 do not have a high efficacy in supporting families with children. In fact, child allowances slightly enhance net family income and slightly reduce income inequality. However, a combination of child benefits and a reduction of social security contributions for low-income households play a role in reducing income inequality. Moreover, Abe (2002) underscores that child-related benefits have a small effect on poverty reduction and they do not have a very big inequality-reducing power. Also, Abe (2017) suggests that some indicators of material deprivation and income poverty for Japanese families with children drop between 2009 and 2012 and that a change in social benefits can be one of the likely reasons. Nakajima and Ryuichi (2012) analyse the influence of local government pro-natal policy in Japan on fertility rate and suggest that this intervention increases the probability of birth rate. Also, Naoi et al, (2021) inspect the effects of an exogenous variation of family income caused by a change in the level of benefits of Japanese child allowance policy between 2010 and 2012 on cognitive ability of children and on child educational expenditures of families. The results show that family income change has a positive impact on parents' educational expenditure.

Further, Asakawa, and Sasaki (2022) analyse the role of a reduction in child benefit transfers in the participation of mothers in the labour market in the year 2012. The results show that a payment reduction for high-income recipients increases maternal employment. Koyama et al. (2020) inspect the effect of the means-tested child allowance on different dimensions for children living in Koichi Prefecture in 2016. The findings suggest a positive effect on child overweight and on behavioural difficulties. Moreover, Yamaguchi (2017) analyses the impact of childcare and parental leave policies in Japan by reviewing recent papers of Japanese scholars. The outcome points out that greater parental leave benefits and longer parental leave postpones mother's return to work, but it does not have negative effects on mothers' labour supply. As well as this, Asakawa (2020) analyses the effect of child allowance expansion in 2010. The results highlight that parents of recipient families enhance their attention to childcare environment. On the other hand, higher income families give their priority to child educational environment. Finally, HuiHui and Minae (2024) inspect the effect of a change in Japanese child allowance in the period 2010-2012 on expenditures of families with junior high school students. The results point out a positive impact on supplements and recreational goods for children in low-income families.

The literature shows a gap regarding the effect of the universal child allowance introduced by the Democratic party of Japan on various monetary and non-monetary dimensions compared to the previous Liberal-Democratic child allowance. This article attempts to fill this gap by using a quasi-experimental analysis in order to highlight whether a universal child benefit policy with larger amounts of transfers has a greater impact on wellbeing, poverty, and inequalities of child, young and adult recipients, as well as on all recipients compared to the previous means-tested and age targeted child allowance policy in Japan.

3. Comparison between past child allowance policy and DPJ child allowance programme

In the year 2009, the Democratic party of Japan (DPJ) amended the previous child allowance policy in order to make it universal and to increase the transfers to families with children. The official goals were to incentivise parents' fertility decision and to support families in raising healthy and educated children. At the same time, child deductions for families with children were abolished in order to increase the progressivity of the Japanese tax-benefit system. In fact, the deductions helped better-off families, whereas the new child allowance provided higher benefits to families with lower incomes (Ministry of Health, Labour and Welfare 2010). Specifically, the amended policy allowed all families with children up to 15 years old to become eligible recipients. In fact, eligible children were those between 0 and 15 years old, before junior high school graduation (Abe 2017). The policy was rolled out since April 2010, and each child was provided with the same amount of cash benefits, 13,000 yen per month up to September 2010. However, since October 2010 the monthly transfers were differentiated according to the birth order of children. Specifically, children up to three years old received 15,000 yen per month, children older than three years old up to 12 years old, that is up to elementary education graduation, received 10,000 yen per month. Finally, children in junior high school received 10,000 yen per month, and the third child and subsequent children received 15,000 yen (Bessho 2018). Eligible families had to apply for this policy to their municipalities, but if they already received the child allowance in March 2010 transfers would be automatically provided to these households without re-submitting an application. The child allowance was provided to children with parents or guardians, but not to children in institutions. In order to solve this issue, the DPJ government used the Anshin Child Funds to transfer the same amounts of benefits provided by the child allowance to orphans. (Ministry of Health, Labour and Welfare 2010).

This policy changed the structure of the old child allowance policy, first, the previous child allowance was means-tested: families with an income of 8.6 million yen or higher could not receive the benefits (Naoi et al. 2021). Also, only children up to 12 years old received the transfers. As for the benefits, the amount of income received was 10,000 yen for children up to three years old, 5,000 yen per month for the first two children, and 10,000 yen from the third child (Takezawa 2015). As for the application procedure, an eligible family had to make an application and declare its previous year's income in order for the municipal officers to compare it with the legal threshold. Each year, every beneficiary family had to fill a form and declare the current situation with regards to eligibility parameters in order to continue to receive the benefits (Abe 2017).

