in the CPR register. We conducted the matching process in steps, first identifying individuals using complete information and then gradually relaxing the matching criteria. Table A.1 describes the overall match rate and lists the main types of matches that we used.

The first and largest category of matches are exact matches on full name and address (68.7% of announcements in Statstidende). These matches were achieved with the full name (no spelling error allowed) and the address (always municipality, street name, and street number, and possibly also street letter, floor, and side of floor). The second category are exact matches on full previous name and address (10.8% of announcements in Statstidende).

The third category of matches are what we refer to as comprehensive matches on name and address (5.4% of announcements in Statstidende). One type of match in this category are cases where the name in Statstidende was "contained" in the official name. A hypothetical person in Statstidende JENS ANDERS PEDERSEN might have been matched to a person on the same address with the official name JENS PREBEN ANDERS PEDERSEN. Another type of match involved a change in the order of names. A hypothetical person JENS ANDERS PEDERSEN in Statstidende might have been matched to a person on the same address with the official name ANDERS JENS PEDERSEN.

The fourth and final category are fuzzy matches on name and address (12.2% of announcements in Statstidende). One type of match in this category are cases where the spelling of a name in Statstidende deviated slightly from the spelling of the official name. A hypothetical person in Statstidende JENS ANDERS PEDERSEN might have been matched to a person on the same address with the official name JENS ANDERS PETERSEN. More formally, we allowed for a maximum distance of 15 between a name in Statstidende and the official name as defined by the SPEDIS function in SAS. Another type of match are cases where the name of a person in Statstidende and the official name of the matched person in the CPR register agreed fully, but there was a slight deviation between the addresses. A hypothetical person JENS ANDERS PEDERSEN listed in Statstidende as living in a given municipality on a given street on street number 67, for example, could be matched to a person in the CPR register living in the same municipality, on the same

street, but on street number 57 (a one-digit deviation between the street number in Statstidende and the official street number in the CPR register).

C Official Statistics on Debt Relief

Statistics Denmark (Danmarks Statistik) and the Courts of Denmark ("Danmarks Domstole") publish annual official statistics on the number of applicants for debt relief, the number of opened investigations on debt relief, and the number of granted applications for debt relief. Table A.3 list these statistics from 1984 to 2020 (the number of investigations and the number of approved applications are not available in all years).

Over the period from 1985 to 2020, an average of about 5500 individuals in Denmark applied for debt relief each year according to the official statistics.[21] The average adult population (between 18 and 80 years of age) in Denmark from 1985 to 2000 was 4.1 million, meaning that about 1 in 750 adult Danes (or 0.13%) applied for debt relief each year. Out of the total number of applicants from 2002 to 2020 (when data is available), 46% of applicants were investigated by the local City Court. From 1988 to 2020 (when data is available), approximately 32% of all original applicants were granted debt relief.[22]

In Figure A.11 we plot the number of applicants for debt relief from 1985 to 2020 and the unemployment rate in Denmark (from the OECD main economic indicators). As found in previous studies from the US, there is a strong relationship in Denmark between the state of the labor market and the number of applications for debt relief.

C.1 Data Sources for the Official Statistics

The statistics on applicants from 1984 to 1997 and granted applications from 1991 to 1997 are available in a series of statistical messages from Statistics Denmark (Statistiske Efterrettninger,

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[21] We exclude data for 1984 from the calculation since the debt relief program was initiated on July 1st 1984.

[22] This fraction of granted applications is an approximation since the people who are granted debt relief in a year are not necessarily the same people who applied for debt relief in that year (there is a time lag from application to decision which we disregard in this approximation).

Social Sikring og Retsvæsen) with publication numbers 1986:6, 1987:6, 1988:7, 1989:10, 1990:5, 1991:8, 1992:6, 1993:6, 1994:5, 1995:8, 1996:9, 1997:8, and 1998:11.

The statistics on applicants and granted applications from 1998 to 2001 are available in annual publications from Statistics Denmark (Kriminalitet 1998, Kriminalitet 1999, Kriminaliet 2000, and Kriminalitet 2001).

The statistics on debt relief from 2002 to 2020 are available in annual statistical messages published by the Courts of Denmark on their webpage (www.domstol.dk). The number of applicants and the number of opened investigations are published in a series on the number of insolvency cases handled by the Danish City Courts (Statistik for skiftesager: Modtagne sager om insolvensskifte m.v.). The number of approved applicants is published in a different series (Statistik for skiftesager: Afsluttede sager om insolvensskifte m.v.).

We have not found official statistics on the number of granted applications for debt relief for the period prior to 1991. Statistics for the years 1988 to 1990 are available in the proposed Swedish law on debt relief, introduced by the government to parliament in 1994 (Regeringens proposition 1993/94:123, Skuldsaneringslag). The text in the proposed bill cites sources in the Danish Ministry of Justice but does not refer to a specific publication.

D   Decomposition of Change in Earned Income

We conduct a simple decomposition of the impact of debt relief on earned income into an effect on employment (the extensive margin) and an effect on the earned income of individuals who are employed (the intensive margin). The framework we use is based on a previous study by Blundell, Bozio and Laroque (2011) who decompose changes in labor supply along extensive and intensive margins.

The earned income I_{it} of individual i in year t can be written as the product

$$I_{it} = P_{it} \cdot E_{it} \tag{7}$$

where P_{it} is an indicator for individual i working in year t, and E_{it} is the earned income of the individual in that year if he or she is working. We perform a linear decomposition where the change in earned income, ΔI, is

$$\Delta I = \Delta P \cdot E + P \cdot \Delta E \tag{8}$$

The first of the terms in the decomposition, $\Delta P \cdot E$, is defined as the extensive margin change and the second of the terms, $P \cdot \Delta E$, is defined as the intensive margin change.

In our application, earned income is changing from an initial time period (before debt relief) which we denote by $t = 0$, to a later time period (after debt relief) which we denote by $t = 1$. There are two exact decompositions of the change in earned income over this time period:

$$\Delta I = I_1 - I_0 = (P_1 - P_0) \cdot E_0 + P_1 \cdot (E_1 - E_0) \tag{9}$$

$$\Delta I = I_1 - I_0 = (P_1 - P_0) \cdot E_1 + P_0 \cdot (E_1 - E_0) \tag{10}$$

The first decomposition (9) weights the change in the employment rate by the earned income of those who work in the initial time period (before debt relief), and the second decomposition (10) weights the change by the earned income of those who work in the later time period (after debt relief). As a consequence, there are two possible expressions for the share, S_E, of the change in earned income that can be attributed to changes in employment (the extensive margin):

$$S_{E0} = \frac{\Delta P \cdot E_0}{\Delta I} \tag{11}$$

$$S_{E1} = \frac{\Delta P \cdot E_1}{\Delta I} \tag{12}$$

To implement the decomposition method above, we set the change in earned income, ΔI, from before to after debt relief equal to our instrumental variable estimate for the impact of debt relief on earned income

$$\Delta I = 46,800 \tag{13}$$

Similarly, we set the change in employment, ΔP, equal to our instrumental variable estimate for the impact of debt relief on employment

$$\Delta P = 0.117 \tag{14}$$

Finally, we weight the change in the employment rate by the mean earned income of those who work during the four years prior to the year of application for debt relief, or the mean earned income of those who work during the 16 years after the year of application. The shares that we obtain are then

$$S_{E0} = \frac{\Delta P \cdot E_0}{\Delta I} = \frac{0.117 \cdot 228,200}{46,800} \approx 0.57 \tag{15}$$

$$S_{E1} = \frac{\Delta P \cdot E_1}{\Delta I} = \frac{0.117 \cdot 306,900}{46,800} \approx 0.77 \tag{16}$$

The mean of these two estimated shares is 0.67, indicating that the impact of debt relief on employment (the extensive margin) accounts for in the order of two thirds of the impact of debt relief on earned income.

E   Subgroup Effects

To further understand the impact of debt relief, we estimate our IV model in subsamples based on marital status, sex, age, education, income, wealth, debt, and economic conditions (applying in a recession). These variables are all measured prior to application. We present the estimates for our main outcomes in Tables A.23 and A.24. The impacts of debt relief that we estimate based on the full sample are also present in most of these subsamples. Due to high uncertainty in the estimates across subgroups, we should interpret any differences cautiously. Further keep in mind

that the division into subgroups is based on relative comparisons of applicants, such that e.g. high income individuals are still individuals with relative low income compared to the general Danish population, see Table A.5.

Our estimates suggest that women have larger earnings and employment impacts compared to men. Relative to non-granted means, the impact on earnings corresponds to an increase of 29% compared to 18% for men. The impact of debt relief on wealth is around twice as high for men compared to women. This is primarily explained by a larger reduction in unsecured debt for men. For age, we find that workers below the age of 45 have larger earnings impacts, but there is no difference relative to non-granted means. Workers above age 45 have larger impacts for wealth which is largely explained by larger declines in unsecured debt compared to workers below age 45. We do not find a lot of heterogeneity in impacts based on marital status.

Workers with low education have larger employment impacts than workers with high education (a 25% compared to a 15% increase relative to non-granted means). At the same time, workers with high education display larger earnings impacts both in absolute and relative terms. Workers with high education also have larger increases in wealth largely explained by larger reductions in unsecured debt. Workers with high education experience larger increases in assets offset by larger increases in secured debt. Relative to non-granted means, we find that individuals with below median income prior to applying have larger impacts (39%) than individuals with high income (22%). A part of this difference comes from a larger increase in employment among the low income group where the estimated impact is a 16 percentage points increase in employment. For wealth, the difference in impacts is small, but we do find that the high income group has a larger increase in assets and secured debt.

Distinguishing individuals based on the amount of debt prior to application, we find limited heterogeneity in employment and earnings impacts. Unsurprisingly, we find larger increases in wealth and assets, and a larger decrease in unsecured debt for individuals with large amounts of debt prior to applying. In terms of wealth, we find larger increases in employment (a 16 percentage points difference) and earnings for individuals with above median wealth (non-granted means show

that these are still individuals with negative wealth). Relative to non-granted means, the earnings impacts correspond to an increase of 38% for the above median wealth group and 23% for the below median wealth group. On the contrary, we see the largest increases in wealth for the low wealth group, mostly explained by larger reductions in unsecured debt. Finally, we also find that individuals applying in a recession have larger employment impacts than applicants in other years, potentially reflecting more positive selection into debt relief during recessions (consistent with non-granted means). For earnings, impacts are smaller (in absolute and relative terms) for individuals applying in a recession.

F Characteristics of Compliers

We use the method of Dahl, Kostøl and Mogstad (2014) to describe compliers in the context of a continuous instrument (the trustee admission rate). Compliers are, by definition, those applicants who would be granted debt relief if assigned to the least strict trustee but not granted debt relief if assigned to the strictest trustee.

Let $\bar{z}$ be the admission rate of the least strict trustee and let $\underline{z}$ be the admission rate of the strictest trustee, and let D_i be an indicator for treatment status. The share of compliers in the population, π_c, is then

$$\pi_c = Pr(D_i = 1 | z_i = \bar{z}) - Pr(D_i = 1 | z_i = \underline{z}) = Pr(D_i(\bar{z}) > D_i(\underline{z})) \tag{17}$$

Because of monotonicity, the share of always takers who receive debt relief for all values of the instrument, π_a, is

$$\pi_a = Pr(D_i = 1 | z_i = \underline{z}) = Pr(D_i(\bar{z}) = D_i(\underline{z}) = 1) \tag{18}$$

and the share of never-takers who never receive debt relief regardless of the value of the instrument, π_n, is

$$\pi_n = Pr(D_i = 0 | z_i = \bar{z}) = Pr(D_i(\bar{z}) = D_i(\underline{z}) = 0) \tag{19}$$

To estimate these shares in our sample, we let the strictest and least strict trustee correspond to the bottom and top 1 percentiles of the trustee admission rate. The estimated first stage linear regression equation gives the predicted relationship between debt relief status and the instrument (see equation 2). Based on the estimated first stage equation, we set the share of compliers equal to the predicted fraction receiving debt relief at the top percentile of the trustee admission rate minus the predicted fraction at the bottom percentile, the share of always takers to the predicted fraction receiving debt relief at the bottom percentile of the admission rate, and the share of never takers to the predicted fraction not receiving debt relief at the top percentile of the admission rate:

$$\hat{\pi}_c = \hat{\eta} \cdot (\bar{z} - \underline{z}) \tag{20}$$

$$\hat{\pi}_a = \hat{\chi} + \hat{\eta} \cdot \underline{z} \tag{21}$$

$$\hat{\pi}_n = 1 - \hat{\chi} - \hat{\eta} \cdot \bar{z} \tag{22}$$

Implementing these formula gives us an estimated 22% compliers, 63% always takers, and 15% never takers.

