Online Appendix

A Additional Tables and Figures

Table A.1: Smoothness of Density and Predetermined Covariates

Dependent variable:	Full sample	Stable earnings	Variable earnings
	(1)	(2)	(3)
Density	-.061	-.029	-.090
	(.058)	(.074)	(.084)
Earnings Jan-May in 2015 ($)	-36	3	-79
	(33)	(16)	(73)
Annual earnings in 2014 ($)	-226	66	-573
	(313)	(247)	(647)
Uncapped annual DI benefits ($)	163	187	127
	(302)	(382)	(485)
Annual indexed earnings ($)	-1,058	-2,223	509
	(922)	(1,230)	(1,386)
Age on January 1st, 2015	-.043	-.496	.694
	(.546)	(.723)	(.816)
Years on DI	-.276	-.041	-.621
	(.547)	(.746)	(.783)
Fraction females	.016	.012	.025
	(.027)	(.036)	(.041)
Fraction cohabitants	-.031	-.057	.008
	(.027)	(.036)	(.041)
Years of Schooling	.144	.034	.311
	(.125)	(.161)	(.195)
Number of Children	.027	-.045	.140
	(.074)	(.097)	(.113)
Joint F-test [p-value]	.464	.514	.677
Observations	7,443	4,403	3,040

*** significant at 1% level, ** significant at 5% level, * significant at 10% level

Standard errors (in parentheses) are clustered at the individual level and are robust to heteroskedasticity.
Notes: The table shows results from local linear regressions with a triangular kernel density and a bandwidth of $2,815 on each pre-determined covariate, except for the density of our running variable where we follow the optimal bandwidth calculation of McCrary (2008) ($2,470 for the full sample). The full sample includes fully disabled recipients awarded DI before the 1st of January 2015 with some earnings during January-May 2015 who were eligible to receive the information treatment (Column 1). Round numbers (in multiples of NOK 1,000 of PAE) are excluded. The stable (variable) earnings samples include individuals whose earnings variability measure is below (above) the sample median, where earnings variability is defined as the individual level SD/mean in January-May 2015. Maximum DI benefits are the initial DI benefits before being earnings tested. Annual indexed earnings summarizes earnings history before the disability onset. All variables are measured in 2015 dollars (NOK/USD = 7.5).

Table A.2: Specification checks

Sample	A. Stable Earnings				B. Variable Earnings			
	First stage (1)	Report change (2)	Earnings ($) (3)	Obs (4)	First stage (5)	Report change (6)	Earnings ($) (7)	Obs (8)
i: Baseline RD estimate	.562***	.220***	-29	26,418	.684***	.018	-49	18,240
	(.027)	(.056)	(38)		(.029)	(.054)	(69)	
ii: With controls	.564***	.219***	-31	26,418	.682***	.022	-43	18,240
	(.026)	(.054)	(37)		(.028)	(.053)	(69)	
iii: Bias-corrected, robust	.557***	.247***	-12	26,418	.689***	.115	10	18,240
	(.037)	(.078)	(54)		(.042)	(.077)	(94)	
iv: With round numbers	.563***	.212***	-31	28,746	.685***	.071	42	20,298
	(.027)	(.054)	(36)		(.028)	(.051)	(66)	
v: Rectangular kernel	.564***	.197***	-38	26,418	.675***	-.025	-72	18,240
	(.025)	(.050)	(33)		(.027)	(.050)	(64)	

*** significant at 1% level, ** significant at 5% level, * significant at 10% level

Standard errors (in parentheses) are robust to heteroskedasticity.

Notes: This table presents the results of first stage regressions and 2SLS estimates for reporting changes in earnings to the SSA in 2015 using different regression specifications. All specifications use a bandwidth of $2,815, and all specifications use a triangular kernel except specification (v) which uses a rectangular kernel. The specification with controls includes the covariates included in Table 1. The specification with bias corrected estimates and robust standard errors follows Calonico *et al.*, 2014. The sample consists of fully disabled recipients awarded DI before the 1st of January 2015 who were eligible to receive the information treatment. Round numbers (in multiples of NOK 1,000 of PAE) are excluded except specification (iv). The stable (variable) earnings samples include individuals whose earnings variability measure is below (above) the sample median, where earnings variability is defined as the individual level SD/mean in January-May 2015.

Table A.3: Variability quantiles

	First stage (1)	Change Target Earnings (2)	Actual Earnings ($) (3)	Obs (4)
i: Fully stable	.728***	.274***	-37	5,988
	(.057)	(.099)	(43)	
ii: Relatively stable	.525***	.201***	-20	20,430
	(.031)	(.066)	(47)	
iii: Relatively variable	.680***	.016	-66	15,678
	(.031)	(.059)	(69)	
iv: Fully variable	.716***	.028	-12	2,562
	(.082)	(.138)	(262)	

*** significant at 1% level, ** significant at 5% level, * significant at 10% level

Standard errors (in parentheses) are robust to heteroskedasticity.