As mentioned earlier, the changes in the child allowance increased the share of recipients by including all families with children up to 15 years old, and enhanced the level of monthly family benefits. Specifically, families with children that were not previously eligible, since 2010 started to receive child benefits until their children reached 15 years old. As for families that previously received child benefits, since 2010 they received larger amounts of benefits for each child. They received benefits for children who were between 13 and 15 years old as well. Further, they received benefits for a longer period of time, in fact they obtained public funds until their children were 15 years old. Hence, the new policy improved the situation of previous recipients in three respects: larger level of benefits, a greater number of eligible children, and a longer period of time in which families received a greater amount of transfers. Therefore, the Democratic party of Japan introduced a completely new transfer for families with children who graduated from the elementary education (Abe 2017). Furthermore, it funded families up to the end of compulsory education, the junior high school graduation, that helped families prepare young individuals to enter the labour market. In fact, in Japan individuals can start to work when they reach the age of 15.

This policy also had the aim to foster fertility decisions of families. It also had the goals of spurring education and health inclusion as well. Finally, the enrolment procedure decreased the application burden for families and avoided a possible stigma effect. The structure of the universal child allowance analysed earlier in the article suggests that it can provide valued opportunities and can foster freedom of choice for children and young individuals. Hence, it can increase inclusion in important freedoms (Ballet, Biggeri, and Comim 2011). Similarly, it can have positive effects on crucial freedoms for adults in recipient families and for young members of recipient families who are not eligible anymore.

For example, as the official document written by the Democratic Party of Japan states, this policy can have an impact on the education enrolment and attainment of children (Funabashi and Koichi 2017). It can also effect fertility decision of families as well as health of children and adults through different channels (Funabashi and Koichi 2017). For instance, regarding children, the transfers can be used to cure and to raise healthy children. Moreover, it can generate a more stable and calmer family environment, which can affect child health. Similarly, receiving benefits can increase a feeling of economic safety of parents, and this can foster better mental health. Moreover, monthly child allowance can contribute to purchasing a house or to renting a house. This is important for both children and for the whole family. Moreover, child allowance transfers can contribute to reducing income poverty. Finally, the benefits can contribute to including family members in the Japanese labour market. This means that the transfers can help parents in claimant families to search and find a job. Further, as in Japan the minimum legal working age is 15 years old, it can provide young individuals in recipient families who are not eligible anymore with the opportunity to find an employment. Similarly, it can contribute to employment inclusion for young recipients who are 15 and have not completed junior high school education yet. In addition, for similar reasons, the transfers can play a role in reducing income inequality, health and education inequalities as well as homeownership inequality. In fact, the inclusion of new recipient families and the increase of funds for a longer time period for existing recipient families can contribute to affecting recipients' position in society for different dimensions.

4. Dataset

As for the dataset, I used the Luxemburg Income Study database (LIS) provided by the LIS organization. This is a cross-sectional dataset with different waves. Specifically, regarding Japan the available data are for the years 2008, 2010 and 2012. The dataset is made up of socio-demographic and economic variables, such as age, gender, wage level, worked hours, housing affordability, health status, and education attainment (Luxemburg Income Study, 2019b). The dataset includes variables at individual level and at household level. It contains a set of weights making the sample representative of the population characteristics. This data has been provided by a longitudinal survey dataset released by Keio University. Afterwards, new variables were constructed by the LIS research staff through the aggregation of the variables inside Keio University's dataset (Luxemburg Income Study, 2019a).

Specifically, the main structure of the LIS dataset is taken from the Japan Household Panel Survey dataset (JHPS). Each year, since 2009 this dataset publishes data on 4,000 households and 7,000 individuals. Also, in order to tackle the attrition issue a new cohort of 1,400 households and 2,500 individuals has been added since the year 2007. As mentioned earlier, this dataset focuses on income and wealth dimensions as well as on social and demographic variables (Keio webpage). As for the structure of the JHPS, this dataset uses a two-stage stratified random sampling technique.

In particular, in the first stage, Japan is stratified by regions and cities and the main sample units of the areas are national census and survey districts. In the second stage, the main sampling units are basic residents of each area (Keio webpage).

As for the variables, I used dimensions belonging to freedoms taken from the Burchardt-Vizard framework, which focuses on the most important human rights signed by most of world nations (Burchardt and Vizard 2011). As for variable selection, I chose the following outcome domains: housing, labour market, education, fertility decisions, income, and health status (see table four). However, regarding the latter variable, there is only information about adult health status, hence I analyse the effect of child allowance on health status of adult individuals. I chose these domains because the Japanese Government explicitly stated that health, education, fertility, and income are specific targets of the policy. I also added other domains because they are important freedoms protected by human rights, such as the freedom to be sheltered.

