The Impact of Welfare Reform and Education Conditionality for Parents: Evidence from Denmark

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Abstract

A central challenge in welfare policy is designing programs that provide income support while fostering economic self-sufficiency. This paper evaluates a novel welfare reform in Denmark, which reduced social assistance benefits to the level of student grants and mandated that low-educated parents enroll in education to remain eligible. Leveraging rich administrative data and a difference-in-differences design that exploits age-specific eligibility thresholds, we show that the reform significantly increased educational participation, particularly in vocational training, while reducing long-term dependence on welfare. The policy also boosted employment and earnings, with affected parents shifting into full-time jobs and working more hours. While disposable income initially declined due to benefit reductions, higher labor market earnings offset these losses in the long run. Our findings demonstrate that integrating education incentives into welfare programs can offer an alternative to traditional work-first welfare policies.

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1 Introduction

Advanced economies dedicate significant resources to means-tested social protection payments.[1] Such payments are an important source of redistribution both across people (Nolan et al., 2018) and within-people over time (Nelissen, 1998; Roantree and Shaw, 2018), while also constituting a consumption floor that provides valuable insurance against shocks (O'Dea, 2018). However, these means-tested payments also affect the employment and human capital investment decisions of potential claimants (Blundell et al., 2016), creating a challenge of how to balance the effects of means-tested social protection payments on incomes, insurance, and incentives (Besley and Coate, 1992; Stantcheva, 2017).

The response of policymakers to this challenge has typically involved limiting the generosity of payments and/or imposing some sort of conditionality on recipients. Such conditionality often takes the form of work requirements, known colloquially as a 'workfare', 'welfare to work' or a 'work-first' approach. In their meta-analyses of the literature, (Card et al., 2010, 2018) find that such an approach can be effective at getting recipients into paid work, with disadvantaged participants seeming to "benefit more from work first programs and less from human capital programs" (Card et al., 2018, p.928).

However, the impacts of such a 'work-first' approach on job quality and non-employment outcomes are less clear (Caliendo and Schmidl, 2016; Crépon and van den Berg, 2016). In addition, there are also concerns about the wider social costs that can arise from a 'work-first' approach, in particular adverse impacts on the children of affected claimants (e.g. Edin and Lein, 1997; Løken et al., 2018; Cholli, 2022).

This paper examines a large reform to social assistance in Denmark with a very different emphasis: to help recipients to return (or enter) to the labour market by acquiring additional post-compulsory education. This human capital orientated or 'education first' reform introduced a requirement for parents under the age of 30 who had only basic schooling and sought to claim social assistance to enroll in an educational course. Such

[1] These amount to approximately 3 percent of GDP across the European Union on average, with the share of overall social protection expenditure ranging from 36 percent in Denmark to less than 1 percent in Latvia and Estonia.

requirements previously only applied to young adults without children, with parents exempt from such conditionality before 2014.

Using administrative data from Statistics Denmark, we exploit this reform in a differences-in-differences framework to investigate its effects on the employment and non-employment outcomes of parents, comparing parents with no more than a high-school education who were 27-29 at the time of the reform (and so affected by it) to those aged 30-32 (and so not). We find that the reform resulted in a decline of more than a fifth in the share of the year parents claiming social assistance, with this effect persisting for at least 8 years. While there is an initial rise in the share of year these parents claim an education grant, this effect dissipates within 5 years with instead the biggest margin of adjustment towards no welfare receipt.

The reason for this is that former claimants move into paid work, with our estimates suggesting the reform leads to a 7 percentage point rise in the share of the years affected parents are employed after 8 years. We also see an increase in the hours worked by former claimants and the share that work full-time. The increase in paid work at both the intensive and extensive margin acts to increase employment income substantially, by around 20,000 DKK (€2,670) per year on average at the end of the 8-year horizon we observe. This more than offsets the reduction in transfer income received (10,000 DKK), leading to a substantial increase in the net fiscal contribution of claimants without any negative long-run impact on their disposable incomes.

Finally, we find that the reform increases education attainment among those treated, particularly of vocational education courses in the teaching, caring and (for men) construction sectors. Our results also suggest larger effects for women, and are robust to changes in the age cut-off used to define our treatment and control groups.

We contribute to the literature examining the impact of social welfare reforms in two key ways. First, we show that human capital orientated reforms can have positive impacts on not only educational attainment, but employment, earnings and "self-sufficiency". Such reforms have hitherto been regarded as ineffective for disadvantaged groups like the low-income parents we consider, with work-first or workfare programmes seen as more

effective (Card et al., 2018). Our findings suggest human capital orientated reforms should not be discounted so readily, with important implications for policy given the (growing) concerns around the potential adverse impacts on the children of claimants subject to strict work-requirements (e.g. Edin and Lein, 1997; Løken et al., 2018; Cholli, 2022).

Second, whereas much of this research examining reforms to welfare conditionality look at the impact of such reforms on young adults without children (e.g. Fortin et al., 2004; Lemieux and Milligan, 2008; Bargain and Doorley, 2011; Doris et al., 2020; Bargain and Jonassen, 2022), we consider the impact of reduced generosity or conditionality of social assistance payments on parents. Existing work examining this group is primarily based on reforms in the United States of America (Gennetian et al., 2004; Miller and Zhang, 2012; Guldi et al., 2018; Levere, 2021; Hartley et al., 2022) where the coverage and generosity of social assistance is low and time limited, raising questions about external validity.

This paper proceeds as follows. We begin by providing an overview of the institutional context and the specifics of the reform. We subsequently describe the data sources and outline our empirical approach. We then present results and discuss implications of our findings.

2 Institutional Setting and Data

2.1 The Danish welfare system

Denmark's welfare system provides financial support to families primarily through two mechanisms: non-means-tested child benefits and social assistance (kontanthjaelp). The child benefits are universal and paid quarterly to all families with children under the age of 13. The benefit amount varies by the child's age with higher payments for younger children. The financial support provided through child benefits is relatively modest in comparison to social assistance. For non-single parents, child benefits amount to 5-9% of the total value of social assistance, while for single parents they represent 10-13% of social assistance payments.

Social assistance serves as a safety net for individuals who are capable of working but do not qualify for unemployment insurance (UI). Eligibility is determined based on three criteria: the individual has (1) experienced a qualifying social event, (2) is unable to provide for themselves, and (3) has exhausted their opportunities for work (e.g. unable to find a new job). The definition of "social events" is broad and includes job loss but also individuals who exit high school and fail to secure employment. Individuals are expected to have exhausted their resources before relying on social assistance, which in practice means that their liquid assets fall below 10,000 DKK for singles and 20,000 DKK for married couples. Although authorities disregard assets necessary to maintain or achieve a necessary housing standard and assets required out of concern for the ability to undertake work or education.