The distribution of observable characteristics among compliers can be obtained by estimating the share of compliers in subsamples (Abadie, 2003). For a binary characteristic $X \in 0, 1$, the definition of a conditional probability and the monotonicity assumption implies that

$$\frac{Pr(X_i = 1 | D_i(\bar{z}) > D_i(\underline{z}))}{Pr(X_i = 1)} =$$

$$\frac{Pr(D_i(\bar{z}) > D_i(\underline{z}) | X_i = 1)}{Pr(D_i(\bar{z}) > D_i(\underline{z}))} =$$

$$\frac{\mathbb{E}(D_i | Z_i = \bar{z}, X_i = 1) - \mathbb{E}(D_i | Z_i = \underline{z}, X_i = 1)}{\mathbb{E}(D_i | Z_i = \bar{z}) - \mathbb{E}(D_i | Z_i = \underline{z})} \tag{23}$$

The nominator in this right-hand expression is the share of compliers in the subsample with $X = 1$, and the denominator is the share of compliers in the whole sample. We estimate these shares (as above) using the predicted values from the first stage (in the whole sample and in subsamples) at the

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top and bottom 1 percentiles of the trustee admission rate. We then multiply the estimated ratio (23) by the marginal probability, $Pr(X_i)$, to obtain the distribution of the characteristic, $Pr(X_i|D_i(\bar{z}) > D_i(\underline{z}))$, among compliers. These numbers are presented in Table A.26.

In Figure A.7, we reweigh our event-study estimates to match the sample of compliers based on observable characteristics. We follow Dahl, Kostøl and Mogstad (2014); Bhuller et al. (2020); Agan et al. (2023) and estimate propensity scores as a function of baseline covariates and split our sample into quintiles based on the propensity score. We then estimate the proportion of compliers separately for each quintile (like Table A.26). Lastly, we use the quintile specific share of compliers relative to the full estimation sample share and reweight our event-study regressions accordingly.

G   Marginal Treatment Effects

To explore treatment effects heterogeneity by unobserved characteristics, we use the Marginal Treatment Effect (MTE) framework (Heckman and Vytlacil (2005, 2007)). Modeling observed outcomes in the framework of potential outcomes (and following Bhuller et al. (2020)) we can write

$$Y_i = D_i * Y_i(1) + (1 - D_i) * Y_i(0)$$

where D_i is a dummy equal to one if individual i is granted debt relief. The decision to grant debt relief is determined by a choice function given as $D_i = \mathbb{1}\{v(X_i, Z_i) - V_i\}$, where X_i are observable characteristics of the applicant, Z_i is the acceptance rate of the trustee assigned to individual i, $v()$ is an unknown function, and V_i is an unobserved continuous variable. Applicants are granted debt relief if $v(X_i, Z_i) \geq V_i \implies F_V(v(X_i, Z_i)) \geq F_V(V_i)$ where F_V is the cumulative distribution of V. Let $F_V(v(X_i, Z_i)) = P(Z_i, X_i)$ where $P(Z_i, X_i)$ is the propensity score of being granted debt relief conditional on the trustee acceptance rate Z_i and observed characteristics X_i. $F_V(V_i)$ can then be defined as the unobserved resistance to getting debt relief. The Marginal Treatment Effect is defined as $E(Y(1) - Y(0)|X = x, F_V(V) = F_v)$, which can be interpreted as the treatment effect for individuals at the margin $P(Z, X) = F_v$.

In our preferred setting, we trim observations at 5 % of the common support range of treatment propensities to remove noise in the tails when estimating the MTE curve. We estimate the MTE using a quadratic polynomial for the control functions $k_j(P)$, which capture heterogeneity in the outcome as a function of the unobserved resistance evaluated at $F_V = P$ (we use the STATA package mtefe by Andresen (2018)).

Figure A.9 shows the estimated MTEs for our six main outcomes using our implementation of the MTE framework. For earnings, employment, assets and (un)secured debt, the MTE curve is upward sloping although statistical uncertainty implies that we cannot rule out that the MTE curves could also have other shapes.[23] An interpretation of the upward-sloping MTE curves is that individuals on the margin who are pushed into treatment by trustees with a high acceptance rate have the largest treatment effects from getting debt relief. This suggests that applicants who have the highest benefits from debt relief are the least likely to get through the system. Such impact heterogeneity would be consistent with the LATE parameter being larger than the ATT, and could therefore explain why our event-study estimates are lower than IV estimates in Tables 2 and 3. Tables 2 and 3 do in fact show that IV estimates are larger for all these outcomes except for unsecured debt. In addition, the MTE curve is flat for wealth consistent with our event-study and IV estimates for wealth being of similar magnitude as we report in Table 3.

An advantage of the MTE framework is that we can express other treatment effects as weighted averages of the MTEs. Through the MTE framework, we can also calculate the ATT and the LATE within our region of common support, following Carneiro (2011). Performing these calculations shows that the LATE estimate is higher than the equivalent ATT estimate for earnings. This pattern is also consistent with our prior findings that the event-study yields an estimated ATT parameter which is lower than the LATE parameter estimated from the IV model. The ATU for earned income is 36,861, while the ATT is 17,062. Hence, the difference we observe between our event-study and

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[23]The upward-sloping shape of the MTE curve is consistent across specifications. In Appendix Figure A.9, we show robustness of different functional forms for the outcomes of earnings and employment. We show robustness regarding the degrees of the polynomial (third or fourth degree), different ranges of trimming at 1 % and 2.5 %, estimation by the local IV approach, and a semi-parametric approach using splines. Our results are also in alignment with Dobbie and Song (2015) who also find an upward-sloping MTE for earnings.

IV estimates can potentially be attributed to the different parameters that these two econometric models identify.

H   Labor Supply Mechanism

We consider an example where the impact of debt relief on an applicant's budget constraint is two-fold: i) the applicant is no longer subject to 20% wage garnishments, and ii) the applicant has to pay a dividend to the creditors.

H.1   Tax effect due to wage garnishments

Kleven and Schultz (2014) present marginal income tax rates for tertiles of Danish tax payers in their Table 2. If we assume that applicants for debt relief belong to the lowest tertile, the mean marginal tax rate for these applicants over the period from 1986 to 2003 was 44.5%. The removal of 20% wage garnishments leads to the following change in the log net-of-tax rate when an applicant is granted debt relief

$$\Delta log(1-\tau) = log(1-0.445-0.2) - log(1-0.445) \tag{24}$$

Using the estimated elasticity of earnings with respect to the net-of-tax rate from Kleven and Schultz (2014) of 0.257 gives an implied change in log earnings of 0.115. Converting this log change to a percentage change gives us an increase in earned income for applicants who are granted debt relief of 12.2%.

H.2   Wealth effect due to dividend

The mean debt of individuals in the repayment sample is 1.71 million DKK and the mean dividend is 10.3% which implies that the average applicant who is granted debt relief has to repay 176,100 DKK to the creditors (a negative wealth effect). Cesarini et al. (2017) estimate that an increase

in wealth of 100 SEK leads to an annual decrease in taxable earnings of 1.07 SEK. This estimate translates into an increase in annual earned income for an applicant who is granted debt relief of 1878 DKK. The mean earned income of granted applicants in the year before application is 161,000. Combining these numbers produces an increase in earned income due to the dividend of 1.2% for applicants who are granted debt relief.

I Fiscal Consequences of Debt Relief

We take the first steps towards assessing the fiscal impact of the Danish debt relief program. We consider only direct effects on the government budget and ask what the consequences are if one more applicant is granted rather than denied debt relief.[24] We do not consider equilibrium effects such as the impact of the debt relief program on interest rates and the supply of credit. We base our assessment on the IV estimates that describe the long-run effect of debt relief over our sixteen-year follow-up period (Tables 2 and A.14).

The first fiscal benefit from granting debt relief is the increase in tax revenue that follows from higher earned income (Table 2). We assume that applicants for debt relief belong to the lowest tertile income bracket and use the mean marginal tax rate of 44.5% from 1986 to 2003 (Kleven and Schultz (2014)). The second fiscal benefit are lower costs for social assistance and disability insurance (Table A.14) which we assume are not taxed. We discount all flows at a rate of 2% and express all numbers in thousands of DKK. The sum of the present discounted value of higher tax revenues, lower social assistance, and lower disability insurance payments is

$$288 + 34 + 15 = 337 \tag{25}$$

It is difficult to evaluate the fiscal cost of granting one more applicant debt relief, as the cost likely depends on whether debt is private or public. In the case of private debt, financial institutions can

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[24]We ignore administrative costs associated with the handling of cases (e.g. trustee salary) as these costs are largely independent of the outcome of the debt relief decision process.

deduct the credit loss they incur when an applicant is granted debt relief at the full book value of the debt and reduce their corporate income tax. If we use the mean size of the debt (1710) and dividend (10.3%) in the repayment sample, and assume that financial institutions pay a corporate income tax of 37.8% (the mean from 1986 to 2003),[25] the cost in terms of lower tax revenue is

$$1710 \cdot (1 - 0.103) \cdot 0.378 \approx 580 \tag{26}$$

Subtracting our estimated benefits from costs gives a net fiscal cost per granted applicant for debt relief of $580 - 337 = 243$ (two hundred fourty-three thousand DKK or approximately thirty-seven thousand USD).

To assess the fiscal consequences when debt is public, we need to know what fraction of debt is repaid by applicants who are denied debt relief (information which we do not have) in order to assess the "true" value of the outstanding debt. Our calculation above is valid if the present discounted value of future repayments made by denied applicants with public debt, equals the loss to the government when debt is private (denied applicants repay a fraction $(1 - 0.103) \cdot 0.378 \approx$ 0.34 of their public debt). The fiscal cost of debt relief is then independent of whether debt is private or public. We leave it to future investigations to determine if this is a reasonable assumption.

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[25] Retrieved from the homepage of the Danish Tax Ministry at www.skm.dk/skattetal/satser/tidsserier.

J Figures

Figure A.1: Fraction Granted Debt Relief in Initial Sample
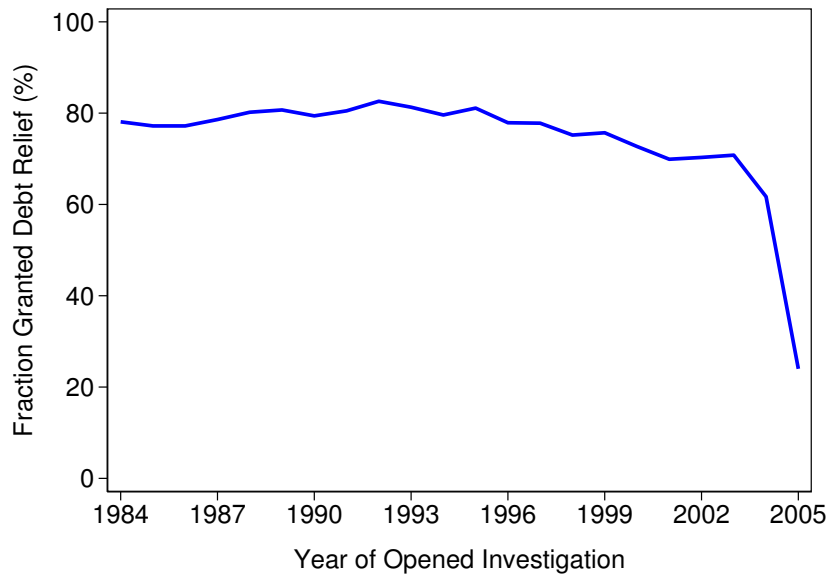
Notes: This graph shows the fraction of applicants in our initial sample from 1984 to 2005 who were eventually granted debt relief (the number of granted applicants divided by the number of applicants for which the City Court opened an investigation).