As for the structure of the variables, some are individual-level variables, and some others are household level variables, this means that each member of a family has the same value of a given variable. In particular, the dimension homeownership shows families that own a house, and this means that each member of a family which owns a house has the value of one. Similarly, the variables number of earners in a family, number of children in a family, number of sick individuals in a family, typology of dwelling, having a mortgage, and number of worked hours are household-level, dichotomous variables. Regarding the first three variables, first I estimate if there are sick individuals, and earners in a family. Afterwards, if this is the case, for each variable I assign the value of one to all members of that family. Regarding the variable number of children in a family, first I estimate if in a household there is more than one child. If this is the case, I assign the value of one to all members. Regarding the variables typology of housing and having a mortgage, if a family has a given typology of house or has a mortgage I assign the value of one to all family members. Finally, regarding the variable number of worked hours, I sum the number of weekly worked hours in a family. If the total amounts of worked hours is below 48 hours I assign the value of one to all family members (see table four).

As for the construction of variables, I dichotomise all the outcome variables in zero if a dimension is below a deprivation line and one if a dimension is above that line. Also, I construct an individual income variable by merging the variables regarding the earnings of Japanese employees and of self-employers. Similarly, I sum the earnings of a family and I construct the variable household income. Afterwards, I construct the variables family income poverty and child income poverty by using the household income variable: if the aggregated level of income is below the half of the mean gross family income, I consider a family and their children as poor and I assign the value of one to all household members. Further, I construct the variable individual poverty by using the individual income variable: if individuals are below the half of the mean gross individual income, I consider them as poor and I assign them the value of one. Similarly, I construct the variable poverty intensity by computing the distance between the poverty line and the individual income levels. As well as this, I set up an index of multidimensional poverty for adults by summing the variables being unemployed, having at least one family member older than 18 years old in bad or not good health status, being income poor, and lack of housing ownership at individual level. I also construct an index of child multidimensional poverty by summing the variable being income poor, not living in a owned house, living in a family with at least one member above 18 in a bad or not good health status, and not being enrolled in elementary and secondary education.

Afterwards, I dichotomise both indexes in zero no deprivations and one when adults or children and young individuals suffer at least from one deprivation (see table four). Similarly, I construct an index of multidimensional poverty for all recipients by merging the previous two multidimensional poverty indexes.

Moreover, I construct an index of position in some dimensions. Specifically, I compute the mean value of a dimension before its dichotomization, and I subtract each individual value of this dimension from the average computed in the previous step. In this way, I estimate if the recipients are above or below the mean value of a dimension (see table four).

As for the policy variable, I exploit a household-level variable related to child allowance inside the LIS dataset. The main issue of this variable is that it includes both child allowance benefits and lone parent transfers. The latter variable refers to another intervention reinstated by the Democratic Party of Japan in 2010. In order to inspect the effects of the child allowance on the previous domains, I identify the transfers provided to lone parent families, using the variable lone parent family and I exclude these families from the treatment group. In this way, I could retain just recipient families of the child allowance policy. Hence, I excluded 439 observations in the year 2008 and 496 observations in the year 2010 from the treatment groups and convert them into missing values.

As for the treatment and control groups, I analyse the effects of the new child allowance for four groups. First, I inspect the effects of this policy on the group of all individuals in the dataset: the sample size of the treatment group in the year 2008 is made up of 5,339 recipient individuals. The sample size of the control group in the year 2008 is made up of 19,097 non-recipient individuals. The sample size of the treatment and control groups in the year 2010 are respectively: 6,125 and 13,480 individuals. Also, I inspect the group of children and young individuals up to 18 years old: the sample size of the treatment group of children and young individuals in the year 2008 is made up of 2,678 units. The sample size of the control group is made up of 1,006 units. The sample size of treatment and control groups regarding children and young individuals in the year 2010 are respectively 2,421 units and 2,244 units.

Moreover, I analyse the impact of this policy on the group of young individuals and adults from 15 years old. The main reason for this analysis deals with the fact that my goal is to inspect the effect of the new child allowance on some dimensions such as individual income level and the related income poverty measures, labour force participation and worked hours. In fact, by law, since 15 years old young individuals can start to work in the labour market, because the compulsory educations ends at that age. The sample size of treatment and control groups in the year 2008 are respectively 3,133 units and 17,754 units. Also, the sample size of treatment and control groups in the year 2010 are respectively 3,981 units and 12,913 units. Finally, I inspect the group of adult individuals whose age is above 18 years old, because this policy can have impacts on parents, relatives and elder brothers who are not directly eligible, but can benefits from the transfers. The sample size of treatment and control groups in the year 2008 are respectively 2,918 units and 16,853 units. Also, the sample size of treatment and control groups in the year 2010 are respectively 3,447 units and 12,44 units.