Notes: This table presents the results of first stage regressions and 2SLS estimates for reporting changes in target earnings to the SSA in 2015 using different regression specifications. All specifications use a bandwidth of $2,815, and all specifications use a triangular kernel except specification (v) which uses a rectangular kernel. The specification with controls includes the covariates included in Table 1. The specification with bias corrected estimates and robust standard errors follows Calonico *et al.*, 2014. The sample consists of fully disabled recipients awarded DI before the 1st of January 2015 who were eligible to receive the information treatment. Round numbers (in multiples of NOK 1,000 of PAE) are excluded except specification (iv). The stable (variable) earnings samples include individuals whose earnings variability measure is below (above) the sample median, where earnings variability is defined as the individual level SD/mean in January-May 2015.

Table A.4: 2SLS Estimates Using Alternative Measures of Variability

	A. Stable: Some wage reported as regular			B. Variable: All wage reported as variable		
	(1)	(2)	(3)	(1)	(2)	(3)
	First stage	Change Target Earnings	Actual Earnings ($)	First stage	Change Target Earnings	Actual Earnings ($)
Estimate	.666***	.173***	-108*	.625***	.096*	39
	(.035)	(.066)	(61)	(.028)	(.056)	(52)
Dep. mean	.016	.218	686	.006	.252	570
p-value	<.001	.009	.076	<.001	.086	.451
Observations	2,091	2,091	12,546	3,559	3,559	21,354

*** significant at 1% level, ** significant at 5% level, * significant at 10% level

Standard errors (in parentheses) are clustered at the individual level and are robust to heteroskedasticity.
Notes: This table presents the average impacts of the information letter on an indicator for whether the person reports any expected changes in year-end earnings to the SSA as well as monthly earnings during July-December 2015. The first column shows the first-stage regressions, while the second and third present the 2SLS estimates for each outcome. We use a local linear regression using a triangular kernel density and a bandwidth of $2,815 on each side of the cutoff. The sample consists of fully disabled recipients awarded DI before the 1st of January 2015 with some earnings during January-May 2015 who were eligible to receive the information treatment. Round numbers (in multiples of NOK 1,000 of PAE) are excluded.

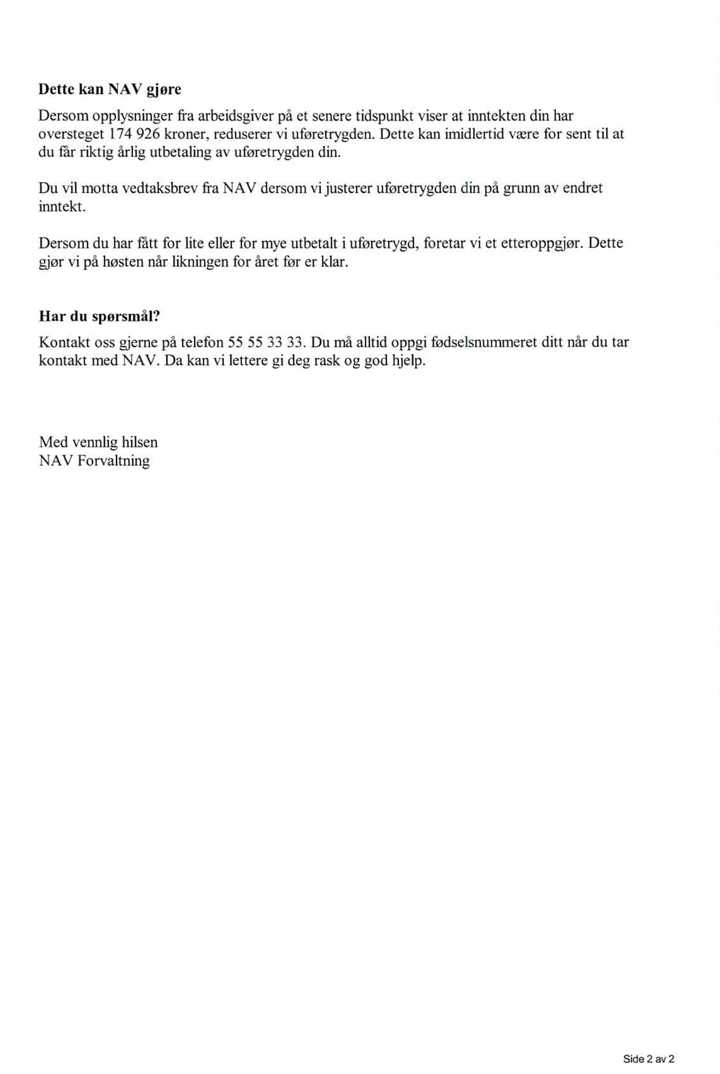
Table A.5: Differential Impact of Information Treatment Effects

		RD-DID Estimates:		
	First stage	Change Target Earnings	Actual Earnings ($)	Obs
	(1)	(2)	(3)	(4)
i: Baseline model	-.122***	.202***	20	44,658
	(.040)	(.078)	(79)	
ii: With controls	-.118***	.205***	15	44,658
	(.038)	(.076)	(78)	
iii: With controls,	-.118***	.199***	12	44,658
industry & occupation FE	(.038)	(.076)	(78)	

*** significant at 1% level, ** significant at 5% level, * significant at 10% level

Standard errors (in parentheses) are clustered at the individual level and are robust to heteroskedasticity.
Notes: This table presents the differences in treatment effects using a differences in regression discontinuity design. See Table 2 for details of samples and variable definitions. Row (i) implements a parametric difference in regression discontinuity design, where we estimate a standard RD-DID model using the stable earnings sample as the treated individuals, where the variable earnings sample is the baseline sample. Row (ii) reports results using the covariates included in Table 1 as control variables, and row (iii) also includes 10 categories of industry and occupation fixed effects as controls.