The amount of social assistance received consists of three components: a basic rate, a housing supplement and individual assistance. The basic rate constitutes the main component and varies according to an individual's age and household composition. Housing supplements are designed to cover living expenses such as rent, while individual assistance provides additional support for specific needs, such as medical or dental expenses. The total amount received is subject to a cap, which is generous relative to international standards. Prior to the reform in 2014, a single parent could receive up to 13,593 DKK per month, which corresponds to approximately 40% of the median monthly wage. For couples, the total assistance amount is adjusted based on spousal income.

2.2 The Danish Education System and Study Grants

The Danish education system mandates nine years of compulsory schooling for all birth cohorts considered in this study. After completing compulsory education, individuals may either continue into high school or enter the labor force, with school-leaving ages typically ranging from 15 to 16 years. High school education is structured into two primary tracks: academic high school, which lasts between two and three years and prepares students for university enrollment, and vocational high school, which lasts between two and four years and is designed to provide professional training in specific occupations. The vocational

track follows a dual system, combining classroom instruction with apprenticeship periods, during which students are employed in an approved firm that provides structured training.

Tertiary education in Denmark includes both university colleges and universities. University colleges, which typically last three to four years, specialize in shorter higher education programs such as social work, nursing, and teaching. Universities, on the other hand, offer longer programs lasting five years and are geared towards academic and professional degrees.

Beyond initial education, Denmark provides substantial financial support to individuals returning to education later in life. The direct costs of higher education are close to zero, as tuition fees are not charged and most students qualify for government-funded study grants. Adults undertaking education courses are eligible for study grants, which can be supplemented by earnings from student employment, a common practice among recipients. In 2013, the standard monthly study grant amounted to 5,753 DKK, with parents entitled to receive twice this amount.

2.3 Data

This study utilizes administrative Danish Register Data, which provides high-quality individual-level information on demographic characteristics, education, employment, income, and social benefits. By linking records from multiple registers using an anonymized personal identification number, we construct a longitudinal panel that follows individuals from 2009 to 2023, capturing outcomes both before and after the reform.

The central population register provides core demographic information, including date of birth, gender, citizenship, and place of residence. This register also enables the identification of family relationships, allowing us to link parents to their children and establish household composition. These family linkages are particularly important for analyzing the broader effects of benefit reforms on households.

Educational outcomes are tracked through the Education Register, which records annual enrollment status and detailed qualification information. Educational attainment is classified according to the International Standard Classification of Education (ISCED)

system, ensuring comparability across different levels and fields of study. This dataset allows us to examine whether policy changes influence participation in education and long-term qualifications.

The social assistance register captures weekly records of benefit claims, detailing both the type and amount of assistance received. These data enable an assessment of welfare dependency and transitions in and out of benefit receipt over time. To complement this, employment data provides monthly information on job status, industry of employment, and hours worked. Using this information, we classify individuals into employment categories based on their average weekly hours worked per year, distinguishing between those who are not employed, working fewer than 20 hours per week, working 20 to 29 hours per week, and working 30 or more hours per week (full-time employment).

Income information is obtained from the income register, which contains annual earnings and disposable income. To construct a measure of hourly wages, we calculate annual earnings divided by total hours worked in a given year. The integration of these registers provides a detailed and comprehensive dataset, ensuring precise measurement of individuals' labor market and educational trajectories over time.

3 The welfare reform and empirical approach

In this section, we describe the 2014 reform that effected parents under the age of 30 by reducing the amount of social assistance available and introducing new conditions linking access to benefits to educational participation. As we show below, the reform led to a sharp decline in social assistance claims and a corresponding rise in study grant take-up among the affected group. We also outline the sample used in our analysis and discuss the empirical approach employed to identify the causal effects of the policy change.

3.1 The Welfare Reform

On 1 January 2014, the Danish government implemented a reform to social assistance targeting parents under the age of 30. The primary objective of the reform was to improve

the long-term labor market outcomes of benefit recipients by encouraging participation in education and training. The policy introduced two major changes to the social assistance system, both designed to incentivize enrollment in education.

The first change reduced the level of social assistance available to parents under 30, aligning benefit amounts with study grants. As a result, non-married parents experienced a 17% reduction in benefits, while married parents faced a more substantial cut of 42%. By lowering the financial incentive to remain on social assistance, the reform aimed to make study grants a more attractive alternative.

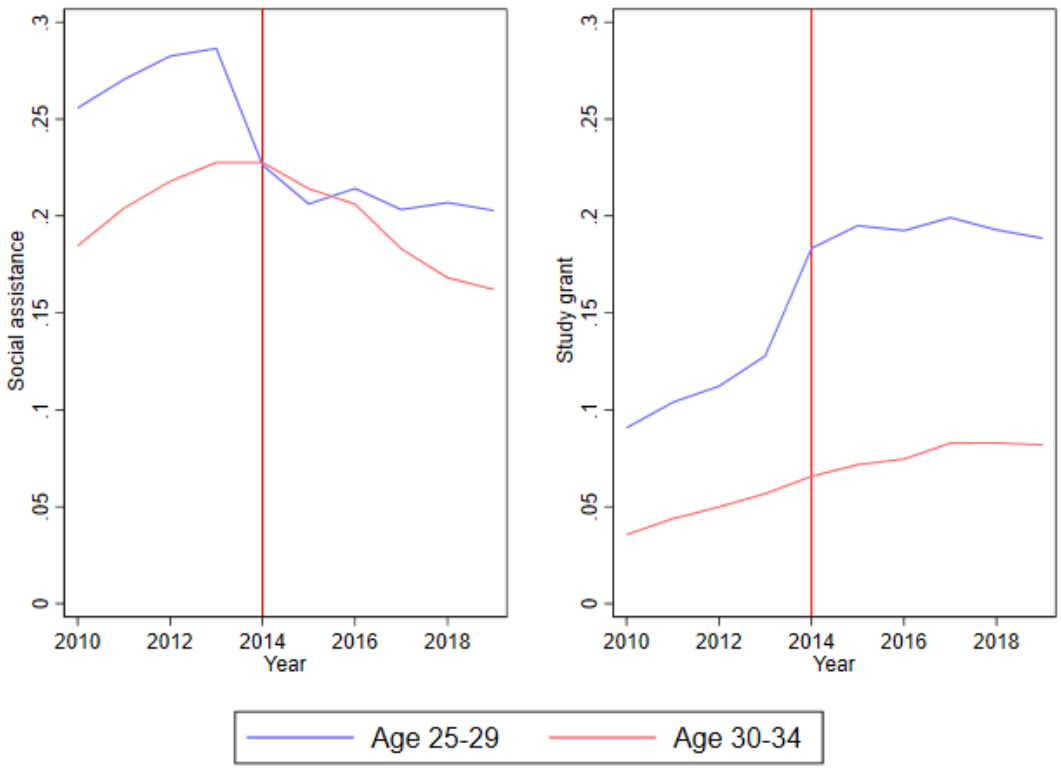
In addition to this reduction in benefits, the reform introduced an educational requirement for parents whose formal qualifications did not extend beyond high school. Recipients under 30 were required to develop an "education plan" in consultation with their caseworker and subsequently enroll in an approved educational program. Failure to comply with these requirements could result in sanctions, including a reduction in benefits or complete loss of eligibility. This conditionality was intended to encourage skill development and facilitate entry into stable employment.