5. Methodology

As for my research analysis, I inspect the effects of the new child allowance policy on all individuals including children, young individuals, and adults with regards to deprivations, income poverty, wellbeing, and inequalities by using a quasi-experimental analysis. Moreover, the year 2008 is the baseline period and the year 2010 is the impact estimation period. As for the methodology of the analysis, I apply a propensity score matching technique and afterwards a difference-in-difference technique in both years in order to estimate the effect of this policy on the outcomes. Specifically, I apply the propensity score matching technique in order to construct a balanced control group that is very similar to the treatment group in important observable characteristics. In this respect, I use features that are assumed to be associated with both the eligibility in the treatment group and the outcome variables. The main goal is to assign higher weights to individuals of the control group whose scores are closer to the score of individuals of the treatment group. This means that those control group units have a higher likelihood of being enrolled in the child allowance policy given their observable characteristics. The only difference with the individuals in the treatment group is that they are not beneficiaries either because they are not eligible or because they did not apply for that policy. The main advantage of the propensity score matching technique is that it allows the construction of a balanced control group in observable characteristics and avoid distortions in difference-in-difference analysis. As for propensity score matching functions, I employ a kernel-based propensity score matching estimator, because it uses more information compared to other matching estimators. Specifically, I apply the Epanechnikov function, which is based on the normal distribution and uses a quadratic function.

After constructing the propensity score in both years to form a control group similar to treatment group in important observable features, I estimate the difference-in-difference between the two groups in each year for outcome dimensions (see table four). The specific difference-in-difference procedure I am applying is called ATT, the Average Treatment on the Treated effect. The first step is to compute a first difference of the average value of a given outcome variable between treatment and control groups both in 2008 and in 2010. Afterwards, I employ a robustness analysis designed by Rosenbaum (Rosenbaum 2002; Rosenbaum 2005) to the results of the first differences in both years to check for possible further missing factors that might bias causal outcomes (Guo and Fraser 2015). For example, as the baseline period of this analysis is inside the big recession, which hit Japan from 2007 to 2010, I apply a robustness test in order to avoid that issues related to that event could bias the causal findings. In this sense, if the test suggests that there is some factor impinging upon a causal relation between the child allowance and a given outcome dimension, I can exclude that the policy has an effect on that dimension. Further, I calculate a second difference, called difference-in-difference, between the previous two differences in order to find the effect of this policy on each outcome dimension that passed the robustness rest in both years. The last step deals with testing the hypothesis that the difference-in-difference be statistically significant. The main advantage of this procedure is that it can cancel unobservable factors that can bias the causal effect of the policy, by eliminating common unknown features. Therefore, the whole estimation procedure allows researchers to account for observable and unobservable factors that can hamper the estimation of causal effects of a policy on each given outcome of interest. In addition, the use of the propensity score matching avoids the parallel trend assumption being binding. In fact, the rationale and the structure of this technique have that assumption fulfilled or have the bias caused by an eventual violation of the parallel trend assumption be minimized (Smith and Todd 2005).

As for the difference between the balanced control group and the treatment group for a given dimension in the year 2008, it provides the average distance between beneficiaries of the old child allowance policy and individuals who did not receive the allowances. On the other hand, the second difference analyses the mean distance between the beneficiaries of the new child allowance policy and the individuals who did not receive the transfers with regards to the previous dimension. Hence, the difference of the previous two differences can be interpreted as the positive or negative effect of the new policy compared to the old one. This entails that the analysis can indicate an amelioration or a decrease in terms of wellbeing, poverty, and inequalities caused by the new policy compared to the previous one.

6. Results

As for children and young individuals, the results point out that the new universal child allowance has a positive effect on the enrolment of children and young individuals in primary and secondary education. Similarly, this policy has a positive impact on the enrolment in compulsory and not compulsory educational courses compared to not being in labour force. The previous results entail that this policy can allow young individuals to attend upper secondary schools, such as senior high school or junior college education. Also, the findings suggest a positive influence on the number of Japanese households that include earners, although the result is not statistically significant. Specifically, this policy increases the number of children and young individuals living in families with at least one earner. One reason of this result can be that more recipient families have at least one earner in the year 2010. Further, the new child allowance decreases child and young individuals' income poverty in the year 2010. This finding confirm the outcome by Abe (2017) dealing with a decrease in household income poverty between 2009 to 2012.

Also, the policy has a positive effect on the number of children and young individuals living in families which own a house. One explanation of this finding can be that there is a positive effect on the number of recipient families which are homeowners in 2010. Finally, it has a positive impact on the number of children and young individuals living in families in which there is at least one adult member in good health, although the result is not significant. One reason of this outcome can be that the policy increases the number of recipient families with at least one adult in good health (see table one).

Table 1 – Effect of the new child allowance policy on child and young individuals wellbeing and poverty

Dimensions	Difference-in-difference	P-value	Results
School enrolment	0.055	0.0128	Positive effect and statistically significant
Children and young individuals' poverty	-0.05	0.049	Positive effect and statistically significant
Number of children and young individuals living in families with at least one earner	0.002	0.393	Positive but not significant effect
Being enrolled in educational courses. The reference group is not being in labour force	0.081	0.000	Positive effect and statistically significant
Number of children and young individuals with at least one adult family member in normal, pretty good or good health	0.161	0.305	Positive but not significant effect
Homeownership for children and young individuals	0.075	0.000	Positive effect and statistically significant

Regarding all recipients, the amended child allowance transfers show a positive influence on the typology of housing in which families live, and on the number of individuals who are homeowners. Specifically, this policy increases the number of child, young, and adult recipients who live in a detached house and who live in a house owned by their families. Also, this policy has a positive effect on being in labour force. Moreover, the policy has a positive impact on being a non-regular worker, but a negative effect on being a self-employed worker. However, both findings are not significant. Further, this program has a negative effect on the number of individuals working less than 48 hours, however this result is not statistically significant.