Figure A.1: Information letter



Dette kan NAV gjøre

Dersom opplysninger fra arbeidsgiver på et senere tidspunkt viser at inntekten din har oversteget 174 926 kroner, reduserer vi uføretrygden. Dette kan imidlertid være for sent til at du får riktig årlig utbetaling av uføretrygden din.

Du vil motta vedtaksbrev fra NAV dersom vi justerer uføretrygden din på grunn av endret inntekt.

Dersom du har fått for lite eller for mye utbetalt i uføretrygd, foretar vi et etteroppgjør. Dette gjør vi på høsten når likningen for året før er klar.

Har du spørsmål?

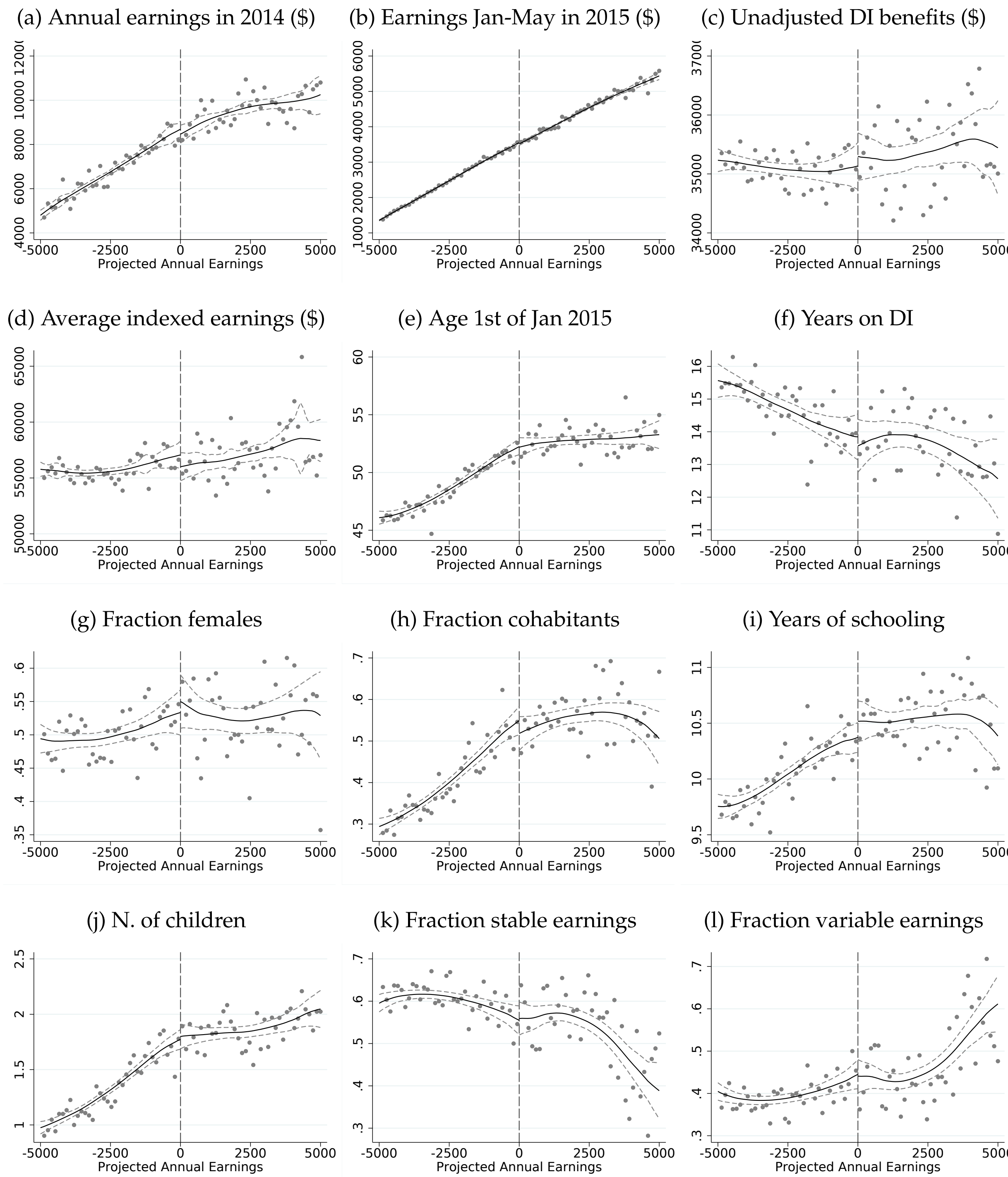
Kontakt oss gjerne på telefon 55 55 33 33. Du må alltid oppgi fødselsnummeret ditt når du tar kontakt med NAV. Da kan vi lettere gi deg rask og god hjelp.