Figure 1 illustrates the share of parents without post-secondary education who claimed social assistance (left panel) or the study grant (right panel) in each year. The figure shows a sharp decline in the proportion of parents under 30 receiving social assistance following the reform, alongside a marked increase in study grant uptake. This shift suggests that the policy redirected young parents from welfare support toward education.

3.2 Empirical strategy

Our empirical strategy leverages variation in exposure to the reform across different parental cohorts to estimate its impact. We focus on parents who, at the start of 2014, had completed at most a high school education. We define two groups: the treated cohorts, consisting of parents who were under the age of 30 at the start of 2014 and were directly affected by the reform, and the counterfactual cohorts, consisting of parents over the age of 30, who experienced no change in benefit levels or eligibility conditions. By comparing these groups over time, we can causally identify the impact of the reform

Figure 1: Percentage of parents claiming social assistance and study grant



This figure shows the percentage of parents with low levels of education (at most high-school level) claiming social assistance and the study grant, disaggregated by age at the start of each year.

under the assumption that, in the absence of the policy change, their outcomes would have evolved similarly.

To estimate the effect of the reform dynamically, we employ an event study framework, which allows us to track the evolution of treatment effects before and after the policy implementation. Specifically, we estimate the following event study regression:

$$y_{it} = \sum_{j=-4}^{8} \phi_j \, \text{Dyear}_j \times \text{Treatment}_{it} + X_{it}\beta + \alpha_i + \tau_t + u_{it} \tag{1}$$

In this event study model, y_{it} represents the outcome variable of interest for individual i at time t, which includes benefit takeup, employment, income and educational attainment. The variable Dyear_j denotes indicators for the years relative to the reform with j = -1 serving as the omitted category. By excluding the dummy for t = -1, all estimated effects are measured relative to the year immediately preceding the reform.

The coefficients ϕ_j for each year relative to the reform measure the dynamic effects of the treatment over time, capturing how the impact of the reform evolves in the years leading up to and following the policy implementation.

The model includes α_i to control for time-invariant individual characteristics and time fixed effects τ_t to account for aggregate shocks that affect all individuals in a year. The vector X_{it} includes additional covariates, such as the age of an individual's eldest child, to control for household composition differences that may influence parental decision regarding employment or education.

While the event study specification provides a detailed view of how treatment effects change over time, we also estimate a difference-in-differences (DiD) model, which provides a summary measure of the reform's average treatment effect:

$$y_{it} = \alpha + \phi\,\text{Treatment}_i + \delta\,\text{Post}_t + \gamma\,(\text{Treatment}_i \times \text{Post}_t) + X_{it}\beta + \alpha_i + \tau_t + u_{it} \quad (2)$$

In this specification, y_{it} again represents the outcomes we examine. Treatment_i is an indicator for whether the individual belongs to the treated cohort, and Post_t is a dummy variable that equals one in the post-reform period and zero otherwise. The interaction term (Treatment_i x Post_t) captures the causal effect of the reform with γ representing the difference-in-differences estimate of the policy's impact. This specification also controls for individual fixed effects α_i and time fixed effects τ_t to capture time fixed effects, as well as a set of control variables X_{it}.

A key assumption for identification is that, in the absence of the reform, outcomes for the treated and counterfactual cohorts would have followed parallel trends over time. To assess the validity of this assumption, we examine pre-trends in the event study specification. If the estimates of ϕ_j in the years prior to the reform are close to zero and statistically insignificant, this provides evidence that pre-existing differences between the groups were minimal, lending support to the parallel trends assumption.

3.3 Estimation sample

To assess the impact of the welfare reform, we focus on parents with a high-school education at the beginning of 2014. Our sample consists of individuals who were parents at the start of 2014 and were between the ages of 27 and 32 at the beginning of that year. This age range allows us to include both those directly affected by the reform and a slightly older control group who were ineligible for the policy change. By restricting the sample in this way, we ensure that comparisons are made between individuals at similar life stages, limiting potential confounding factors arising from differences in parental responsibilities, labor market attachment, or educational aspirations.

The sample is further restricted to native Danes, as non-native individuals follow a different social assistance eligibility schedule, which could introduce heterogeneity in benefit access and complicate the interpretation of treatment effects. Additionally, we focus exclusively on individuals with no more than a high-school education, as the educational requirement introduced by the reform applied specifically to this group. By ensuring that all individuals in the sample faced the same pre-reform eligibility criteria, we isolate the effects of the policy change from differences in baseline educational attainment.

Our empirical strategy differentiates between groups based on their age at the time of the reform. The treated group consists of parents who were between the ages of 27 and 29 at the start of 2014 and were directly subject to the reform's lower benefit levels and new educational conditions. The control group consists of parents aged 30 to 32 at the start of 2014, who were unaffected by the policy change and continued to receive social assistance under the pre-reform rules.

Table 1 presents summary statistics for the estimation sample in 2013, the year prior to the reform. This comparison provides insights into baseline differences between the treated and control cohorts.

Table 1: Describing the Estimation Sample

	Treated cohorts	**Counterfactual cohorts**	**Both**
Demographics			
Female	0.57	0.51	0.54
	(0.49)	(0.50)	(0.50)
Married	0.20	0.30	0.25
	(0.40)	(0.46)	(0.43)
Family and Household			
Frac. first child age 25 or younger	0.73	0.54	0.63
	(0.44)	(0.50)	(0.48)
Number of children	1.32	1.58	1.47
	(0.77)	(0.89)	(0.85)
Employment			
Frac. employed full time	0.25	0.31	0.28
	(0.43)	(0.46)	(0.45)
Log of income	11.97	12.03	12.00
	(0.47)	(0.47)	(0.47)
Social Benefits			
Frac. of year claiming social assistance	0.34	0.27	0.30
	(0.44)	(0.42)	(0.43)
Frac. of year claiming study grant	0.08	0.05	0.06
	(0.24)	(0.19)	(0.21)
Sample Size	9260	11360	20620

The table shows that the treated group is more likely to be female and less likely to be married compared to the control group. On average, treated individuals also have fewer children at the start of the period, which may influence their employment decisions and reliance on welfare benefits. In terms of labor market attachment, individuals in the treated cohort are less likely to be in full-time employment and spend a larger share of time receiving social assistance and study grants relative to their slightly older counterparts.