The findings also highlight a positive influence on the number of individuals living in families with at least one earner. One explanation of this outcome can be that more recipient families have at least one earner in 2010. As well as this, the child allowance policy has a positive influence on individual income poverty and on poverty intensity, although these findings are not significant. Finally, this policy has a positive effect on multidimensional poverty (see table two).

Table 2 – Effect of the new child allowance policy on all recipients

Dimensions	Difference-in-difference	P-value	Results
Multidimensional index of poverty for both adults, children, and young individuals	-0.0662	0.000	Positive effect and statistically significant
Individuals living in families with at least one earner	0.0029	0.367	Positive but not significant effect
Dwelling typology	0.0631	1.957e-07	Positive effect and statistically significant
Homeownership	0.0432	0.000	Positive effect and statistically significant

As for adult recipients, and young and adult claimants, the findings point out a positive effect on the adult multidimensional poverty index, although the result is not significant. The results also indicate a positive outcome regarding the position of recipients' individual income compared to the mean level of income of the Japanese population. Specifically, this policy has an influence on the average positive distance between earnings of recipients and the mean level of earnings of working individuals. Regarding recipients' education attainment for individuals who completed their education cycle, with respect to the average education attainment of the Japanese population, the results show a positive impact on the mean distance of recipients' education achievement compared to the mean educational attainment level of Japanese population. Probably, this policy has a positive impact on the number of individuals who earned a degree above the mean level education achievement in the year 2010. Finally, as for recipients' mean number of children compared to the average number of children in Japanese families, this policy shows a positive effect on this dimension (see table three).

Hence, the inclusive structure of this policy, the increase of monthly benefits, and the greater time period of eligibility foster positive outcomes in both wellbeing, and poverty, and inequalities for children, young individuals, and adults. In particular, regarding children and young individuals, the child allowance has mainly positive effects on the education domain, the housing domain, and on income poverty. Moreover, it has a positive impact on the number of children and young individuals living in families at least with an adult member in good health, and living in households at least with an earner. The positive effects on being enrolled in educational courses probably confirms the findings by Nao et al. (2021) dealing a positive effect of the child allowance between 2010 and 2012 on educational expenditures.

Similarly, as for adult recipients, the structure of this policy affects the position of recipients with regards to education attainment and to the number of children compared to the mean level of these dimensions in Japan. Also, this policy has a mixed influence on the typology of jobs as well. Further, it has a positive impact on multidimensional poverty. As for young and adult claimants, the inclusive rationale of the new child allowance affects labour force participation domain, income poverty domain and the amounts of worked hours.

Moreover, it has a positive impact the average positive distance between beneficiary's income level and the average income level in Japan. Finally, regarding the whole sample, the framework of this policy shows positive effects on housing domain, multidimensional poverty, and on living in families at least with one earner.

Table 3 – Effect of the new child allowance policy on adult outcomes, and on adult and young individuals outcomes

Dimensions	**Difference-in-difference**	**P-value**	**Results**
Individual income poverty	-0.014	0.24	Positive but not significant effect
Income poverty intensity	-8025.8	0.31	Positive but not significant effect
Multidimensional index of poverty for adults	-0.02	0.2	Positive but not significant effect
Recipients' average education attainment level with respect to the average degree level achieved in Japan	-0.087	0.04	Positive effect and statistically significant
Recipients' mean number of children compared to the average number of children in Japanese families	-0.388	4.920e-29	Positive effect and statistically significant
Recipients' average income level with respect to the mean income level in Japan	-278,628	0.005	Positive effect and statistically significant
Being in labour force compared to not being in labour force	0.083	0.000	Positive effect and statistically significant
Being a non-regular worker	0.008	0.22	Positive but not significant effect
Being a self-employed	-0.016	0.21	Negative but not significant effect
Working less than 48 hours a week	-0.011	0.33	Negative but non significant effect