Med vennlig hilsen
NAV Forvaltning

Side 2 av 2

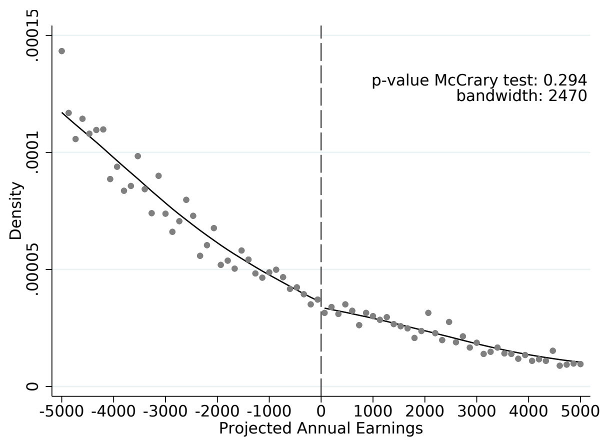
Notes: This is an example of an anonymized letter (in Norwegian) for a recipient working part time. **"NAV/SSA has received information about your income".** Personal identifier (removed), Case file (removed). 1st paragraph: The information from your employer shows that the annualized labor earnings can be higher than the earnings we used to calculate your benefit level. Second paragraph: If your earnings this year exceed X kroner, your benefit payments will be reduced. It still pays to work more, as earnings and benefits are higher than benefits alone. Even if we reduce your benefits, you will keep the disability rating you were awarded. **"This is what you can do"**. We send you this letter so you can prepare, and notify us as soon as you expect your annual income to increase. Fourth paragraph: If you do not expect your annual earnings to exceed X, you do not need to do anything. Fifth paragraph: If you expect earnings to exceed X kroner, you will have to report your new earnings. You can do this under the choice "disability benefits" when logging in to nav.no. It is important that you report your expected annual earnings to receive the correct amount of benefits. Page 2, first paragraph: **"This is what NAV can do"**. If the information provided by your employer at a later date shows that your earnings exceeded X, we will reduce your benefit payments. It may be too late to make sure the annual payment is correct. Second paragraph: You will receive a letter from NAV if we reduce your benefits due to the changes in the level of earnings. Third paragraph: If you have received too much or too low benefits, we will make a settlement later. **"Do you have any questions?"** Contact us at phone number Y. You will have to provide your personal identifier when contacting NAV. That way we can provide good and fast assistance.

Figure A.2: Characteristics at Cutoff



Notes: The figures show the unconditional means of each pre-determined covariate in $133 (NOK 1,000) bins as a function of distance to cutoff, and the estimated regression lines of local linear regressions with triangular kernel densities on each side of the cutoff using a bandwidth of $2,815 represented by the solid black lines. The dashed lines represent 95 percent confidence intervals. Uncapped DI benefits are the initial DI benefits before being earnings tested. Annual indexed earnings summarizes earnings history before the disability onset. The stable (variable) earnings samples include individuals whose earnings variability measure is below (above) the sample median, where earnings variability is defined as the individual level SD/mean in January-May 2015. The sample consists of fully disabled recipients awarded DI before the 1st of January 2015 with some earnings during January-May 2015 who were eligible to receive the information treatment. Round numbers (in multiples of NOK 1,000 of PAE) are excluded. All variables are measured in 2015 dollars (NOK/USD = 7.5).

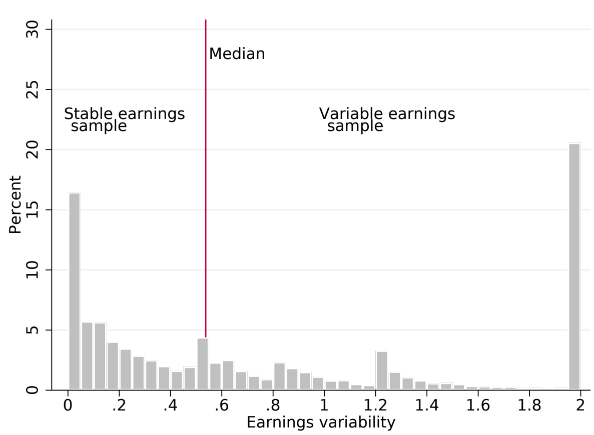
Figure A.3: Distribution of the Assignment Variable and the McCrary Test



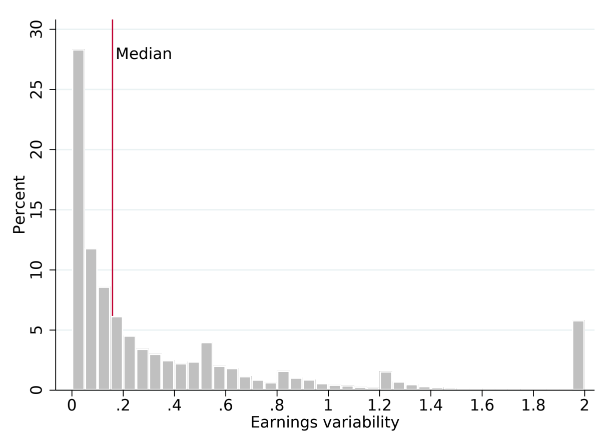
Notes: The figure shows the distribution of PAE in $133 (NOK 1,000) bins around the cutoff, and a smoothed density using a local linear regression with a triangular kernel density following the optimal bandwidth calculation of McCrary (2008) represented by the black solid line. The sample consists of fully disabled recipients awarded DI before the 1st of January 2015 with some earnings during January-May 2015 who were eligible to receive the information treatment. Round numbers (in multiples of NOK 1,000 of PAE) are excluded.