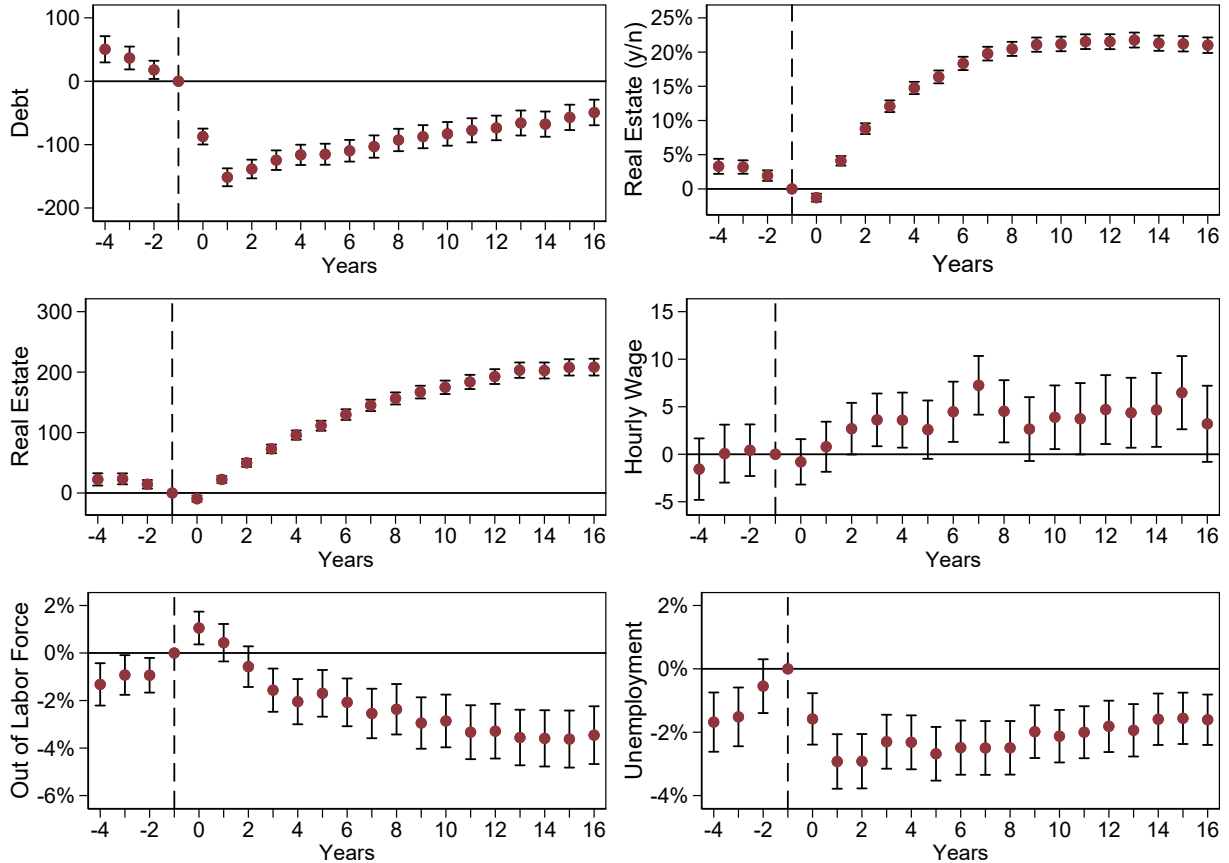Figure A.2: Mean Outcomes Before and After Application for Debt Relief
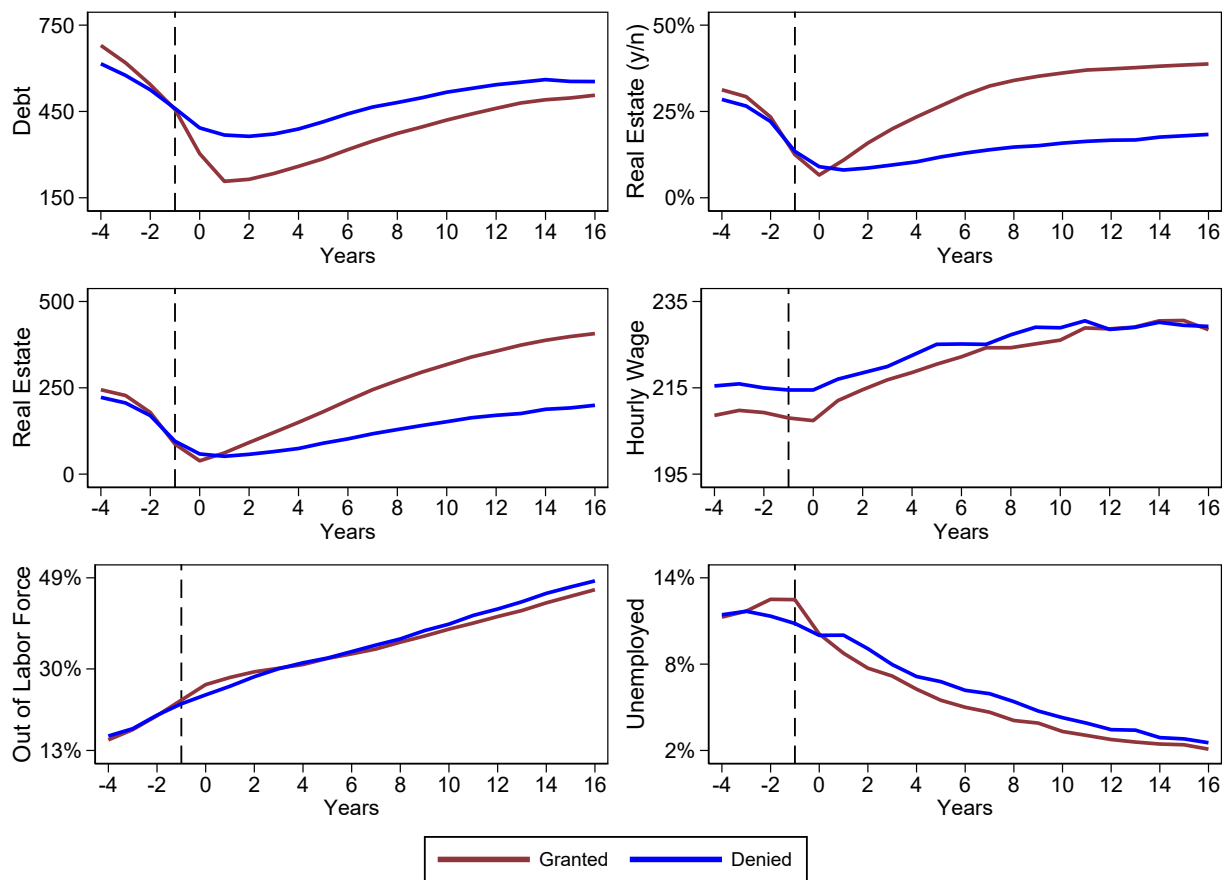
Notes: This graph shows mean outcomes for granted and denied applicants for debt relief from 4 years before to 16 years after the year of application. The outcome variables are taxable debt (top left), the fraction of real estate owners (top right), taxable real estate (middle left), the hourly wage rate among those who are employed (middle right), the fraction out of the labor force, (bottom left), and the fraction unemployed (bottom right). Monetary unit is thousands of 2020 DKK.
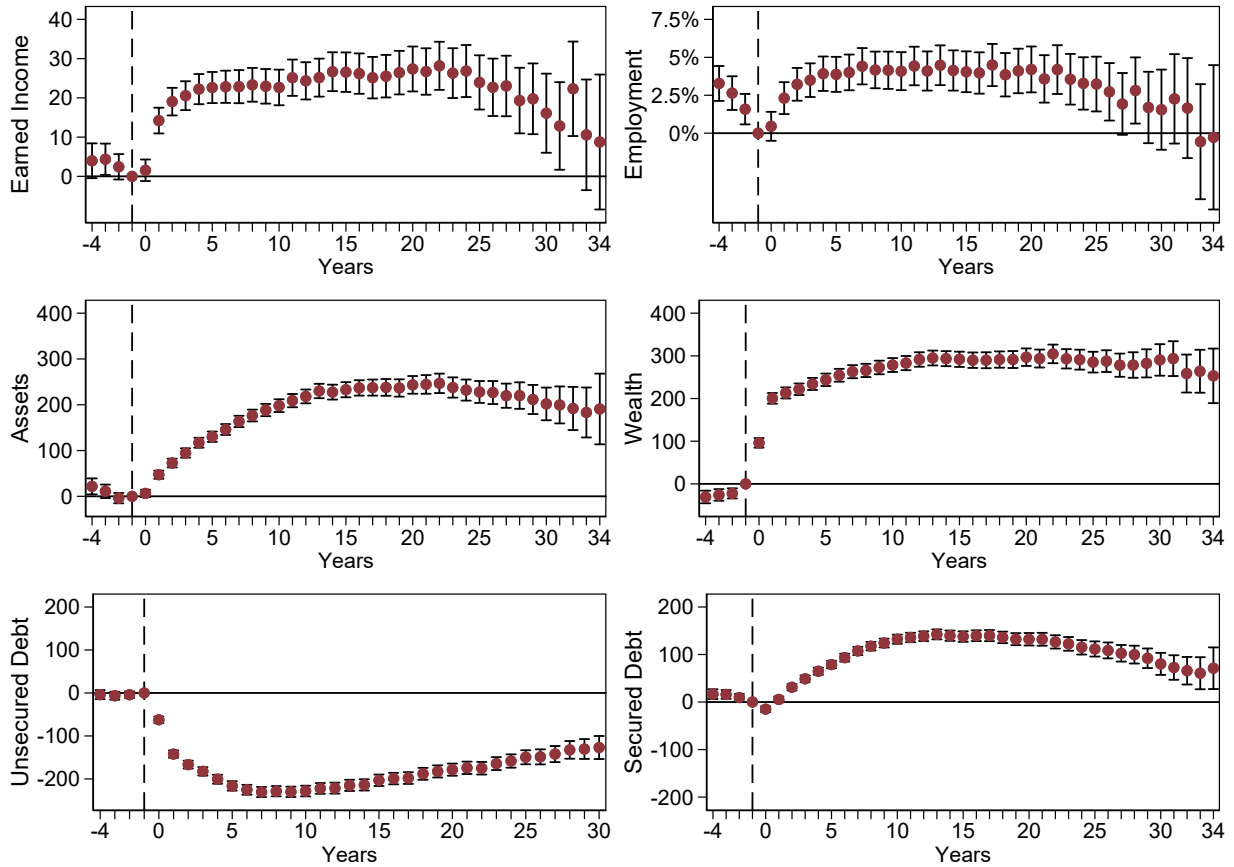
Figure A.3: Event-Study Graphs
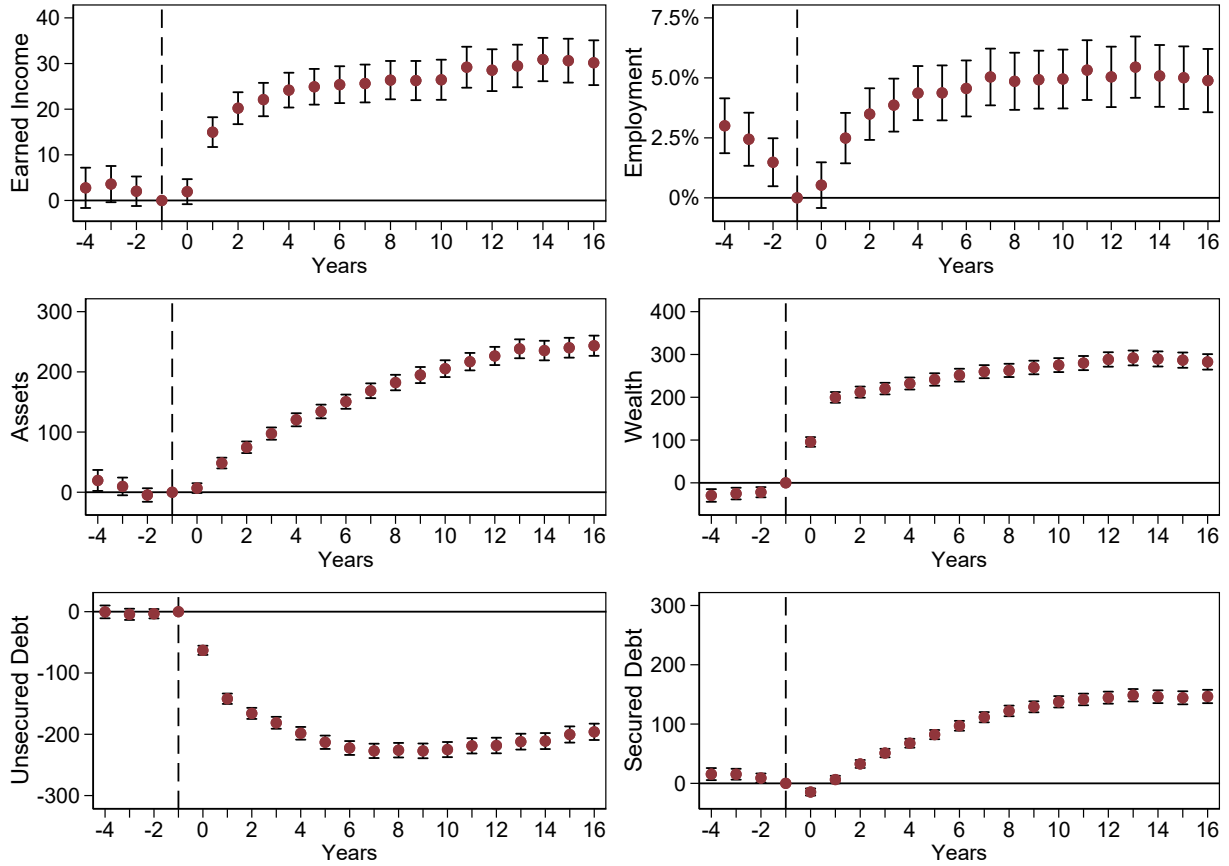
Notes: This graph shows estimated event-study coefficients from 4 years before to 16 years after the year of application comparing granted and denied applicants for debt relief. The outcome variables are earned income (top left), employment (top right), taxable assets (middle left), taxable wealth (middle right), unsecured taxable debt in banks and other financial institutions (bottom left), and secured taxable debt in banks and other financial institutions (bottom right). Standard errors are clustered at the level of the debtor. Monetary unit is thousands of 2020 DKK.