7. Discussion and conclusions

This article deals with the analysis of the effects of the new child allowance policy introduced by the Democratic Party of Japan in the year 2010 on wellbeing, poverty and inequalities for children, young individuals, and adults. In order to inspect the effect of this policy, my article employs a quasi-experimental analysis that uses a propensity score, a difference-in-difference technique and a robustness test. The main goal of this analysis is to inspect whether changes made by the Democratic Party of Japan government can foster inclusion of child, young and adult recipients in different important life dimensions. Similarly, this article aims to inspect whether this policy can reduce income poverty, multidimensional poverty, and the position of children, young individuals, and adults in different dimensions. I focus on this policy because the Democratic Party of Japan government introduced some inclusive measures, such as the increase of monthly child allowance transfers, the abolishment of means-testing eligibility rule, and the enhancement of the age of eligible children up to 15 years old. Hence, the policy became universal with regards to families with children, and it increased the number of children eligible in two respects, by removing the means-testing and by increasing the age of eligibility. These changes can provide further support to families and children up to the completion of compulsory education and can expand pivotal freedoms (Sen 2003; Sen 2007). Hence, this empirical analysis contributes to the academic debate by inspecting whether the main features of this new child policy increase the wellbeing of children, young individuals, and adults in important dimensions compared to the old child allowance policy. Similarly, this article contributes to the academic debate by analysing whether the characteristics of this new policy influence income and multidimensional poverty, and ameliorate the positions of recipients compared to the old child allowance policy.

As for the results, this universal policy affect inequalities, income and multidimensional poverty, and wellbeing of Japanese recipients. Specifically, regarding children and young individuals, this policy has positive impacts on enrolment of students. Similarly, this policy has a positive effect on being in compulsory or in non-compulsory education courses compared to not being in labour force. Therefore, the new child allowance can encourage enrolment in compulsory education and in non-compulsory education, such as in junior college. In this sense, this policy can contribute to education inclusion. Moreover, it increases the number of children and young individuals living in families with at least one earner, although the finding is not statistically significant. Also, the new child allowance is effective in increasing the number of children and young individuals living in families which own a house. Finally, this policy has a positive influence on the number of children and young individuals living in families at least with one adult member in good health, although the result is not significant. However, the estimation models of the child multidimensional poverty index in both years do not pass the robustness test. Therefore, there are some missing unobservable variable in the model that does not allow to suggest causality.

Therefore, removing the means-testing condition and including more families in this scheme, increasing the age of eligibility of children, and enhancing the amounts of transfers increased family resources. As a consequence, parents can devote resources to both child and teenagers education. This can contribute to supporting education enrolment, and education inclusion for both child and young recipients and for non-recipients in families beyond compulsory education as well. Similarly, the longer eligibility period and the greater level of transfers can allow parents to enroll children and young individuals in higher quality schools.

Moreover, higher inclusion in compulsory and non-compulsory education for recipients and non-recipients, and the possibility to attend higher quality schools can improve labour force inclusion. Specifically, now parents can help their children and young individuals to find a job. In turn, this can enhance the number of families with at least one earner in Japan. Further, the structure of this policy can contribute to taking out a housing mortgage or to purchasing a house. Finally, the greater amounts of transfers can increase health care access or healthy lifestyle of adults of recipient families.

As for housing domain, the amended child allowance is effective in ameliorating the typology of housing in which all Japanese recipients live, and in increasing the number of recipients living in families that own a house. Therefore, higher income accrued through transfers can help families to ameliorate dwelling quality and achieve housing ownership over time. For example, families can use transfers as a collateral to purchase a house. Similarly, families can spend a greater amount of income to live in higher quality dwellings, by renting or purchasing a better house. However, regarding employment, this policy has mixed outcomes. It has a positive influence on being in labour force, and it increases the number of recipients living in families with at least one earner. Also it has a positive effect on being a non-regular worker, but this policy has a negative impact on being a self-employed. Finally, it negatively affects working below 48 hours a week, although the latter three outcomes are not statistically significant. Maybe, the amounts of transfers can foster labour market inclusion for members of recipient families, but resources are probably not enough to spur self-employment.

As for child and young individuals' income poverty, probably higher education inclusion caused by the policy and the greater amounts of resources reduce gross recipient family income poverty and child and young claimants' poverty. For example, this policy, by increasing education inclusion, can enhance the number of young and adult earners in recipient families. In turn, the earners have the possibility of being hired in good jobs and can receive incomes above the poverty line. Also, bigger amounts of transfers can contribute to increasing job search by covering job search-related costs. Further, the transfers can allow members in claimant families to search and choose higher income jobs. Similarly, members in recipient families working in low-paid jobs can at the same time search for better jobs. Finally, the transfers can let members in claimant families change one's job status from full-time to part-time and contemporaneously follow professional courses or search for higher income jobs. Therefore, this policy can contribute to increasing household earning capability and escape child and young individuals' poverty over time. Similarly, the new child allowance has a positive impact on individual earnings poverty and on earnings poverty intensity, although these results are not significant.

As for multidimensional poverty, this policy has a positive effect on adult multidimensional poverty and multidimensional poverty of all recipients, although the former impact is not statistically significant. Probably, the new child allowance allows beneficiaries and members of claimant families to tackle different deprivations contemporaneously. For example, it can affect different child, young, and adult recipient deprivations, such as income poverty, homeownership deprivation, employment issues, education enrolment exclusion, and poor health. Therefore, it can influence these indexes of disadvantage by attacking and weakening the inter-linkages between all deprivations as well.