These pre-existing differences underscore the importance of controlling for individual characteristics and pre-reform trends in the empirical strategy. While some divergence between the groups is expected given their slight age difference, incorporating appropriate controls ensures that any estimated effects reflect the causal impact of the policy rather than underlying differences in family structure, employment trajectories, or social assistance reliance. Importantly, the difference-in-differences approach does not require

treated and control groups to be identical at baseline but instead relies on the assumption that, in the absence of the reform, their outcomes would have followed parallel trends over time. By verifying pre-trends in the event study framework, we assess whether this assumption holds, providing further confidence in the validity of our empirical estimates.

4 Results

This section presents the estimation results on the effects of the reform on benefit take-up, labour market outcomes, income and education.

4.1 The Impact on Benefit Take-up

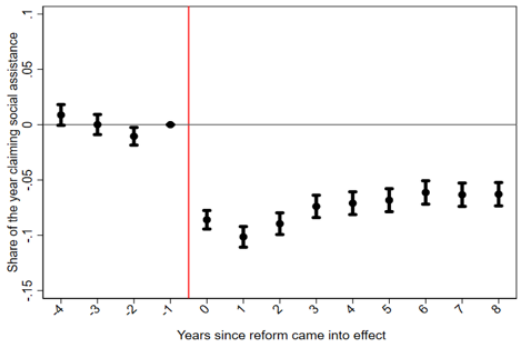
Figure 2 plots the estimates from equation (1) for the proportion of the year spent claiming social assistance (Panel A), education grants (Panel B), incapacity benefits (Panel C), and the proportion of the year spent without receiving any benefits (Panel D).

The reform led to an immediate and substantial decline in social assistance take-up. In the year of implementation, the share of time spent receiving social assistance fell by 9 percentage points (ppts), representing a 27% reduction relative to the pre-reform mean (t = -1). This decline intensified in the first year following the reform, reaching a 10ppt decrease. Although there is some subsequent recovery, the reduction in social assistance take-up remains persistent. Eight years after the reform, individuals continue to claim social assistance for a smaller proportion of the year, with a decline of 7ppts, equivalent to a 21% decrease relative to the pre-reform mean (t = -1).

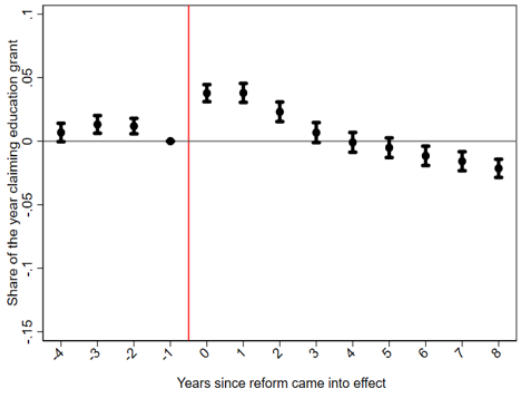
Panel B suggests that some individuals shifted toward education, as reflected in an increase in study grant take-up. In the year of the reform and the first year following its implementation, the share of time spent claiming education grants rose by 5ppts, corresponding to a 63% increase relative to the pre-reform mean (t = -1). This increase is consistent with individuals enrolling in education programs in response to the reform. However, this effect diminishes after the third year. Beyond the fifth year, there is a decline in the share of time spent receiving study grants, suggesting that the reform may

Figure 2: Estimated effects of reform on the share of the year claiming different benefit types and not claiming benefits

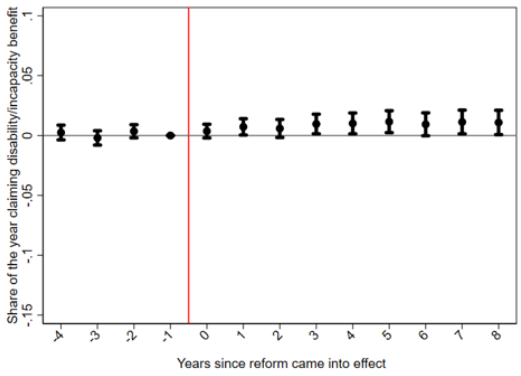
(a) Social assistance



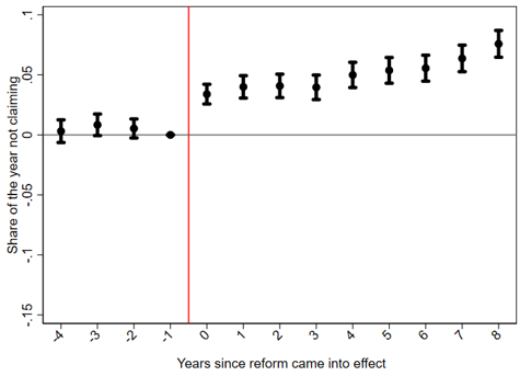
(b) Education grant



(c) Incapacity benefits claimed



(d) No benefits claimed



have brought forward individuals decision to enrol in education.

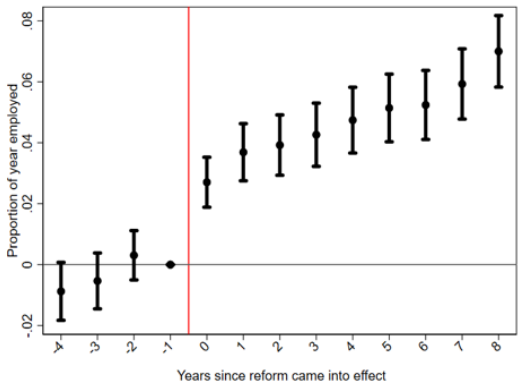
There is no significant change in the share of time spent claiming incapacity benefits, another major benefit category to which individuals may have transitioned. Instead, Panel D shows a notable increase in the share of time individuals were not receiving any benefits. In the year of the reform, this proportion increases by 4ppts and the upward trend continues over time. By the end of the observation period, there is a 8ppt increase in the share of the year not claiming any benefits. Thus, the reform led to an overall reduction in welfare dependency.

4.2 The Impact on Employment

Figure 3 presents the estimated impact of the reform on employment outcomes, with Panel A showing the effect on the share of the year spent in employment and Panel B illustrating the share of the year spent in employment and not claiming any benefits. The introduction of the reform led to an immediate increase in employment, with the share of the year spent working rising by 3 ppts in the year of implementation, representing a 12% increase relative to the pre-reform mean (t = -1). This effect continues to grow over time, with the increase reaching 7ppts (or 28%) eight years after the reform. Although it possible for individuals to be employed while receiving benefits, the trajectory of Panel B closely mirrors that of Panel A. This suggests that the observed increase in employment primarily reflects a direct transition into unsubsidized work, rather than a shift toward employment combined with continued benefit receipt.