Figure A.4: Event-Study Graphs

Notes: This graph shows estimated event-study coefficients from 4 years before to 16 years after the year of application comparing granted and denied applicants for debt relief. The outcome variables are taxable debt (top left), the fraction of real estate owners (top right), taxable real estate (middle left), the hourly wage rate among those who are employed (middle right), the fraction out of the labor force, (bottom left), and the fraction unemployed (bottom right). Standard errors are clustered at the level of the debtor. Monetary unit is thousands of 2020 DKK.

# Figure A.5: Event-Study Graphs for 34 Years

Notes: This graph shows estimated event-study coefficients from 4 years before to 34 years after the year of application comparing granted and denied applicants for debt relief. The outcome variables are earned income (top left), employment (top right), taxable assets (middle left), taxable wealth (middle right), unsecured taxable debt in banks and other financial institutions (bottom left), and secured taxable debt in banks and other financial institutions (bottom right). The panel is unbalanced in event time to extend the observation window as far as possible. Unsecured debt is extended to 30 years after application because this variable is available from 1987 only (see Table A.4). Standard errors are clustered at the level of the debtor. Monetary unit is thousands of 2020 DKK.

Figure A.6: Regular versus Callaway and Sant'Anna Event-Study
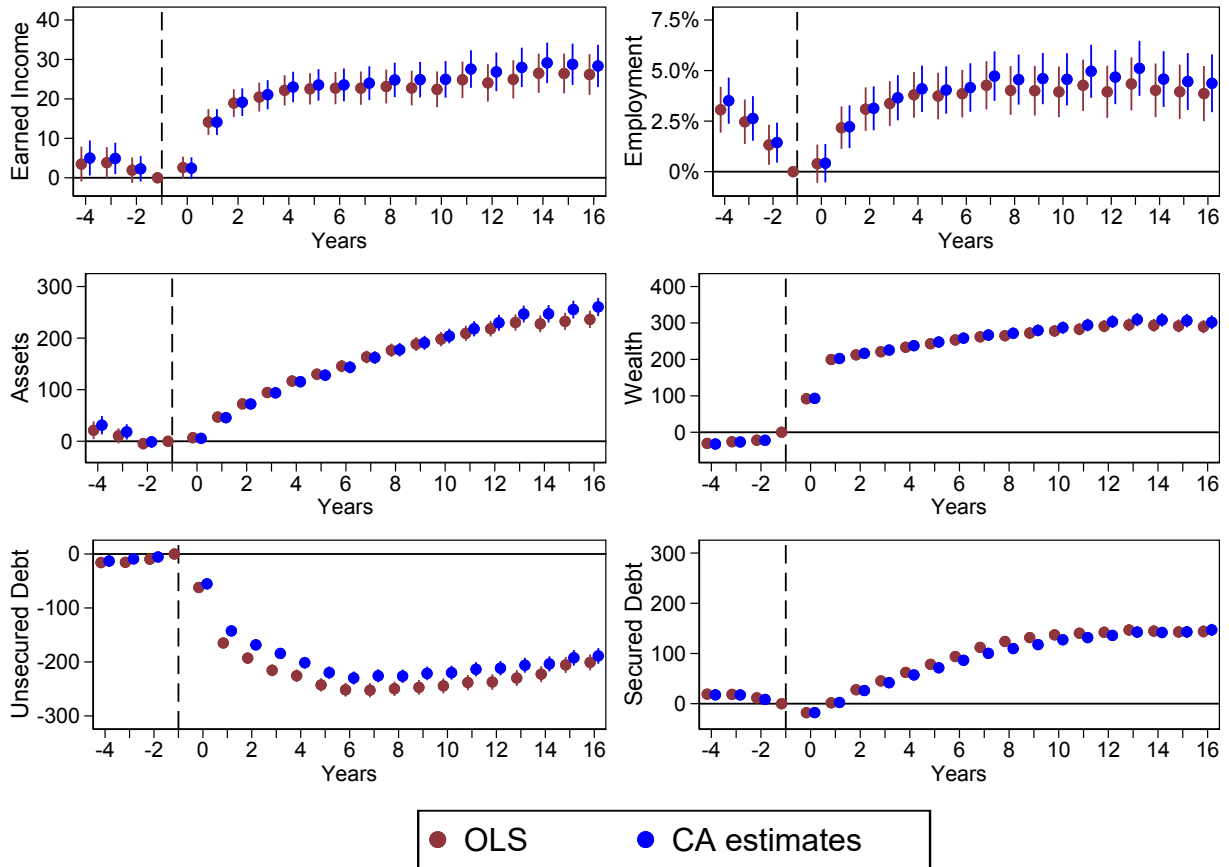
Notes: This figure contrasts event-study estimates obtained via the standard two-way fixed effects model (Equation 1 in the paper) to event-study estimates obtained using the estimator in Callaway and Sant'Anna (2021). All estimates were constructed via the "csdid" package in Stata (Rios-Avila et al. (2023)).

Figure A.7: Complier-Weighted versus Unweighted Event-Study
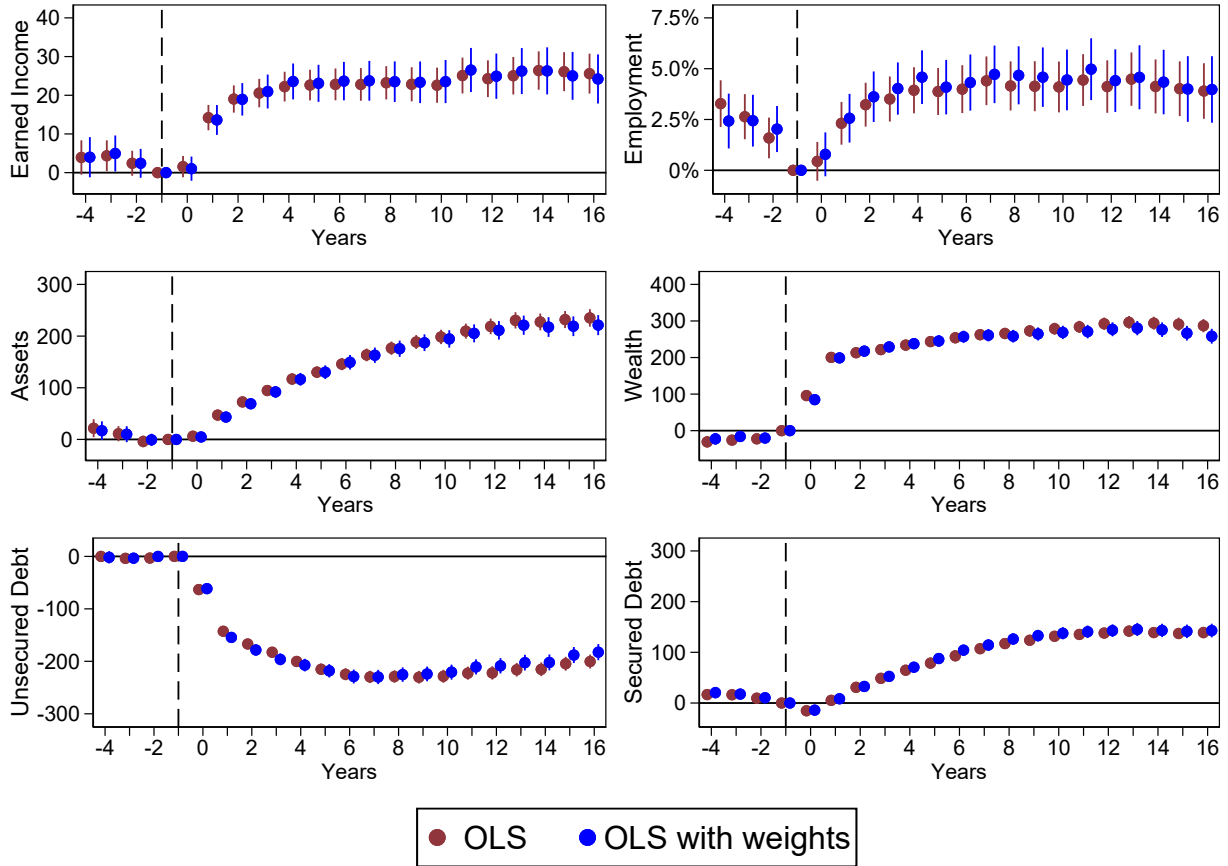
Notes: This figure plots our standard event-study estimates compared to similar estimates when using "complier weights" in the regression as in Dahl, Kostøl and Mogstad (2014); Bhuller et al. (2020). We estimate propensity scores based on our baseline covariates and split our sample into quintiles based on the propensity score. We then estimate the proportion of compliers separately for each quintile (as in Table A.26). Finally, we reweight our event-study regressions such that the share of compliers in each quintile matches the share of compliers in the full sample.

Figure A.8: Dividend and Trustee Instrument
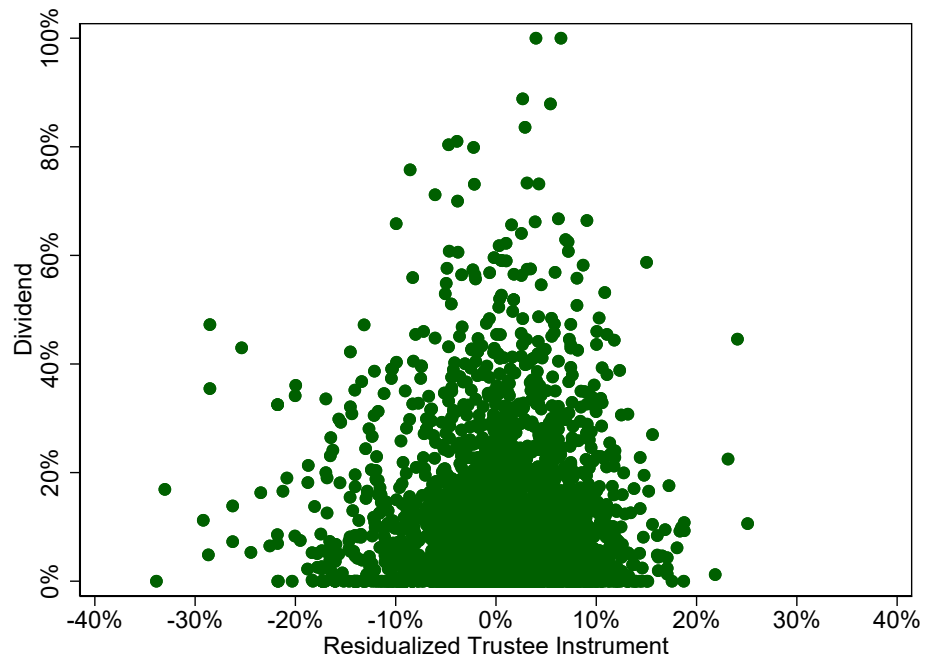
Notes: This graph shows a scatter plot of the dividend among applicants who were granted debt relief and the residualized trustee instrument (the normalized admission rate of trustees conditional on court-by-year fixed effects). Data is from the repayment sample (n=2591).