Figure A.4: Distribution of Earnings Variability January-May

(a) Working DI Recipients

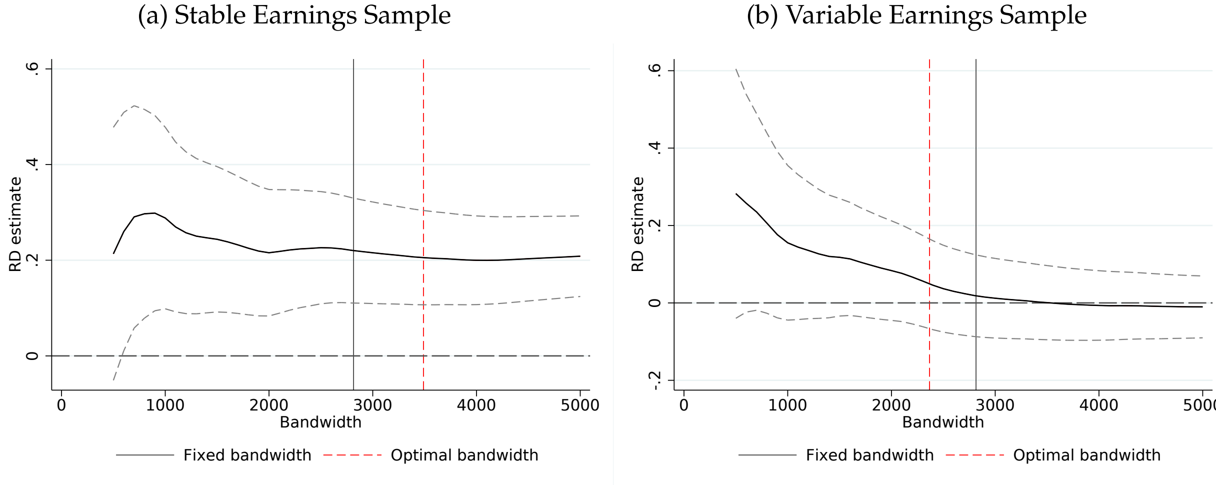


(b) Overall Population



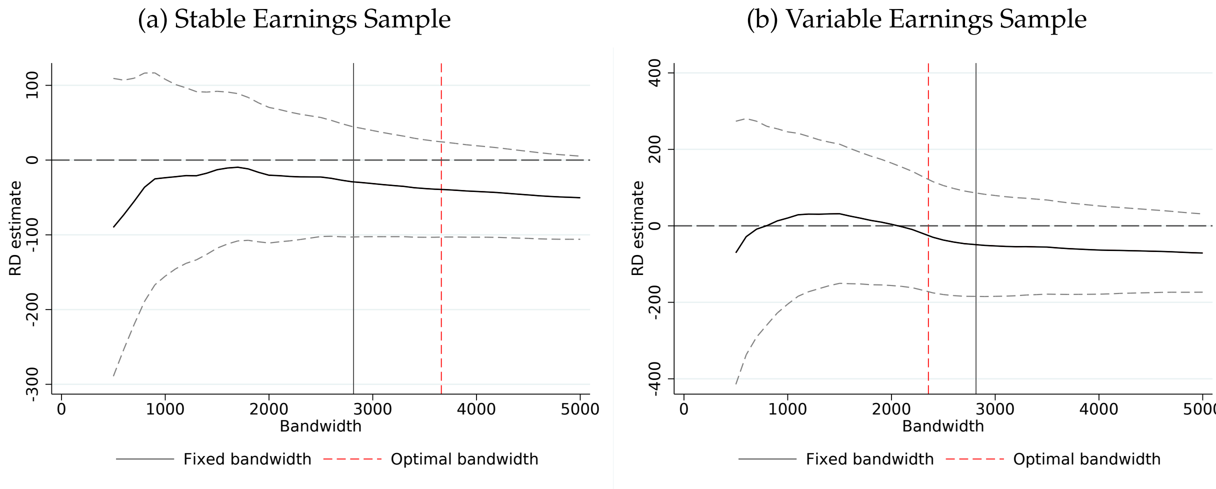
Notes: The figures show the distribution of earnings variability (coefficient of variation) defined as SD/mean (calculated at the individual level) in earnings January-May 2015 for the baseline estimation sample of employed DI recipients and the overall population.