Figure 3: Estimated effects of reform on share of the year employed

(a) Employment



(b) Employment and no transfer

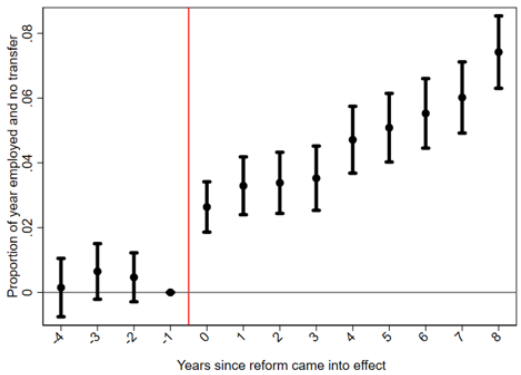


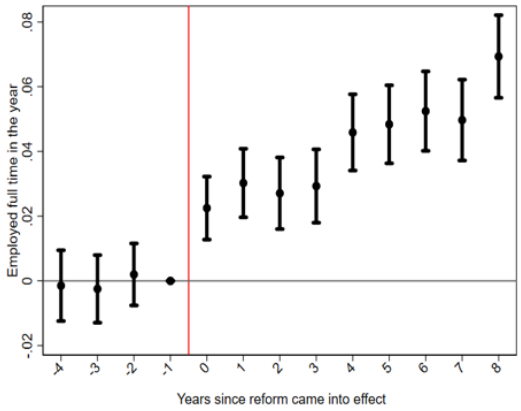
Figure 4 illustrates the impact of the reform on employment intensity. Panel A presents the effect on the share of individuals in full-time employment, defined as working an average of at least 30 hours per week. In the year of implementation, full-time employment increases by 2.5 ppts, representing a 10% rise relative to the pre-reform mean. This effect continues to strengthen over time, reaching 7ppts eight years after the reform, equivalent to a 28% increase in full-time employment relative to baseline levels.

This increase in full-time employment is accompanied by a rise in average weekly

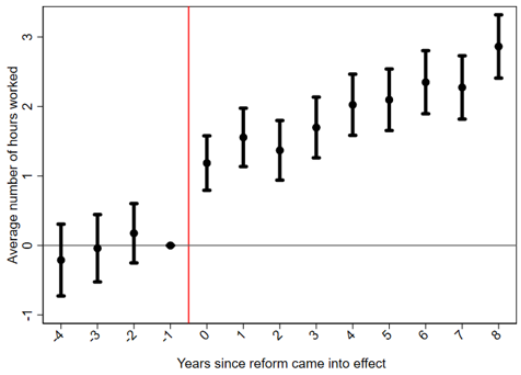
hours worked. In the year of the reform, the average number of hours worked per week increases by just over one hour, with a steady upward trajectory in subsequent years. By the eighth year post reform, individuals are working nearly three additional hours per week on average. These findings indicate that the reform not only increased employment participation but also led to a shift toward more intensive labor market engagement.

Figure 4: Estimated effects of reform on intensity of employment

(a) Employed full time



(b) Average number of hours worked



4.3 The Impact on Income

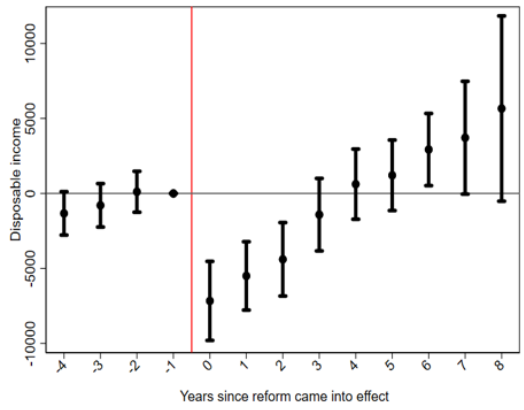
We now examine the effects of the reform on income dynamics. Figure 5 presents estimates of the impact on disposable income (Panel A), public transfers received (Panel B), employment income (Panel C), and net fiscal contribution (Panel D).

In the year of the reform, there is a sharp decline in disposable income, which falls by 7,500 DKK annually. This negative effect remains statistically significant for the first two years following the reform. However, over time, disposable income begins to recover, turning positive from six years post reform. The initial decline in disposable income is largely driven by a substantial reduction in public transfers, as illustrated in Panel B. In the year of the reform, transfer income falls by more than 10,000 DKK. Although there is a slight increase in subsequent years, the overall effect remains persistently negative, indicating a sustained reduction in welfare dependency.

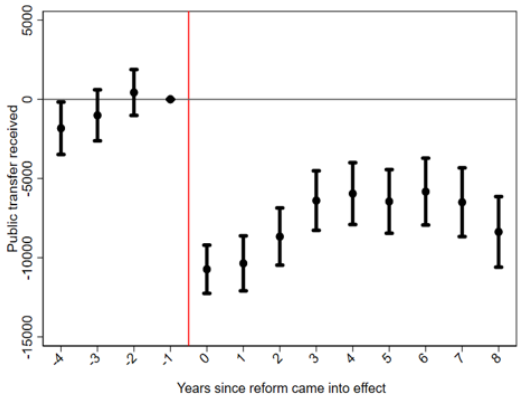
The observed increase in employment following the reform is reflected in higher earn-

Figure 5: Estimated effects of reform on individual income

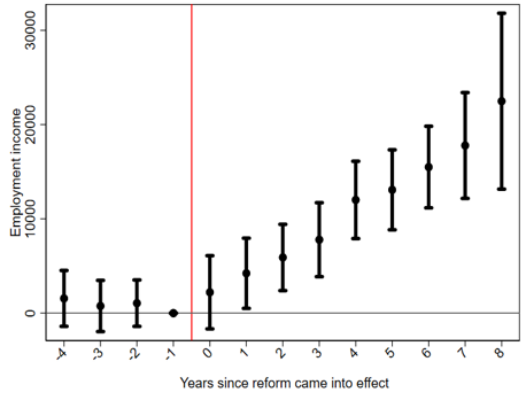
(a) Disposable income



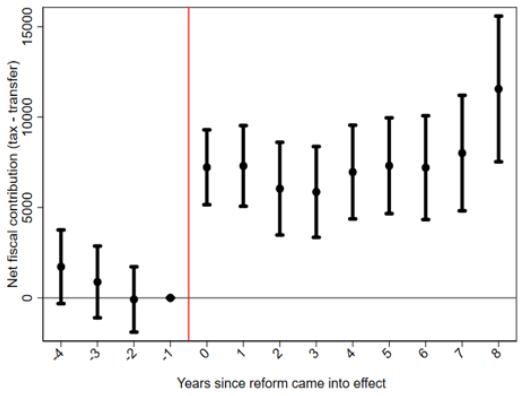
(b) Public transfer



(c) Employment income



(d) Net fiscal contribution



ings. As shown in Panel C, employment income rises consistently throughout the post-reform period, reaching 20,000 DKK higher in the long run. The increase in labor market participation is also associated with a rise in tax contributions. To assess the combined effect of higher taxes and lower transfers, we calculate the net fiscal contribution, which represents an individual's overall impact on public finances. Panel D shows that the reform leads to a positive and sustained increase in net fiscal contribution, suggesting that the policy change not only reduced reliance on government support but also improved individuals' overall financial independence.