Figure A.9: MTE Estimates
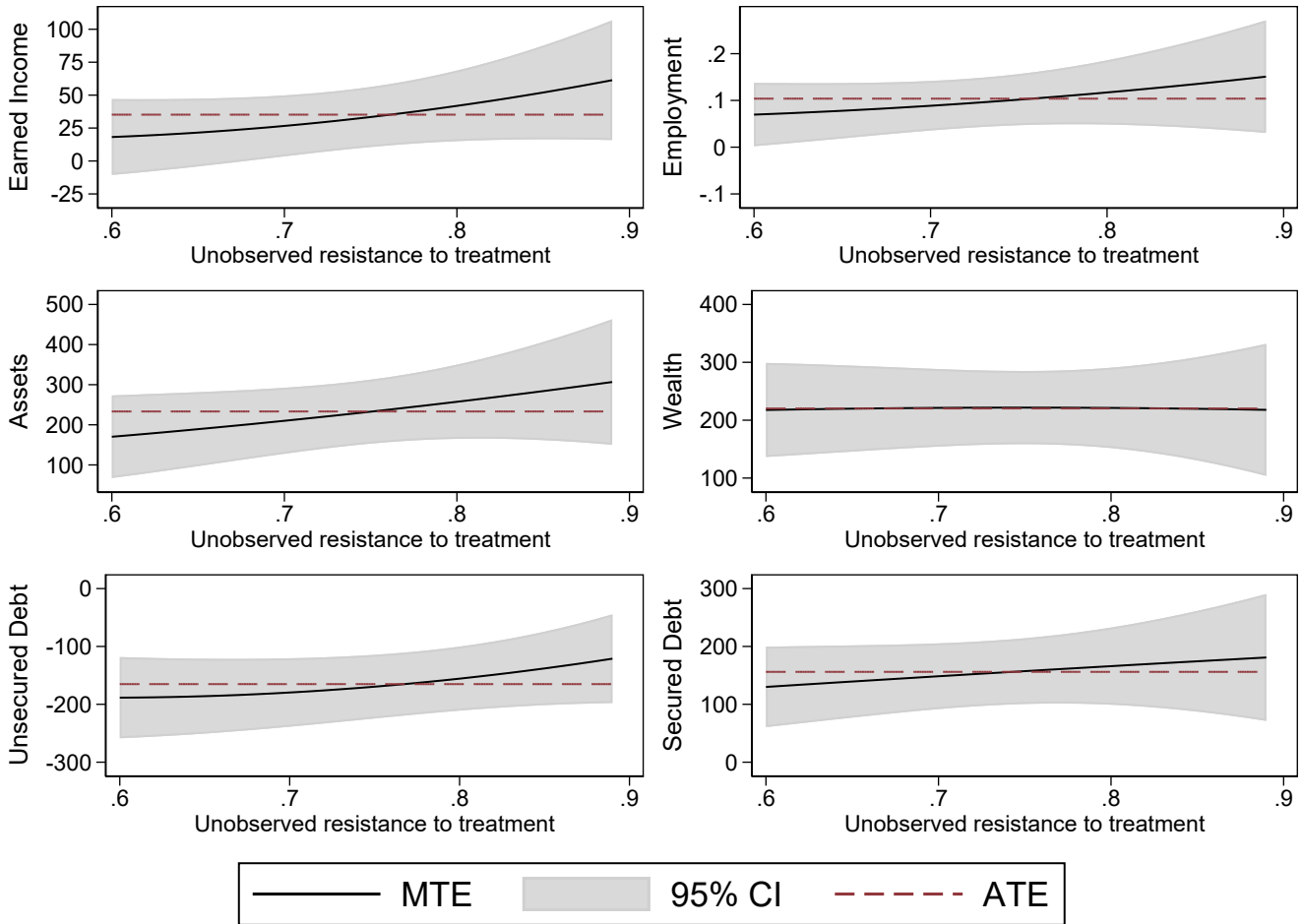
Notes: This figure shows marginal treatment effects (MTEs) for our six main outcomes in the 16 years after application. Propensity scores are predicted using a logit regression, including our baseline covariates and court-by-time fixed effects. We trim observations at the 5% level to remove noise in the tails of the distribution. The MTEs are estimated using the separate approach with a second-order polynomial. We use the STATA package mtefe by Andresen (2018). The outcome variables are earned income (top left), employment (top right), taxable assets (middle left), taxable wealth (middle right), unsecured taxable debt in banks and other financial institutions (bottom left), and secured taxable debt in banks and other financial institutions (bottom right). Monetary unit is thousands of 2020 DKK.

Figure A.10: MTE:s with Different Functional Forms
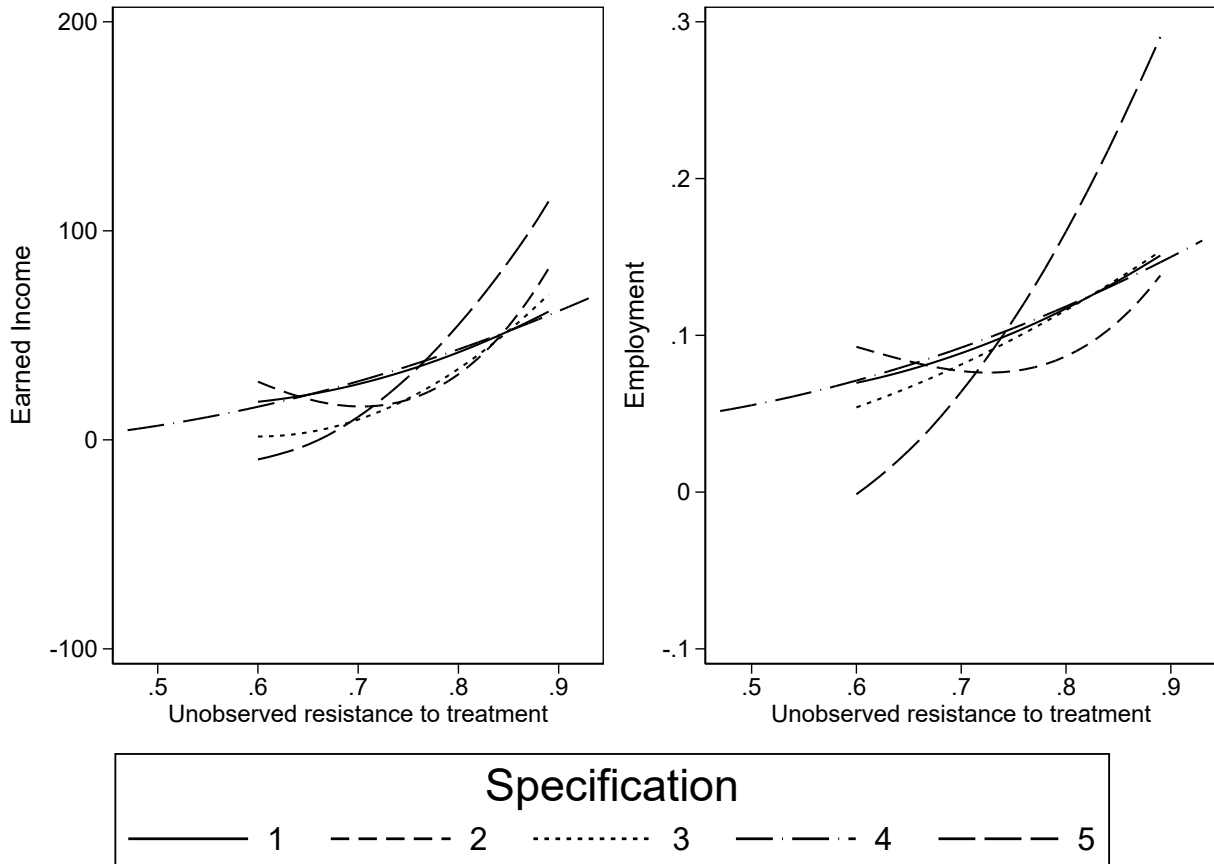
Notes: This figure shows the estimated MTEs for five different specifications: 1 is our baseline specification (as in A.9), 2 changes the order of polynomials to three compared to the baseline specification, 3 uses the local IV approach to estimate our baseline specification, 4 trims observations at the 1% level as opposed to 5% in the baseline specification, and 5 is a semi-parametric specification. We use the STATA package mtefe by Andresen (2018). The outcome variables are earned income (left), and employment (right). Monetary unit is thousands of 2020 DKK.

Figure A.11: Number of Applicants for Debt Relief and the Unemployment Rate
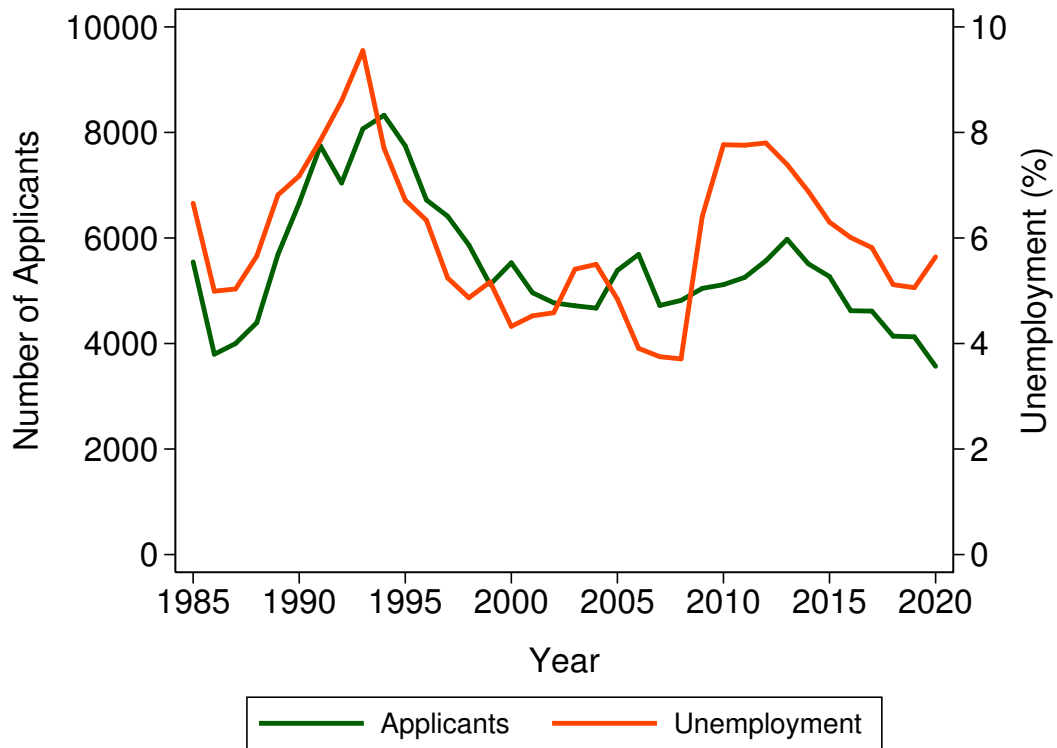
Notes: This graph shows the annual number of applicants for debt relief in Denmark (left axis) and the annual unemployment rate (right axis). Data on applicants is from the official statistics of Denmark (see section C) and data on the unemployment rate is from OECD (main economic indicators). Data for 1984 is excluded since the debt relief program was only introduced in July of that year.

K Tables

Table A.1: Match with Central Person Register

Type of Match	Frequency	Share (%)
Exact Match Name and Address	103,640	68.7
Exact Match Previous Name and Address	16,246	10.8
Comprehensive Match	8162	5.4
Fuzzy Match	18,376	12.2
No Match	4520	3.0
Total Announcements	150,944	100.0

Notes: This table presents the different types of matches that were used when merging data on applicants for debt relief in Statstidende from 1984 to 2005 with unique individuals in the Danish Central Person Register, their frequencies, and their shares in the total number of announcements on debt relief in Statstidende. More details about this procedure and further definitions can be found in Section B.

Table A.2: Number of Cases per City Court

Court	Cases	Court	Cases
Aabenraa	326	Naksov	337
Aalborg	1842	Nibe	459
Aarhus	3519	Nyborg	377
Assens	423	Nykøbing Falster	680
Brædstrup	425	Nykøbing Mors	243
Brønderslev	459	Nykøbing Sjælland	303
Ebeltoft	220	Næstved	374
Esbjerg	775	Odense	1994
Faaborg	530	Randers	1166
Fjerritslev	446	Ribe	432
Fredericia	537	Ringkøbing	374
Fredrikshavn	641	Ringsted	366
Frederikssund	642	Roskilde	1316
Grenå	531	Rudkøbing	270
Grindsted	476	Rødding	361
Gråsten	257	Rønne	473
Haderslev	399	Silkeborg	795
Helsinge	282	Skanderborg	684
Helsingør	502	Skive	485
Herning	1193	Skjern	534
Hillerød	613	Slagelse	522
Hjørring	1279	Sorø	329
Hobro	460	Store Heddinge	522
Holbæk	308	Struer	277
Holstebro	305	Svendborg	969
Holsted	512	Sæby	465
Horsens	945	Sø- og Handelsretten	4556
Kalundborg	383	Sønderborg	486
Kjellerup	510	Terndrup	376
Kolding	625	Thisted	503
Korsør	244	Tønder	493
Køge	716	Varde	472
Lemvig	278	Vejle	548
Mariager	422	Viborg	831
Maribo	351	Vordingborg	422
Middelfart	401		

Table A.3: Official Statistics on Number of Applicants for Debt Relief

Year	Applied	Investigated	Granted
1984	2760		
1985	5546		
1986	3797		
1987	4000		
1988	4394		1415
1989	5690		1363
1990	6661		2016
1991	7745		2161
1992	7042		2406
1993	8069		2390
1994	8326		2864
1995	7745		3085
1996	6720		2646
1997	6412		2249
1998	5866		2188
1999	5118		1813
2000	5530		1650
2001	4962		1547
2002	4771	1967	1373
2003	4715	1985	1399
2004	4671	2138	1439
2005	5385	2232	1168
2006	5688	2891	1988
2007	4722	2265	1637
2008	4817	1993	1397
2009	5045	1946	1189
2010	5116	2046	1320
2011	5253	2337	1514
2012	5568	2514	1669
2013	5975	2914	2046
2014	5511	2723	2051
2015	5269	2492	1961
2016	4622	2271	1747
2017	4614	2435	1654
2018	4139	2071	1504
2019	4127	1903	1330
2020	3568	1832	1231

Notes: This table shows official statistics on the annual number of applicants, the number of opened investigations, and the number of granted applications for debt relief in Denmark. The sources of these statistics are presented in Section C.