Figure A.5: RD Estimates and Bandwidth Selection: Report Change in Target Earnings



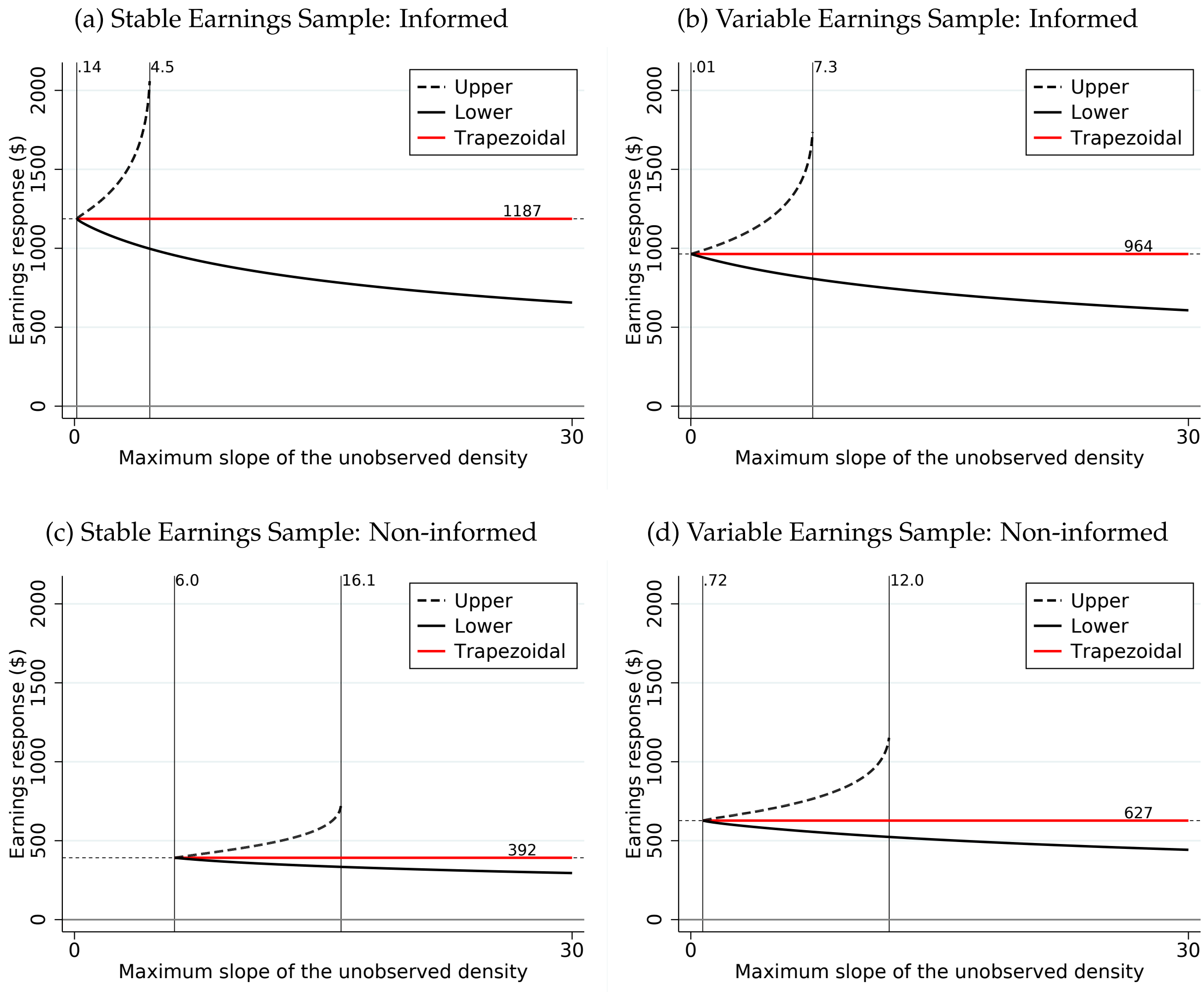
Notes: The figures show the separate 2SLS estimates of individuals reporting changes in target earnings to the SSA in 2015 using a local linear regression with a triangular kernel density on each side of the cutoff for different choices of bandwidth (indicated on the horizontal axis). The grey solid line indicates the baseline bandwidth used in the main analyses, and the red dashed line indicates the optimal bandwidth for each sample following Calonico *et al.* (2014). The dashed lines represent 95% confidence intervals. The sample consists of fully disabled recipients awarded DI before 1st of January 2015 who were eligible to receive information treatment. The stable (variable) earnings samples include individuals whose earnings variability measure is below (above) the sample median, where earnings variability is defined as the individual level SD/mean in January-May 2015. Round numbers (in multiples of NOK 1,000 of PAE) are excluded.