As for inequalities, the universal and inclusive structure of this policy is effective in improving the position of recipients and of members of claimant families with regards to earnings level compared to the mean level of earnings in Japan.

Similarly, the new child allowance has a positive impact on the position of recipients and of members of claimant families with regards to the educational attainment with respect to the mean degree level in Japan. Therefore, the contribution of this policy to education inclusion probably affects the education attainment of the members of recipient families by allowing them to get a degree above the mean level of education achievement in Japan. Similarly, positive effects of this policy on education, on employment inclusion, and on earnings level inclusion can enhance earnings opportunities, and the level of earnings, which probably can influence the economic position of recipients and members of claimant families. Finally, the amended child allowance has a positive influence on the position of adults living in recipient families with regards to the number of children compared to the average number of children in Japanese households. Hence, this policy can affect fertility decisions of claimant families. For example, this may entail that recipient households with an average number of children greater than the mean level of children in Japanese families in the year 2008 enhanced the number of children in the year 2010, by having one more child.

Regarding the limitations of this article, there are missing data that do not allow me to inspect the effect on important dimensions, such as health status, parenting, social connectedness, and leisure time of children, young individuals, and adults. Future articles should use a more comprehensive dataset in order to analyse the effect of this policy on the previous dimensions.

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Annex

Table 4 – outcome variables

Domains	Definition	Type of variable	Child and young individuals-related variables	Type of variable
Housing				
Rent	0 - not rented house 1 - rented house Household variable. The evaluation is conducted using the whole sample.	dummy variable	0 - not living in a rented house 1 - living in a rented house The evaluation is undertaken using children and young individuals with an age of 18 years old or below that age.	dummy variable
Ownership	0 - do not own a house 1 - own a house Household variable. The evaluation is conducted using the whole sample.	dummy variable	0 - not living in a family with homeownership 1 - living in a family with homeownership The evaluation is conducted using children and young individuals with an age of 18 years old or below that age.	dummy variable
Mortgage	0 - no house mortgage 1 - house mortgage Household variable. The evaluation is conducted using the whole sample.	dummy variable		
Dwelling typology	0 - living in a multi-unit residential building, apartment/flat, other type of dwelling 1 - living in a detached house Household variable. The evaluation is undertaken using the whole sample.	dummy variable	0 - living in a multi-unit residential building, apartment/flat, other type of dwelling 1 - living in a detached house The evaluation is undertaken using children and young individuals with an age of 18 years old or below that age.	dummy variable
Health				
Health status	0 - bad or not good health status. 1 - normal, pretty good or good health status. Individual variable. The evaluation is undertaken using individuals older than 18 years old.	dummy variable		
Number of adult family members in good health	0 - living in a family with at least one adult member not in bad or not good health status. 1 - living in a family with at least one adult member in normal, pretty good or good health status Household variable. The Evaluation is conducted	dummy variable	0 - living in a family with no sick adult member 1 - living in a family with at least one sick adult member The evaluation is conducted using children and young individuals in Japanese families with an	dummy variable

	using the whole sample.		age of 18 years old or below that age.	
Position of an adult individual with regards to health status	In order to construct the health position variable I used a variable from which I derived the health status of adult individuals. Specifically, I employed the complement to the health status variable. The health position variable is made up of five values: 1 - bad health status; 2 - not good; 3 - normal; 4 pretty good; 4 good. The variable health position has a negative value when an adult individual has a level of health status above the mean level of this variable. This result suggests that the individual is in a better position with respect to individuals with average or below the average score of this dimension. Positive value entails the opposite outcome. The evaluation is undertaken using the whole sample.	quasi-metric variable		
Economic dimensions				
Individual income	Gross earnings, including bas salaries, bonuses, allowances for dependents from corporate employer as well as overtime and housing allowance. This variable also includes income from independent, self-owned business or sideline (such as income from agriculture and forestry). Individual variable. The evaluation is conducted using individuals working in the labour market, that is young and adult individuals older than 14 years old.	continuous variable		
Household income	Sum of individual income of working individuals by family. Household variable. The evaluation is conducted using the whole sample.	continuous variable		
Income poverty	Headcount measure: 0 - non income poor 1 - income poor The variable used is individual income. The evaluation is conducted using individuals working in the labour market and earning an income, that is individuals older than 14 years old. The poverty line is half of the	dummy variable	Headcount measure: 0 - non income poor 1 - income poor The variable used is household income. The evaluation is conducted using children and young individuals up to 18 years old in a family. The poverty line is half of the median level of the	