Table A.4: Outcome Variables

Outcome	Register Variable	Years	Definition
Earned Income (DKK)	ERHVERVSINDK_13	1980-2019	
Employed (y/n)	PSTILL	1980-2012	1-37, 71-77
	JOB_P_SOCIO_KODE	2013-2019	110, 120, 131-136
Unemployed (y/n)	PSTILL	1980-2012	40
	JOB_P_SOCIO_KODE	2013-2019	200
Out of Labor Force (y/n)	PSTILL	1980-2012	41-57, 90-98
	JOB_P_SOCIO_KODE	2013-2019	311-517
Hourly Wage (DKK)	TIMELON	1980-2010	
	JOB_TIME_LOEN_SMAL	2011-2019	
Taxable Wealth (DKK)	QAKTIVF-QPASSIV	1980-1996	
	QAKTIVF_NY05-QPASSIVN	1997-2019	
Taxable Assets (DKK)	QAKTIVF	1980-1996	
	QAKTIVF_NY05	1997-2019	
Taxable Debt (DKK)	QPASSIV	1980-1996	
	QPASSIVN	1997-2019	
Taxable Secured Debt (DKK)	PRIGALD	1984-1994	
	OBLGAELD	1995-2019	
Taxable Unsecured Debt (DKK)	BANKGAELD	1987-1993	
	BANKGAELD	1995-2019	
Owns Real Estate (y/n)	KOEJD	1983-2019	KOEJD > 0
Real Estate (DKK)	KOEJD	1983-2019	
Disability Pension (y/n)	TILBTOT	1984-2019	TILBTOT > 0
Disability Pension (DKK)	TILBTOT	1984-2019	
Social Assistance (y/n)	KONT_GL	1980-1993	KONT_GL > 0
	KONTANTHJ_13	1994-2019	KONTANTHJ_13 > 0
Social Assistance (DKK)	KONT_GL	1980-1993	
	KONTANTHJ_13	1994-2019	

Table A.5: Applicants for Debt Relief versus General Population

	All	Comparators
Mean age	44.2	44.2
	(10.5)	(10.5)
Fraction men	63.3%	63.3%
Fraction married	58.4%	64.5%
Mean persons in household	2.5	2.7
	(1.4)	(1.3)
Mean years of schooling	11.0	11.7
	(2.9)	(3.1)
Mean earned income	165	264
	(172)	(195)
Fraction employed	64.4%	77.4%
Fraction unemployed	12.1%	6.1%
Mean taxable wealth	-389	114
	(635)	(437)
Mean taxable assets	71	569
	(435)	(730)
Mean taxable debt	458	407
	(700)	(593)
Fraction real estate owners	12.0%	50.4%
Observations	46,571	232,855

Notes: This table shows summary statistics for our sample (left column) and five comparators from the general Danish population (right column) matched on sex and birth year, for the year before application for debt relief. Monetary unit is thousands of 2020 DKK. Numbers in parentheses are standard deviations.

Table A.6: Debt and Repayment Statistics

Dividend (%)	
Mean (SD)	10.3 (12.7)
Median (Interquartile range)	6.1 (1.4–14.3)
Observations	3968
Repayment period (yrs)	
Mean (SD)	4.5 (1.7)
Median (Interquartile range)	5.0 (5.0–5.0)
Observations	2181
Monthly repayment	
Mean (SD)	2,500 (5490)
Median (Interquartile range)	1,800 (1000–2,970)
Observations	1145
Unsecured debt (millions)	
Mean (SD)	1.71 (1.88)
Median (Interquartile range)	1.10 (0.68–2.10)
Observations	1389

Notes: This table shows debt and repayment statistics for a random sub-sample of individuals who were granted debt relief between 1984 and 2005 (see Section 3.4). The data were collected from public court announcements in Statstidende. The dividend is the total payment from the debtor to the creditors divided by the total outstanding unsecured debt. According to Danish law, announcements in Statstidende have to contain information about the dividend. Statistics on the length of the repayment period and the monthly repayment are presented for cases where the dividend was positive. Similarly, information about the amount of debt is typically only available when the dividend is positive. Monetary unit is 2020 DKK.

Table A.7: IV First Stage Regression

	Without covariates	With covariates
Instrument	0.53200 (0.03730) **	0.53500 (0.03730) **
Male		-0.02870 (0.00413) **
Age 0-40		-0.06770 (0.02060) **
Age 41-50		-0.05800 (0.02040) **
Age 51-60		-0.05660 (0.01990) **
Age 61-70		0.00043 (0.02100)
Single Household (y/n)		0.02850 (0.00640) **
Earned Income (in 10,000s DKK)		-0.001130 (0.00024)**
Employment		0.03200 (0.01120) **
Unemployment		0.00549 (0.01350)
Married (y/n)		-0.01570 (0.00564) **
Immigrant (y/n)		0.00415 (0.01450)
Real Estate Ownership (y/n)		-0.034800** (0.00910) **
Taxable Debt (in 10,000s DKK)		0.00012 (0.00004)**
Taxable Assets (in 10,000s DKK)		-0.00006 (0.00006)
Highschool (y/n)		0.02280 (0.00533) **
University (y/n)		-0.00414 (0.00783)
Education Missing (y/n)		-0.01170 (0.01340)
Social Assistance (y/n)		-0.00091 (0.0093)
Wage Quartile 1		0.00657 (0.00816)
Wage Quartile 2		0.00690 (0.00888)
Wage Quartile 3		-0.01270 (0.00860)
Wage Quartile 4		-0.01960 (0.00873) *
Observations (individuals)	32,931	32,931
R2	0.079	0.087
F-statistic (instrument)	206	205

Notes: This table shows results from the first stage IV regression without (left column) and with (right column) exogenous covariates. Both regressions include court-by-year fixed effects and a constant. Numbers in parentheses are standard errors clustered by trustee identifier. ** $p < 0.01$, * $p < 0.05$.

Table A.8: Instrument Balance Test

	Instrument	Granted Debt Relief
Male	-0.00017 (0.00085)	-0.02880 (0.00414) **
Age 0-40	0.00089 (0.00381)	-0.06720 (0.02100) **
Age 41-50	0.00087 (0.00372)	-0.05750 (0.02080) **
Age 51-60	-0.00229 (0.00386)	-0.05780 (0.02030) **
Age 61-70	0.00051 (0.00368)	0.00070 (0.02140)
Single Household (y/n)	-0.00138 (0.00115)	0.02770 (0.00634) **
Earned Income (in 10,000s DKK)	-0.00003 (0.00004)	- 0.00115 (0.00024) **
Employment	-0.00100 (0.00199)	0.03150 (0.01120) **
Unemployment	0.00132 (0.00230)	0.00620 (0.01360)
Married (y/n)	0.00040 (0.00109)	-0.01550 (0.00565) **
Immigrant (y/n)	0.00306 (0.00277)	0.00579 (0.01460)
Real Estate Ownership (y/n)	0.00220 (0.00152)	-0.03360 (0.00913) **
Taxable Debt (in 10,000s DKK)	0.000005 (0.000007)	0.00012 (0.00004)**
Taxable Assets (in 10,000s DKK)	-0.000027 (0.000001) *	-0.00008 (0.0007)
Highschool (y/n)	0.00028 (0.00090)	0.02290 (0.00534) **
University (y/n)	0.00345 (0.00272)	- 0.00230 (0.00826)
Education Missing (y/n)	0.00186 (0.00261)	-0.01080 (0.01340)
Social Assistance (y/n)	-0.00318 (0.00161) *	-0.00261 (0.00931)
Wage Quartile 1	0.00132 (0.00136)	0.00728 (0.00820)
Wage Quartile 2	0.00215 (0.00141)	0.00805 (0.00890)
Wage Quartile 3	0.00094 (0.00143)	- 0.01220 (0.00862)
Wage Quartile 4	0.00223 (0.00158)	- 0.01840 (0.00873) *
Observations (individuals)	32,931	32,931
Joint F-statistic (p-value)	1.192 (0.252)	12.94 (<0.001)

Notes: This table shows results from regressing the instrumental variable (left) and a dummy for applicant being granted debt relief (right) on applicant characteristics, court-by-year fixed effects, and a constant. Numbers in parentheses are standard errors clustered by trustee identifier. ** $p < 0.01$, * $p < 0.05$.

Table A.9: Dividend and Trustee Instrument

	DIVIDEND NOT WINSORIZED	
	Without Covariates	With Covariates
Instrument	0.0028	0.0041
	(0.047)	(0.042)
Observations (individuals)	2,591	2,574
R2	0.000	0.106

	DIVIDEND WINSORIZED	
	Without Covariates	With Covariates
Instrument	0.00059	0.0018
	(0.046)	(0.042)
Observations (individuals)	2,591	2,574
R2	0.000	0.112

Notes: This table shows results from linear regressions of the dividend among applicants who were granted debt relief on the residualized trustee instrument (i.e. the normalized admission rate of trustees in equation (4) conditional on court-by-year fixed effects). Data on the dividend is from the repayment sample. The regressions with covariates include all exogenous covariates, W_{it}, from the second stage of the IV 2SLS regression model. The two bottom regressions have a winsorized dividend as dependent variable (winsorized at the 1st and 99th percentile). The dividend and the residualized trustee instrument are both measured on a scale from 0 to 100 (in percentage points). Numbers in parentheses are standard errors clustered by trustee identifier. ** $p<0.01$, * $p<0.05$.

Table A.10: IV First Stage Regression in Subsamples

	Men	Women
Instrument	0.502 **	0.591 **
	(0.037)	(0.055)
Observations (individuals)	20,411	12,520
R2	0.096	0.142

	Young	Old
Instrument	0.535 **	0.532 **
	(0.050)	(0.051)
Observations (individuals)	17,581	15,350
R2	0.120	0.142

	Low education	High education
Instrument	0.571 **	0.513 **
	(0.056)	(0.044)
Observations (individuals)	13,784	19,147
R2	0.139	0.115

	Low income	High income
Instrument	0.510 **	0.566 **
	(0.041)	(0.051)
Observations (individuals)	16,440	16,491
R2	0.117	0.132

Notes: This table shows results from the first stage IV regression in subsamples. All regressions include exogenous covariates, court-by-year fixed effects, and a constant. Numbers in parentheses are standard errors clustered by trustee identifier. ** $p<0.01$, * $p<0.05$.

Table A.11: IV First Stage Regression in Subsamples with Reverse-sample Instrument

	Men	Women
Instrument	0.435 **	0.591 **
	(0.042)	(0.053)
Observations (individuals)	18,912	13,250
R2	0.106	0.148

	Young	Old
Instrument	0.320 **	0.320 **
	(0.050)	(0.052)
Observations (individuals)	17,205	15,778
R2	0.124	0.143

	Low education	High education
Instrument	0.450 **	0.366 **
	(0.054)	(0.043)
Observations (individuals)	14,289	18,812
R2	0.142	0.118

	Low income	High income
Instrument	0.418 **	0.424 **
	(0.038)	(0.054)
Observations (individuals)	16,384	16,798
R2	0.121	0.136

Notes: This table shows results from the first stage IV regression in subsamples, using an instrument constructed from the reverse subsample (instrument for cases with male applicants was constructed from cases with female applicants etc.). All regressions include exogenous covariates, court-by-year fixed effects, and a constant. Numbers in parentheses are standard errors clustered by trustee identifier. ** $p<0.01$, * $p<0.05$.

Table A.12: Event-Study Estimates for the IV Sample

	(1) Full Sample	(2) IV sample
Earned Income (DKK)	20,183**	19,515**
	(1,576)	(1,848)
Employed (y/n)	0.0230**	0.0228**
	(0.0038)	(0.0045)
Unemployed (y/n)	-0.0123**	-0.0121**
	(0.0023)	(0.0025)
Out of Labor Force (y/n)	-0.0110**	-0.0112**
	(0.0036)	(0.0043)
Hourly Wage (DKK)	4.264**	5,439**
	(0.915)	(1.061)
Taxable Wealth (DKK)	255,898**	252,887
	(5.610)	(6.457)
Taxable Assets (DKK)	155,504**	149,184
	(5.315)	(6.104)
Taxable Debt (DKK)	-110,386**	115,531**
	(6.870)	(7.652)
Taxable Secured Debt (DKK)	93,587**	91,357**
	(3,512)	(4.117)
Taxable Unsecured Debt (DKK)	-191,849**	-191,125**
	(4,323)	(4.895)
Owns Real Estate(y/n))	0.156**	0.148*
	(0.004)	(0.005)
Taxable Real Estate (DKK)	124,318**	120,227**
	(4,099)	(4,845)
Observations (individuals)	46,390	32,794

Notes: This table shows the estimated impact of debt relief based on our event-study regression for the full sample (Column (1)) and our IV sample (Column (2)). Monetary unit is 2020 DKK. In Column (1) the number of observations refers to the number of individuals with non-missing outcome data (the maximum across outcomes). Column (2) further requires a valid instrument. Numbers in parentheses are standard errors clustered at the level of the individual (Column (1)) or clustered at the level of the trustee identifier (Column (2)). ** $p<0.01$, * $p<0.05$.