Figure A.6: RD Estimates and Bandwidth Selection: Monthly Earnings ($)



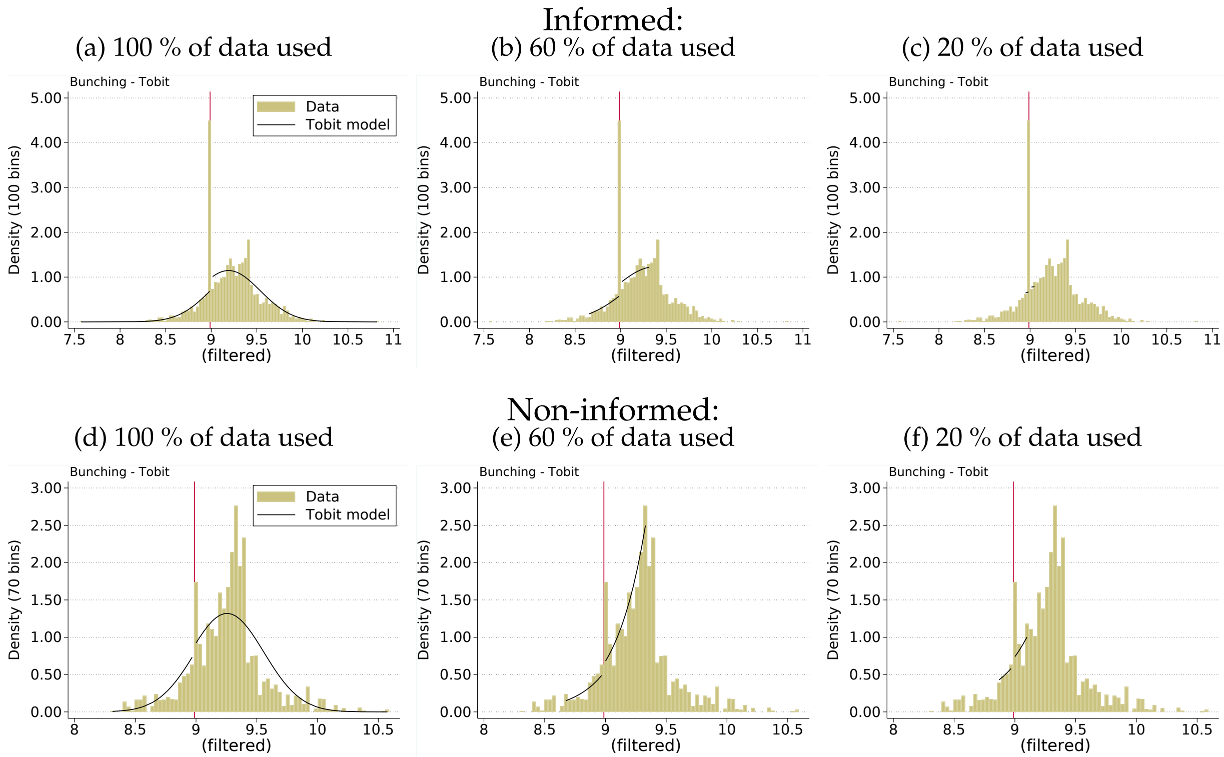
Notes: The figures show the separate 2SLS estimates of monthly earnings (in $) during July-December 2015 using a local linear regression with a triangular kernel density on each side of the cutoff for different choices of bandwidth (indicated on the horizontal axis). The grey solid line indicates the baseline bandwidth used in the main analyses, and the red dashed line indicates the optimal bandwidth for each sample following Calonico *et al.* (2014). The dashed lines represent 95% confidence intervals. The sample consists of fully disabled recipients awarded DI before 1st of January 2015 who were eligible to receive information treatment. The stable (variable) earnings samples include individuals whose earnings variability measure is below (above) the sample median, where earnings variability is defined as the individual level SD/mean in January-May 2015. Round numbers (in multiples of NOK 1,000 of PAE) are excluded.

Figure A.7: Bounds on Estimated Bunching Responses



Notes: The figures illustrate upper and lower bounds for bunching responses at the $8,000 kink for the stable and variable earnings samples, and separately for informed and non-informed individuals. Earnings are transformed by the natural logarithm, and the earnings distribution is filtered in the bunching segment (from ln(7,000) to ln(9,000)). The bounds are estimated by varying the maximum slope of the unobserved heterogeneity distribution (see Theorem 2 in Bertanha *et al.* (2023)). The vertical lines denote the minimum and maximum slope consistent with a continuous probability density function matching both the bunching mass and the observed income distribution. The left vertical line corresponds to the smallest slope consistent with continuity, while the right vertical line corresponds to the maximum slope before the set of admissible distributions allows the density to equal zero within the bunching interval. The sample consists of fully disabled recipients awarded DI before 1st of January 2015 who were eligible to receive information treatment (PAE above the cutoff). The stable (variable) earnings sample includes individuals whose earnings variability measure is below (above) the sample median, where earnings variability is defined as the individual level SD/mean in January-May 2015. Non-informed individuals are re-weighted using the propensity score weights described in Section 5. Earnings are measured in 2015 dollars (NOK/USD = 7.5).