	median level of individual income.		household income.	
Income poverty intensity	Distance between individual income and the poverty line, if individual income is below the line. The poverty threshold is defined as the half of the median of individual income. Individuals above the poverty line have the value of zero. The evaluation is conducted using individuals working in the labour market and earning an income, that is individuals older than 14 years old.	continuous variable		
Household income poverty	Headcount measure: 0 - non income poor family 1 - income poor family The variable used is household income. The evaluation is conducted using the whole sample. The poverty line is half of the median level of the household income.	dummy variable		
Position of young and adult individuals with regards to income level	The variable individual income is used. It has a negative value when a young or adult individual has a level of income above the mean level of this variable. This result suggests that the individual is in a better position with respect to individuals with average or below the average level of this dimension. Positive value entails the opposite outcome. The evaluation is undertaken using the whole sample.	quasi-metric variable		
Labour-related dimensions				
Regular worker	0 - non-regular workers, self-employers, family workers 1 - regular workers. Individual variable. The evaluation is carried out by using regular employees individuals older than 18 years old.	dummy variable		
Non-regular worker	0 - regular workers, self-employers, family workers 1 - non-regular workers Individual variable. The evaluation is carried out by using non-regular	dummy variable		

	employees individuals older than 18 years old.			
Self-employed worker	0 - regular workers, non-regular workers, family workers 1 - self-employers Individual variable. The evaluation is carried out by using self-employed workers older than 18 years old.	dummy variable		
Contributing family worker	0 - regular workers, non-regular workers, self-employers 1 – family workers Individual variable. The evaluation is carried out by using family workers older than 18 years old.	dummy variable		
Being in labour force or in educational courses compared to being outside the labour force	0 - not in labour force 1 - in labour force or in educational courses Individual variable. The evaluation is carried out by using the whole sample.	dummy variable		
In education	0 - individuals not in labour force 1 - individuals in the education system: enrolled in either compulsory or not compulsory education courses Individual variable. The evaluation is undertaken using the whole sample.	dummy variable	0 – children and young individuals not in labour force. 1 – children and young individuals in the education system The age of the analysis is 18 years old or below that age. This age range includes both children an young individuals.	dummy variable
Number of family members earning labour income	0 - living in a family with no earners 1 - living in a family with at least one earner Household variable. The Evaluation is carried out using the whole sample of individuals.	dummy variable	0 - children and young individuals living in a family with no earners 1 - children and young individuals living in a family with at least one earner Household variable. The Evaluation is carried out using children and young individuals with 18 years old or below.	dummy variable
Number of worked hours	Aggregated number of weekly worked hours by household. Household variable. The evaluation is carried out using the whole sample.	Continuous	Aggregated number of weekly worked hours by household. Household variable. This analysis regards children and young individuals between 0 to 18 years living in families with zero or positive number of weekly worked hours.	Continuous
working less than 48 hours a week	0 - working longer than 48 hours a week 1 - working less than 48	dummy variable		

	hours a week Individual variable. The evaluation is carried out using all employed individuals older than 14 years old.			
Education				
Being enrolled in primary and secondary education			0 - not being enrolled 1 - being enrolled Individual variable. The evaluation is carried out using children and young individuals with an age of 18 years or below that age.	dummy variable
Education achievement	0 - junor high school degree, high school degree, junior college or a specialized school degree 1 - four-year university degree. Individual variable. The evaluation is carried out using individuals over 18 years old who are not enrolled in the education system anymore and earned a degree.	dummy variable		
Position of individuals with regards to education achievement	The original multinomial ordered variable education achievement is used. The original variable is made up four values: 1 - junior high school degree; 2 - high school degree; 3 - junior college or specialized school degree; 4 - four-year university degree. The education position variable has a negative value if the education attainment of an individual is above the mean level of education attainment of individuals who completed their education cycle. This result suggests that the individual has a better position with respect to individuals with average or below the average values of education achievement. A positive value entails the opposite outcome. The evaluation is carried out using individuals who completed the education cycle and earned a degree	quasi-metric variable		
Fertility				
Number of children	0 - having one child in a family 1 -having with at least two children in a family	dummy variable		

	Individual variable.The Evaluation is carried out using the sample of individuals older than 18 with at least one child.			
Position of individuals with regards to the number of children in a family	The original multinomial ordered variable number of children is used. The values of the original variable ranges from one child to eight children in a family. The variable position with regards to the number of children has a negative value if an individual has a number of children above the mean level of the number of children in Japanese families. This result suggests that the individual has a better position with respect to individuals with average or below the average number of chlidren in Japanese families.			
Indexes				
Multidimensional poverty index for adults	0 - not poor in any dimension 1 – at least poor in one dimension The index includes being deprived of home ownership, having at least one adult family member in bad or not good health status, being income poor, and being unemployed. The evaluation is carried out using individuals above 18 years old.	dummy variable	0 - children and young individuals not poor in any dimension 1 – children and young individuals at least poor in one dimension The index is made up of house ownership deprivation, a child having at least one adult family member in bad or not in good health status, being poor, and not being enrolled either in elementary or secondary education. Individual variable. The age of children and young individuals is 18 years old or below that age.	Dummy variable
Multidimensional poverty index that includes both adult individuals and children	0 - not poor in any dimension 1 – at least poor in one dimension The index includes the score of the previous multidimensional poverty indexes for adults, and children and young individuals.			