4.4 The Impact on Education

A key objective of the reform was to encourage adults to return to education. This section examines whether the policy led to an increase in educational attainment among affected individuals. Table 2 reports the Average Treatment Effects on the Treated (ATET) over a five-year period following the reform, focusing on three educational outcomes: completion of any post-secondary education, completion of vocational courses, and attainment of higher education.

Table 2: Education estimates

	Any FE course	General upper secondary	Vocational course	Higher education
Treatment x Post (ATET)	0.0401***	0.0120***	0.0269***	0.00122
	(-0.00495)	(-0.0025)	(-0.00407)	(-0.0018)
No. of individuals	20,620	20,620	20,620	20,620

The results indicate a positive and statistically significant impact of the reform on overall educational completion beyond high school. This effect is primarily driven by an increase in vocational course completion, rather than higher education attainment. Specifically, the reform leads to a 4 ppt increase in the share of parents completing any form of post-secondary education, with a 2.7ppt increase in vocational course completion.

5 Heterogeneity and Robustness of Results

5.1 Heterogeneity by gender

Appendix B presents the full set of results on benefit take-up, employment, and income, estimated separately for men and women. Figure B1 shows that while the direction of responses is similar for both groups, women appear to be more responsive to the reform. The decline in social assistance claims is more pronounced for women, and this reduction is mirrored by a sharper increase in study grant take-up. Over the long term, the share of women receiving no benefits rises more substantially than for men, indicating a stronger transition away from welfare dependency.

In the labour market, women exhibit a larger increase in employment participation, with a particularly pronounced response on the intensive margin. The rise in full-time employment is greater for women, as is the increase in average weekly hours worked. This suggests that the reform not only encouraged more women to enter the workforce but also led to a stronger shift toward stable, full-time employment.

While the estimated effect on disposable income is larger for women, it is not statistically different from the effect for men. This follows from their stronger employment response, which translates into higher earnings over time. Similarly, the estimated impact on net fiscal contribution—capturing the combined effect of increased earnings and reduced benefit reliance—is also larger for women.

Overall, these findings indicate that the policy had a greater impact on women, both in terms of shifting away from social assistance and increasing labour market engagement.

5.2 Robustness of Results to Varying Age Bands

To assess the robustness of our findings, we extend the treatment definition to include a broader age range, examining parents aged 25 to 29 at the start of 2014 instead of the baseline cohort of 27 to 29-year-olds. This approach allows us to test whether our results are sensitive to the precise age cutoff used for treatment assignment.

Appendix C presents the full set of estimates using this alternative treatment defini-

tion, and the findings remain qualitatively and quantitatively consistent with our baseline specification. The reform continues to generate a sustained reduction in social assistance claims, with a corresponding long-term increase in the share of individuals who no longer rely on any benefits. The employment effects are also robust, with the reform leading to a significant increase in labor market participation and a shift towards full-time employment. The magnitude of these effects is slightly larger than in the baseline specification, which may reflect the greater responsiveness of younger individuals to education incentives and labor market transitions.

The reform's impact on disposable income also remains stable. While income declines in the short term due to reduced benefit payments, it recovers over time as earnings from employment increase. In the long run, disposable income rises above pre-reform levels, reinforcing the conclusion that higher employment compensates for initial losses. The net fiscal contribution also follows a similar trajectory, with treated individuals moving away from welfare dependency and contributing more through taxation.

6 Conclusion

This paper examines the effects of integrating education conditionality into the social assistance system for parents. We find that the reform led to a substantial and sustained decline in social assistance claims, driven both by increased enrollment in education—particularly vocational training—and a direct transition into employment. By raising educational attainment and boosting labor market participation, the policy did not merely shift individuals from one form of government support to another but instead facilitated a broader move toward economic self-sufficiency.

While the reduction in benefit generosity initially lowered disposable income, this effect was short-lived, as increased earnings from employment partially offset the decline in social assistance. Over time, the reform resulted in higher employment rates, more full-time work, and a greater share of individuals moving off welfare entirely. These effects persisted in the long run, demonstrating the reform's success in reducing welfare

dependency and strengthening labor market attachment.

These findings contribute to the broader policy debate on welfare reform by demonstrating that linking benefits to education can be an effective alternative to traditional workfare approaches. The Danish case suggests that such policies can promote long-term economic independence without the severe income disruptions typically associated with welfare cuts. As policymakers reconsider the design of social assistance programs, our results highlight the potential for education-focused interventions to enhance skill development, increase labor market participation, and create a pathway toward more sustainable employment outcomes.

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A Top 10 Most Popular Courses Completed

Table A1: Top 10 most popular courses completed by women

Education Level	**Subject Area**	**Share (%)**
VET programme	Disabled and elderly care	30
General upper sec.	Upper secondary	24
VET programme	Office and admin. services	9
VET programme	Educational work with children	7
Prof. bachelor's	Educational work with children	4
VET programme	Wholesale and retail	4
VET programme	Hotel, restaurant, catering	3
VET programme	Building and user service	2
VET programme	Dentistry and dental treatment	2
Prof. bachelor's	Social counseling, guidance	2

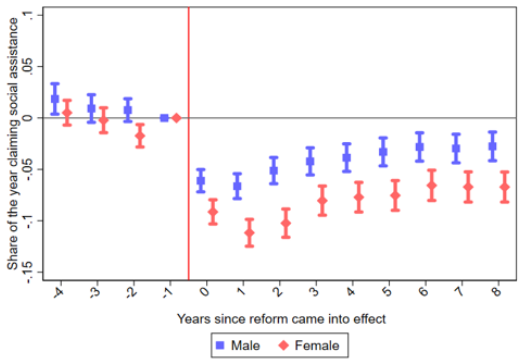
Table A2: Top 10 most popular courses completed by men

Education Level	**Subject Area**	**Share (%)**
General upper sec.	Upper secondary, general	15
VET programme	Construction	10
VET programme	Care of disabled and elderly	5
VET programme	Land transport, driver	4
VET programme	Ports, storage, and terminal	4
VET programme	Educational work with children	4
VET programme	Auto, maritime, aeronautical eng.	4
VET programme	Machinery and plant engineering	3
VET programme	Product manufacturing	3
VET programme	Electronics	3