Table A.13: Mean Outcomes During Follow-Up

	Denied	Denied Compliers
Earned Income (DKK)	180,300	170,400
Employed (y/n)	0.565	0.558
Unemployed (y/n)	0.052	0.048
Out of Labor Force (y/n)	0.383	0.393
Hourly Wage (DKK)	225	214
Taxable Wealth (DKK)	-299,900	-313,000
Taxable Assets (DKK)	156,800	145,100
Taxable Debt (DKK)	471,200	466,500
Taxable Secured Debt (DKK)	102,700	88,900
Taxable Unsecured Debt (DKK)	344,000	350,400
Owns Real Estate (y/n)	0.135	0.134
Real Estate (DKK)	124,100	116,700

Notes: This table shows the means for our outcome variables across individuals and across the sixteen-year follow-up period. Means for denied compliers are computed using the method of Dahl, Kostøl and Mogstad (2014). Monetary unit is 2020 DKK.

Table A.14: Impact of Debt Relief on Welfare Dependency

	IV
Receives Disability Pension (y/n)	-0.054
	(0.039)
Disability Pension (DKK)	-1,050
	(1,180)
Receives Social Assistance (y/n)	-0.029
	(0.018)
Social Assistance (DKK)	-2,450
	(1,670)
Observations (individuals)	32,794

Notes: This table shows the estimated impact of debt relief on welfare dependency using instrumental variable regression. Monetary unit is 2020 DKK. Numbers in parentheses are standard errors clustered at the level of the trustee identifier. ** $p<0.01$, * $p<0.05$.

Table A.15: Impact of Debt Relief by Follow-up Period

	Years 1-5	Years 6-10	Years 11-16
Earned Income (DKK)	48,600**	51,500**	47,800*
	(16,800)	(19,200)	(21,500)
Employed (y/n)	0.093	0.140**	0.135*
	(0.049)	(0.050)	(0.054)
Unemployed (y/n)	0.019	-0.018	0.014
	(0.022)	(0.017)	(0.015)
Out of Labor Force (y/n)	-0.113*	-0.122*	-0.150**
	(0.047)	(0.048)	(0.056)
Hourly Wage (DKK)	5.36	11.6	23.2
	(8.89)	(11.3)	(12.8)
Taxable Wealth (DKK)	335,800**	253,700**	261,000**
	(44,500)	(59,800)	(66,500)
Taxable Assets (DKK)	125,700**	337,600**	469,300**
	(37,800)	(67,600)	(91,200)
Taxable Debt (DKK)	-225,200**	59,500	184,100
	(53,300)	(80,400)	(99,400)
Taxable Secured Debt (DKK)	77,300**	244,100**	290,600**
	(29,500)	(46,600)	(62,300)
Taxable Unsecured Debt (DKK)	-262,100**	-189,500**	-128,600*
	(41,800)	(52,800)	(55,300)
Owns Real Estate (y/n)	0.141**	0.279**	0.338**
	(0.041)	(0.056)	(0.063)
Real Estate (DKK)	105,300**	284,900**	395,300**
	(33,100)	(58,700)	(81,100)
Observations (individuals)	32,794	31,289	29,481

Notes: This table shows the estimated impact of debt relief using instrumental variable regression. The follow-up period is divided into three subperiods (1-5 years, 6-10 years, 11-16 years). Monetary unit is 2020 DKK. The number of observations refers to the number of individuals with a valid instrument and outcome data (the maximum across outcomes). The number of observations is, for example, lower for wages with missing observations for the non-employed. Numbers in parentheses are standard errors clustered at the level of the trustee identifier. ** $p<0.01$, * $p<0.05$.

Table A.16: Instrumental Variable Estimates by Required Cases per Trustee

	20 Cases	50 Cases	100 Cases
Earned Income (DKK)	46,800**	45,500**	51,500**
	(15,200)	(15,900)	(16,800)
Employed (y/n)	0.117**	0.108*	0.163**
	(0.039)	(0.045)	(0.051)
Unemployed (y/n)	0.0050	0.0005	0.015
	(0.012)	(0.013)	(0.014)
Out of Labor Force (y/n)	-0.122**	-0.111*	-0.182**
	(0.040)	(0.046)	(0.051)
Hourly Wage (DKK)	11.6	11.0	5.52
	(8.25)	(9.59)	(9.60)
Taxable Wealth (DKK)	282,500**	347,600**	330,500**
	(46,400)	(49,700)	(61,400)
Taxable Assets (DKK)	309,300**	240,100**	287,300**
	(54,400)	(58,100)	(61,800)
Taxable Debt (DKK)	7,870	-136,700*	-77,900
	(66,000)	(66,800)	(81,900)
Taxable Secured Debt (DKK)	201,400**	163,900**	196,900**
	(38,000)	(41,400)	(39,500)
Taxable Unsecured Debt (DKK)	-188,100**	-267,600**	-302,400**
	(42,600)	(37,000)	(35,200)
Owns Real Estate (y/n)	0.248**	0.207**	0.238**
	(0.044)	(0.041)	(0.044)
Real Estate (DKK)	260,800**	218,300**	252,700**
	(47,700)	(48,800)	(49,300)
Observations (individuals)	32,794	23,113	11,065

Notes: This table shows our IV estimates of the impact of debt relief across different specifications where we vary the minimum required number of cases per trustee. Monetary unit is 2020 DKK. Numbers in parentheses are standard errors clustered by trustee identifier. ** $p<0.01$, * $p<0.05$.

Table A.17: Joint Test of Exclusion and Monotonicity Assumption

	Copenhagen	Aarhus	Aalborg	Odense	Roskilde	Hjorring	Randers	Herning	Horsens
Earnings t+1									
Test Stat	23.760	32.355	29.422	19.294	12.952	15.748	16.162	13.862	16.459
Pvalue	*0.126*	*0.499*	*0.001*	*0.037*	*0.012*	*0.151*	*0.240*	*0.008*	*0.087*
Earnings t+8									
Test Stat	20.046	35.123	26.227	14.588	9.660	10.914	16.173	8.268	15.281
Pvalue	*0.272*	*0.368*	*0.003*	*0.148*	*0.047*	*0.451*	*0.240*	*0.082*	*0.122*
Earnings t+16									
Test Stat	23.203	41.390	19.853	17.383	18.584	14.923	8.759	11.077	14.017
Pvalue	*0.143*	*0.150*	*0.031*	*0.066*	*0.001*	*0.186*	*0.791*	*0.026*	*0.172*
Employment t+1									
Test Stat	42.739	44.060	8.103	18.892	8.605	12.965	9.538	4.638	20.895
Pvalue	*0.001*	*0.094*	*0.619*	*0.042*	*0.072*	*0.296*	*0.731*	*0.327*	*0.022*
Employment t+8									
Test Stat	15.898	37.582	17.182	12.647	14.880	8.091	8.283	8.102	8.659
Pvalue	*0.531*	*0.267*	*0.070*	*0.244*	*0.005*	*0.705*	*0.825*	*0.088*	*0.565*
Employment t+16									
Test Stat	19.926	52.539	14.920	19.611	6.992	9.537	16.665	7.006	13.382
Pvalue	*0.278*	*0.017*	*0.135*	*0.033*	*0.136*	*0.572*	*0.215*	*0.136*	*0.203*
Wealth t+4									
Test Stat	27.264	37.081	12.001	12.973	5.939	18.302	18.859	9.806	8.011
Pvalue	*0.054*	*0.286*	*0.285*	*0.225*	*0.204*	*0.075*	*0.128*	*0.044*	*0.628*
Wealth t+8									
Test Stat	24.062	46.855	16.970	16.665	8.599	21.491	8.544	11.490	17.376
Pvalue	*0.118*	*0.056*	*0.075*	*0.082*	*0.072*	*0.029*	*0.806*	*0.022*	*0.066*
Wealth t+16									
Test Stat	17.677	47.107	20.920	9.603	11.975	22.171	17.261	10.079	19.919
Pvalue	*0.409*	*0.053*	*0.022*	*0.476*	*0.018*	*0.023*	*0.188*	*0.039*	*0.030*
Assets t+4									
Test Stat	25.455	31.356	12.524	12.422	6.639	22.088	15.704	11.044	11.930
Pvalue	*0.085*	*0.549*	*0.252*	*0.258*	*0.156*	*0.024*	*0.265*	*0.026*	*0.290*
Assets t+8									
Test Stat	32.101	30.464	12.840	24.268	8.791	9.941	19.646	10.646	11.912
Pvalue	*0.015*	*0.594*	*0.233*	*0.007*	*0.067*	*0.536*	*0.104*	*0.031*	*0.291*
Assets t+16									
Test Stat	34.544	36.997	12.836	17.374	18.111	19.358	16.365	11.307	18.566
Pvalue	*0.007*	*0.290*	*0.233*	*0.066*	*0.001*	*0.055*	*0.230*	*0.023*	*0.046*
Degrees of freedom	17	33	10	10	4	11	13	4	10
Observations	4053	2670	1476	1365	1241	993	853	824	669

Notes: This table shows the results from the test by Frandsen, Lefgren and Leslie (2023*a*). The test is implemented separately for each of the 9 largest courts in our sample (following the arguments in Sigstad (2023)) with the same set of covariates as in our baseline model and using the Stata package testjfe. We use the default number of knots (3) in the test and we report test statistics and p-values based on the fit component of the test, see Frandsen, Lefgren and Leslie (2023*b*).

Table A.18: UJIVE as Instrumental Variable

	20 Cases	50 Cases
Earned Income (DKK)	26,930*	36,617*
	(14,276)	(15,228)
Employed (y/n)	0.0898**	0.0985*
	(0.0365)	(0.042)
Unemployed (y/n)	0.0155	0.0085
	(0.0110)	(0.0117)
Out of Labor Force (y/n)	-0.106**	-0.109**
	(0.0362)	(0.0417)
Hourly Wage (DKK)	5.968	8.182
	(7.472)	(8.178)
Taxable Wealth (DKK)	275,241**	319,281**
	(44,884)	(48,513)
Taxable Assets (DKK)	248,979**	212,833**
	(52,739)	(54,294)
Taxable Debt (DKK)	-50,073	-131,993*
	(60,876)	(60,045)
Taxable Secured Debt (DKK)	151,464**	133,597**
	(37,339)	(39,450)
Taxable Unsecured Debt (DKK)	-194,273**	-251,019**
	(39,739)	(42,008)
Owns Real Estate (y/n)	0.210**	0.188**
	(0.042)	(0.040)
Real Estate (DKK)	206,214**	189,939**
	(46,373)	(46,067)
Observations (individuals)	32,794	23,113

Notes: This table shows the estimated impact of debt relief using the UJIVE estimator (Kolesár (2013)), by required number of cases per trustee. Monetary unit is 2020 DKK. Numbers in parentheses are standard errors clustered by trustee identifier. ** $p<0.01$, * $p<0.05$.

Table A.19: Alternative Specifications of Instrumental Variable

	Vary by year	Leave out year	Split sample
Earned Income (DKK)	56,300*	48,800*	76,700**
	(26,500)	(19,000)	(25,300)
Employed (y/n)	0.145*	0.121*	0.201**
	(0.064)	(0.049)	(0.065)
Unemployed (y/n)	-0.022	0.0097	0.0030
	(0.019)	(0.015)	(0.020)
Out of Labor Force (y/n)	-0.124	-0.131**	-0.205**
	(0.065)	(0.049)	(0.064)
Hourly Wage (DKK)	30.5*	9.52	12.8
	(14.8)	(9.95)	(14.3)
Taxable Wealth (DKK)	71,900	316,200**	299,300**
	(79,800)	(55,400)	(69,500)
Taxable Assets (DKK)	246,600**	344,800**	369,100**
	(85,400)	(68,900)	(87,900)
Taxable Debt (DKK)	157,600	8,720	75,400
	(104,200)	(82,100)	(90,400)
Taxable Secured Debt (DKK)	191,100**	212,400**	220,800**
	(58,400)	(47,600)	(57,600)
Taxable Unsecured Debt (DKK)	-136,700**	-170,000**	-161,300**
	(20,400)	(36,700)	(22,400)
Owns Real Estate (y/n)	0.217**	0.268**	0.298**
	(0.072)	(0.055)	(0.072)
Real Estate (DKK)	221,900**	287,600**	307,200**
	(75,200)	(60,500)	(78,200)
Observations (individuals)	31,570	32,793	16,343

Notes: This table shows the estimated impact of debt relief using the admission rate of the assigned trustee as an instrumental variable with alternative specifications. The first column uses an instrument that is calculated by calendar year, the second column leaves out court cases in the same calendar year, and the third column randomly splits the sample in two halves and uses the instrument calculated in one half to estimate the model in the other half. Monetary unit is 2020 DKK. Numbers in parentheses are standard errors clustered by trustee identifier. ** $p<0.01$, * $p<0.05$.