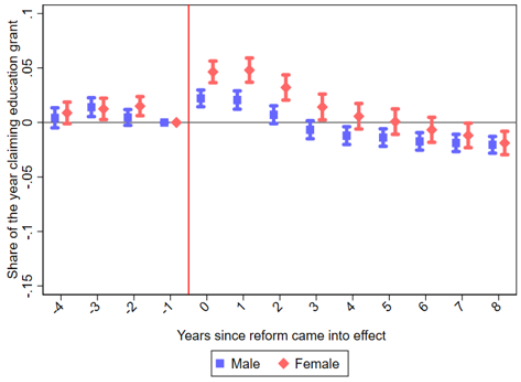
B Heterogeneity by gender

Figure B1: Estimated effects of reform on the share of the year claiming social assistance, education grant and not claiming benefits by gender

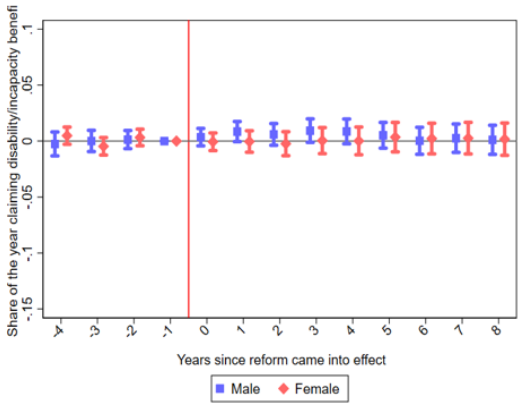
(a) Social assistance claims



(b) Education grant claims



(c) Incapacity benefits claimed



(d) No benefits claimed

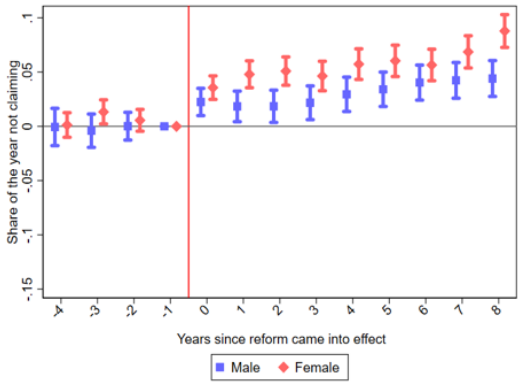
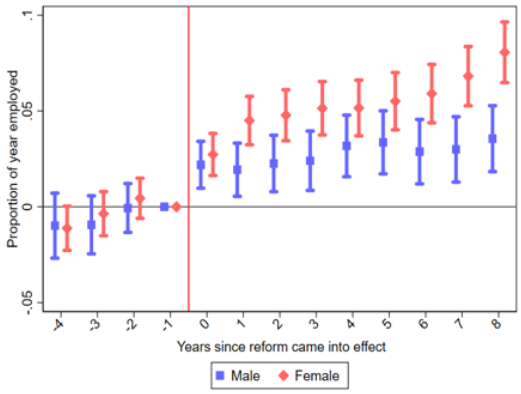


Figure B2: Estimated effects of reform on share of the year employed

(a) Employment



(b) Employment and no transfer

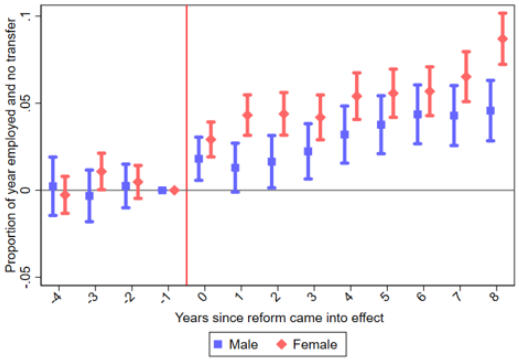
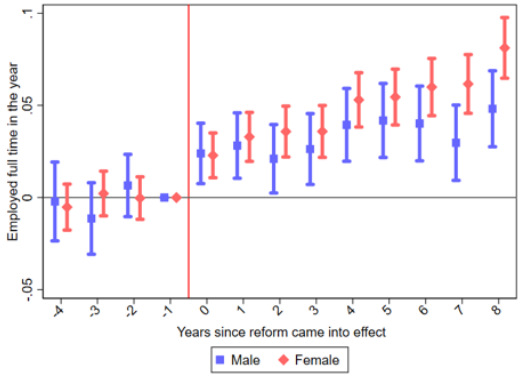
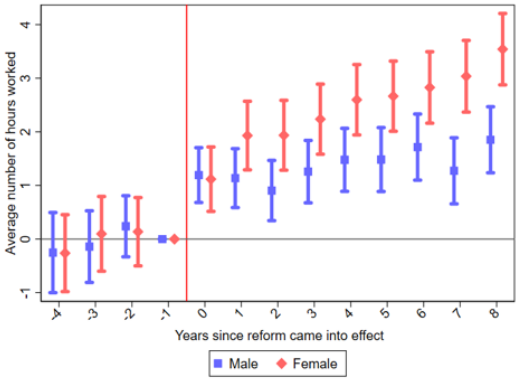


Figure B3: Estimated effects of reform on intensity of employment

(a) Employed full time



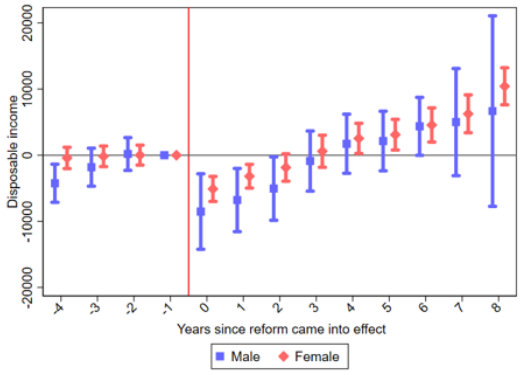
(b) Average number of hours worked



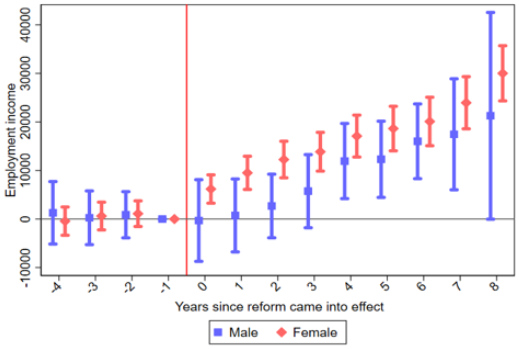
C Robustness checks

Figure B4: Estimated effects of reform on individual income

(a) Disposable income



(b) Employment income



(c) Net fiscal contribution

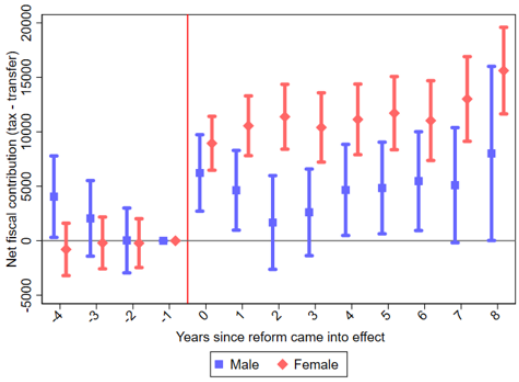
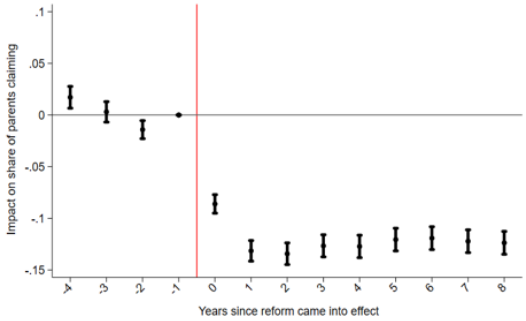
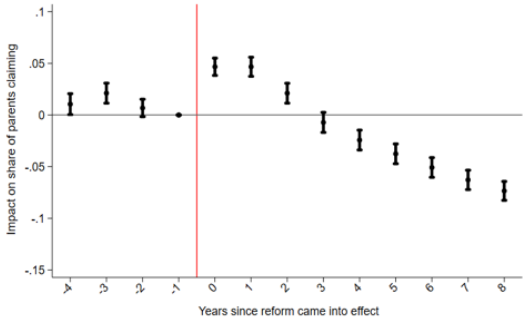


Figure C5: Estimated effects of reform on the share of the year claiming social assistance, education grant and not claiming benefits

(a) Social assistance claims



(b) Education grant claims



(c) No benefits claimed

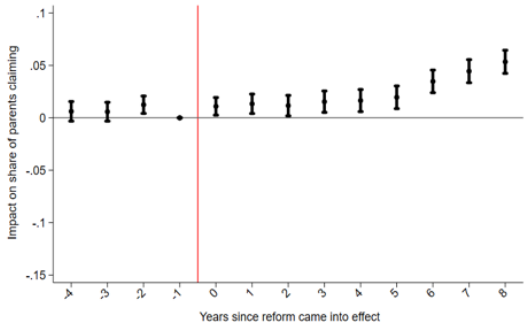
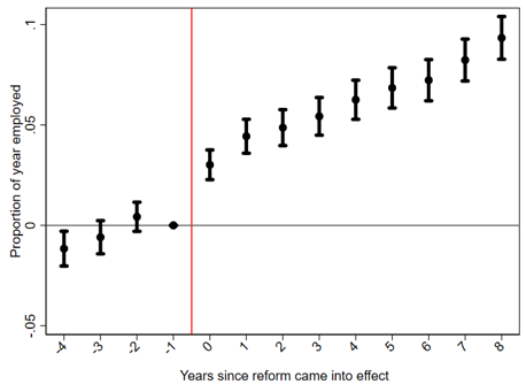


Figure C6: Estimated effects of reform on share of the year employed

(a) Employment



(b) Employment and no transfer

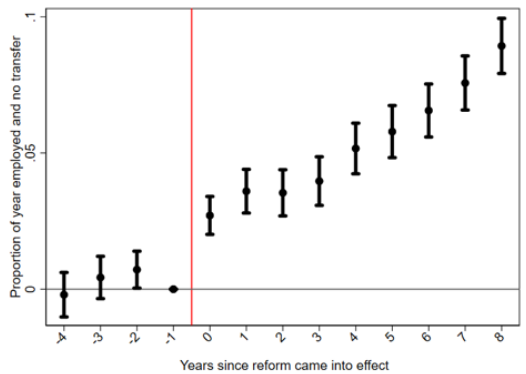
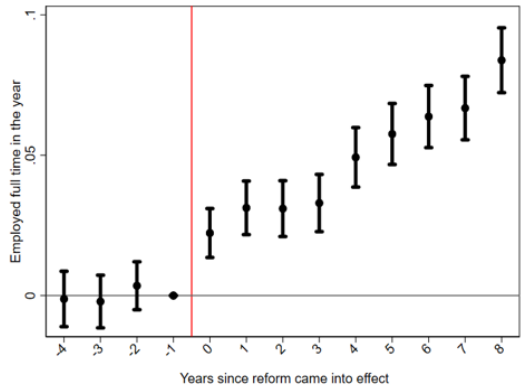


Figure C7: Estimated effects of reform on intensity of employment

(a) Employed full time



(b) Average number of hours worked

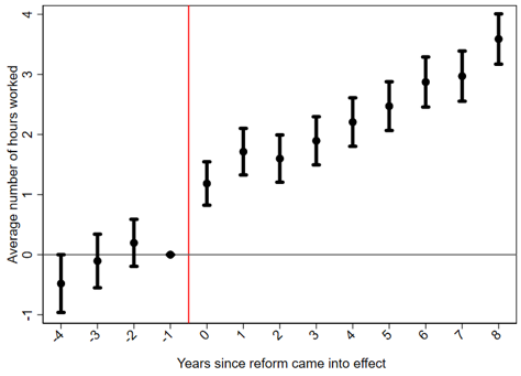
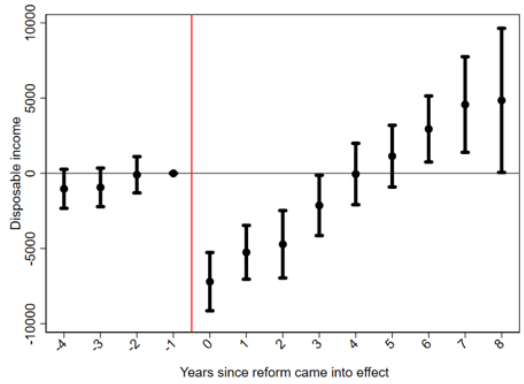
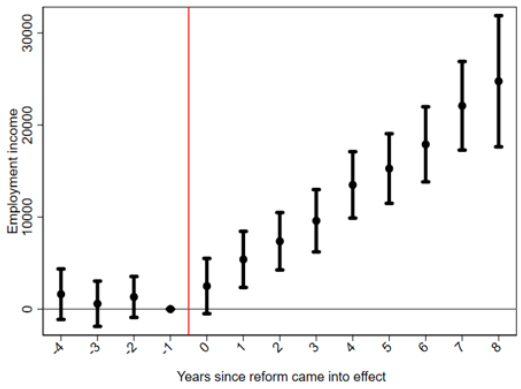


Figure C8: Estimated effects of reform on individual income

(a) Disposable income



(b) Employment income



(c) Net fiscal contribution