Table A.20: Attrition

At 6 years	
IV coefficient	0.019
Standard error	(0.026)
Mean attrition	0.050
At 11 years	
IV coefficient	0.0065
Standard error	(0.036)
Mean attrition	0.105
At 16 years	
IV coefficient	-0.042
Standard error	(0.045)
Mean attrition	0.169
All years 1-16	
IV coefficient	-0.0014
Standard error	(0.024)
Mean attrition	0.080
Observations (individuals)	32,931

Notes: This table shows the rate of attrition in our sample at 6, 11, and 16 years of follow-up time, and the mean across all years 1 to 16. Coefficients and standard errors are presented for 4 separate regressions with the dependent variable being a dummy for attrition and the independent variable being whether or not the applicant was granted debt relief. Numbers in parentheses are standard errors clustered by trustee identifier. ** $p<0.01$, * $p<0.05$.

Table A.21: Balanced Panel Results

	With Attrition	Balanced Panel
Earned Income (DKK)	46,800**	42,200*
	(15,200)	(16,500)
Employed (y/n)	0.117**	0.106*
	(0.039)	(0.042)
Unemployed (y/n)	0.0050	0.0029
	(0.012)	(0.013)
Out of Labor Force (y/n)	-0.122**	-0.109**
	(0.040)	(0.042)
Hourly Wage (DKK)	11.6	8.56
	(8.25)	(8.84)
Taxable Wealth (DKK)	282,500**	294,200**
	(46,400)	(50,400)
Taxable Assets (DKK)	309,300**	328,200**
	(54,400)	(60,600)
Taxable Debt (DKK)	7,870	10,600
	(66,000)	(71,600)
Taxable Secured Debt (DKK)	201,400**	212,700**
	(38,000)	(42,900)
Taxable Unsecured Debt (DKK)	-188,100**	-196,400**
	(42,600)	(46,700)
Owns Real Estate (y/n)	0.248**	0.272**
	(0.044)	(0.048)
Real Estate (DKK)	260,800**	275,700**
	(47,700)	(53,100)
Observations (individuals)	32,794	27,353

Notes: This table shows the estimated impact of debt relief using the admission rate of the assigned trustee as an instrumental variable, in full panel with attrition (left) and in balanced panel with no attrition (right). Monetary unit is 2020 DKK. Numbers in parentheses are standard errors clustered by trustee identifier. ** $p<0.01$, * $p<0.05$.

Table A.22: Alternative Levels of Clustering

	Court	Individual	Court-by-year	Trustee-by-year
Earned Income (DKK)	46,800**	46,800**	46,800**	46,800**
	(17,400)	(16,300)	(18,500)	(17,900)
Employed (y/n)	0.117**	0.117**	0.117**	0.117**
	(0.043)	(0.039)	(0.041)	(0.040)
Unemployed (y/n)	0.0050	0.0050	0.0050	0.0050
	(0.0092)	(0.012)	(0.0096)	(0.013)
Out of Labor Force (y/n)	-0.122**	-0.122**	-0.122**	-0.122**
	(0.041)	(0.039)	(0.041)	(0.045)
Hourly Wage (DKK)	11.6	11.6	11.6	11.6
	(11.5)	(8.82)	(10.6)	(7.78)
Taxable Wealth (DKK)	282,500**	282,500**	282,500**	282,500**
	(38,700)	(45,200)	(42,600)	(55,200)
Taxable Assets (DKK)	309,300**	309,300**	309,300**	309,300**
	(74,800)	(56,300)	(58,400)	(39,400)
Taxable Debt (DKK)	7,870	7,870	7,870	7,870
	(83,100)	(60,900)	(79,600)	(70,000)
Taxable Secured Debt (DKK)	201,400**	201,400**	201,400**	201,400**
	(50,900)	(38,500)	(38,100)	(27,100)
Taxable Unsecured Debt (DKK)	-188,100**	-188,100**	-188,100**	-188,100**
	(36,200)	(36,200)	(45,800)	(54,900)
Owns Real Estate (y/n)	0.248**	0.248**	0.248**	0.248**
	(0.056)	(0.044)	(0.047)	(0.037)
Real Estate (DKK)	260,800**	260,800**	260,800**	260,800**
	(64,800)	(49,700)	(48,800)	(34,000)
Observations (individuals)	32,794	32,794	32,794	32,794

Notes: This table shows the estimated impact of debt relief using the admission rate of the assigned trustee as an instrumental variable. Monetary unit is 2020 DKK. Numbers in parentheses are standard errors clustered by court (1st column), debtor (2nd column), court-by-year of application (3rd column), and trustee identifier-by-year of application (4th column). ** $p<0.01$, * $p<0.05$.

Table A.23: Subgroup Analysis by Sex, Age, Marital Status, and Education

	Men	Women	Young	Old	Married	Single	Low Education	High Education
Earned Income (DKK)	35,000	46,600*	58,000**	31,600	52,411**	58,070	32,400	59,200*
	(21,700)	(18,400)	(22,300)	(19,600)	(18,843)	(31,812)	(21,200)	(27,900)
	[193,018]	[158,708]	[231,122]	[112,887]	[189,600]	[163,235]	[146,025]	[203,567]
Employed (y/n)	0.102*	0.118*	0.103*	0.114	0.132**	0.155	0.126*	0.095
	(0.050)	(0.053)	(0.050)	(0.060)	(0.045)	(0.0888)	(0.060)	(0.060)
	[0.579]	[0.540]	[0.697]	[0.386]	[0.589]	[0.516]	[0.494]	[0.622]
Wealth (DKK)	358,600**	151,800**	197,700**	401,400**	294,184**	246,933**	190,300**	371,200**
	(67,800)	(47,800)	(59,600)	(70,100)	(53,897)	(88,999)	(56,100)	(71,400)
	[-354,185]	[-207,827]	[-304,008]	[294,487]	[-314,548]	[-267,038]	[-262,163]	[323,167]
Assets (DKK)	303,700**	310,600**	388,400**	248,200**	339,018**	201,079	194,400**	437,700**
	(71,500)	(75,300)	(81,300)	(76,500)	(67,468)	(105,489)	(72,000)	(94,300)
	[145,461]	[175,939]	[185,554]	[118,576]	[166,156]	[138,340]	[120,160]	[179,555]
Secured Debt (DKK)	199,600**	212,900**	275,800**	129,400*	220,285**	152,344**	124,700**	324,100**
	(48,500)	(51,500)	(57,400)	(50,200)	(48,583)	(74,076)	(47,500)	(68,500)
	[95,772]	[114,391]	[131,461]	[64,519]	[112,048]	[82,932]	[74,987]	[119,906]
Unsecured Debt (DKK)	-265,600**	-86,100*	-117,100**	-279,500**	-194,696**	-218,537**	-114,600**	-249,600**
	(50,700)	(33,500)	(38,100)	(52,200)	(45,872)	(76,002)	(40,500)	(50,900)
	[391,805]	[263,433]	[345,872]	[341,588]	[357,806]	[314,147]	[299,719]	[371,009]
Observations (individuals)	20,308	12,486	17,545	15,249	21,195	11,176	13,725	14,502

Notes: This table shows IV estimates across different subgroups. The subgroups are defined by sex, age (below or above 45 years of age), marital status, and education. Married is defined as being registered as married in any of the four years prior to applying for debt relief. The low education group is applicants who have lower secondary education or less. The high education group is applicants who have upper secondary education or more. Monetary unit is 2020 DKK. Numbers in parentheses are standard errors clustered by trustee identifier. Numbers in hard brackets are non-granted means in the follow-up period. ** p<0.01, * p<0.05.

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Table A.24: Subgroup Analysis by Entry Conditions (Economic Outcomes Prior to Application)

	Recession	Non-Recession	Low Income	High Income	Low Debt	High Debt	Low Wealth	High Wealth
Earned Income (DKK)	41,604	55,224**	39,300	54,700*	50,225*	58,346*	48,632*	58,460**
	(26,697)	(20,254)	(20,400)	(21,900)	(22,392)	(24,349)	(22,557)	(20,949)
	[194348]	[172,290]	[101,014]	[246,043]	[149,115]	[212,241]	[209,535]	[153,003]
Employed (y/n)	0.166*	0.0986	0.161*	0.076	0.129*	0.131*	0.0535	0.210**
	(0.0674)	(0.0518)	(0.062)	(0.045)	(0.0585)	(0.0553)	(0.0550)	(0.0576)
	[0.603]	[0.542]	[0.395]	[0.704]	[0.503]	[0.628]	[0.629]	[0.505]
Wealth (DKK)	259,942**	295,437**	310,000**	257,900**	120,927*	407,084**	331,374**	166,455**
	(77,802)	(57,198)	(62,800)	(61,200)	(53,561)	(77,874)	(77,177)	(46,419)
	[-273,034]	[-315,229]	[262,746]	[-330,811]	[-200,670]	[-401,745]	[-439,400]	[-169,902]
Assets (DKK)	284,677**	330,291**	263,000**	367,100**	205,754**	409,841**	282,009**	304,636**
	(90,579)	(70,288)	(75,600)	(75,500)	(71,097)	(91,431)	(84,377)	(75,741)
	[183,854]	[141,328]	[115,344]	[191,158]	[109,577]	[205,185]	[161,040]	[152,811]
Secured Debt (DKK)	159,127*	235,167**	139,100**	271,300**	158,509**	254,205**	189,564**	226,106**
	(64,149)	(48,286)	(47,200)	(55,800)	(48,759)	(62,308)	(56,836)	(53,200)
	[118,956]	[93,419]	[74,672]	[125,900]	[67,073]	[139,204]	[114,622]	[91,556]
Unsecured Debt (DKK)	-134,631*	-224,337**	-212,900**	-170,400**	-89,277*	-270,599**	-264,797**	-98,434**
	(62,873)	(52,537)	(46,900)	(40,800)	(42,909)	(70,020)	(66,053)	(37,528)
	[333,321]	[349,928]	[296,422]	[383,444]	[236,290]	[454,181]	[472,288]	[224,148]
Owns Real Estate (y/n)	0.167**	0.294**	0.232**	0.279**	0.219**	0.258**	0.161*	0.353**
	(0.0674)	(0.0587)	(0.061)	(0.062)	(0.0592)	(0.0685)	(0.0640)	(0.0645)
	[0.157]	[0.122]	[0.107]	[0.157]	[0.099]	[0.171]	[0.135]	[0.]
Observations (individuals)	13,217	19,577	16,340	16,454	16,361	16,433	16,437	16,357

Notes: This table shows IV estimates across different subgroups. The subgroups are defined by income, debt or wealth prior to application or whether the individual is applying in a recession. Recession years are defined as 1984-1985 and 1991-1995 (following the definition from Andersen and Rasmussen (2011)). Income groups are defined as being above/below median income (averaged over four years prior to applying) among individuals applying in the same year. Debt and wealth groups are defined in a similar way. Monetary unit is 2020 DKK. Numbers in parentheses are standard errors clustered by trustee identifier. Numbers in hard brackets are non-granted means in the follow-up period. ** p<0.01, * p<0.05.

Table A.25: Instrumental Variable Estimates for Years 17 to 25

Earned Income (DKK)	40,300
	(39,800)
Employed (y/n)	0.160
	(0.089)
Unemployed (y/n)	0.023
	(0.014)
Out of Labor Force (y/n)	-0.169
	(0.088)
Hourly Wage (DKK)	56.6*
	(25.7)
Taxable Wealth (DKK)	390,200**
	(144,000)
Taxable Assets (DKK)	811,300**
	(195,300)
Taxable Debt (DKK)	396,600*
	(177,200)
Taxable Secured Debt (DKK)	383,700**
	(127,400)
Taxable Unsecured Debt (DKK)	-44,300
	(83,700)
Owns Real Estate (y/n)	0.466**
	(0.123)
Real Estate (DKK)	688,100**
	(173,500)
Observations (individuals)	13,927

Notes: This table shows the estimated impact of debt relief during follow-up years 17 to 25 using the admission rate of the assigned trustee as an instrumental variable. Sample consists of applicants for debt relief from 1984 up until 1994. Monetary unit is 2020 DKK. Numbers in parentheses are standard errors clustered by trustee identifier. ** $p<0.01$, * $p<0.05$.

Table A.26: Characteristics of Compliers

	All	Granted	Compliers
Men	0.620	0.614	0.585
Age 45 or above	0.534	0.532	0.539
Employed	0.636	0.631	0.669
Unemployed	0.115	0.119	0.090
Married	0.568	0.564	0.655
Owns real estate	0.259	0.264	0.168
Low education	0.417	0.415	0.433
Low earned income	0.500	0.492	0.524

Notes: This table shows the share of compliers with various observable characteristics (right column) together with the corresponding shares in our full sample (left column) and the subsample of applicants who were granted debt relief (middle column). Compliers are defined as those applicants who would be granted debt relief if assigned to the least strict trustee, but not granted debt relief if assigned to the strictest trustee. We estimate the share of compliers and the distribution of characteristics among compliers using the predicted fraction receiving debt relief from the first stage regression, treating the top and bottom one percentiles of the predicted admission rate as the least strict and strictest trustees (see Section F for more details).

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