Figure A.8: Bunching Estimates Using Tobit Model: Stable Earnings Sample

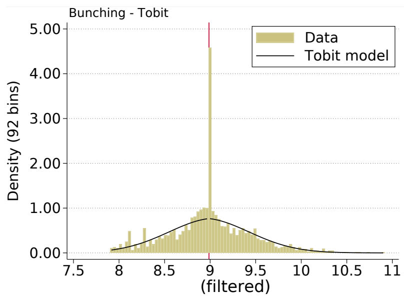


Notes: The figures present bunching estimates at the $8,000 kink for the stable earnings sample, separately for informed and non-informed individuals, using the Tobit-type approach of Bertanha *et al.* (2023). The model assumes a triangular distribution of unobserved heterogeneity and is estimated by maximum likelihood using 20%, 60%, and 100% of the sample around the kink. Earnings are transformed by the natural logarithm, and the earnings distribution is filtered in the bunching segment (from ln(7,000) to ln(9,000)). The sample consists of fully disabled recipients awarded DI before 1st of January 2015 who were eligible to receive information treatment (PAE above the cutoff). The stable earnings sample includes individuals whose earnings variability measure is below the sample median, where earnings variability is defined as the individual level SD/mean in January-May 2015. Non-informed individuals are re-weighted using the propensity score weights described in Section 5. Earnings are measured in 2015 dollars (NOK/USD = 7.5).

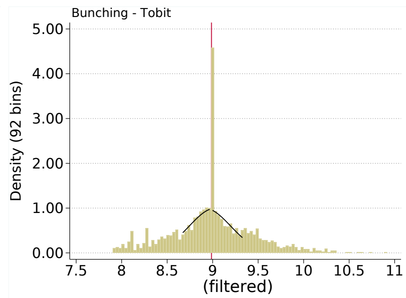
Figure A.9: Bunching Estimates Using Tobit Model: Variable Earnings Sample

Informed:

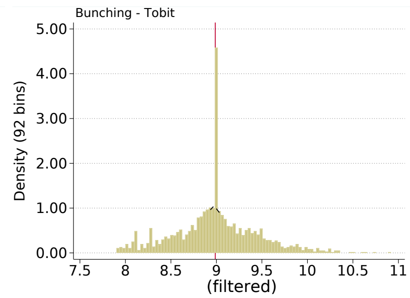
(a) 100 % of data used



(b) 60 % of data used

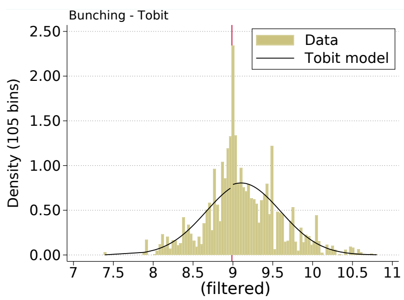


(c) 20 % of data used

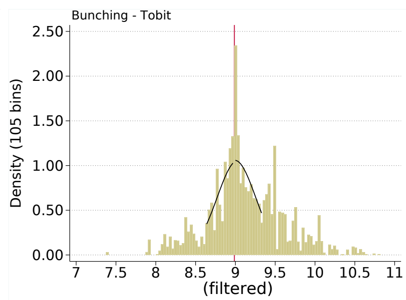


Non-informed:

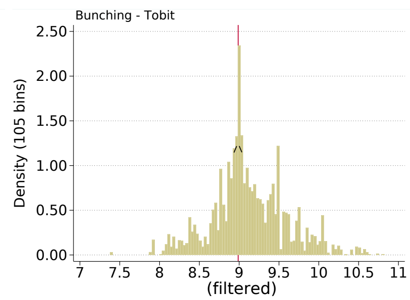
(d) 100 % of data used



(e) 60 % of data used



(f) 20 % of data used



Notes: The figures present bunching estimates at the \$8,000 kink for the variable earnings sample, separately for informed and non-informed individuals, using the Tobit-type approach of Bertanha *et al.* (2023). The model assumes a triangular distribution of unobserved heterogeneity and is estimated by maximum likelihood using 20%, 60%, and 100% of the sample around the kink. Earnings are transformed by the natural logarithm, and the earnings distribution is filtered in the bunching segment (from ln(7,000) to ln(9,000)). The sample consists of fully disabled recipients awarded DI before 1st of January 2015 who were eligible to receive information treatment (PAE above the cutoff). The variable earnings sample includes individuals whose earnings variability measure is below the sample median, where earnings variability is defined as the individual level SD/mean in January-May 2015. Non-informed individuals are re-weighted using the propensity score weights described in Section 5. Earnings are measured in 2015 dollars (NOK/USD = 7.5).

B Theory Appendix

The purpose of this appendix is to examine the effect of ambiguity about the tax schedule when a worker has an uncertain--from the current perspective, uncontrollable--future income. Recall that the worker's year end income is the sum of her choice, z; and the exogenous random variable $\eta \sim F\left[0, \bar{\eta}\right]$. The worker believes the kink in the tax schedule is located at $K+\varepsilon$, where $\varepsilon \sim G\left[-\bar{\varepsilon}, \bar{\varepsilon}\right]$ is a mean $\mu_{\varepsilon} \in \left[0, \bar{\varepsilon}\right)$ random variable.

The worker's utility is of the quasi-linear form given in the text: $u\left(c, l\right) = c - \psi\left(l\right)$. She solves

$$\max_{z} \left\{ \mathbb{E}_{F,G}\left[z+\eta\right] - \hat{\tau}\left(z\right) - \psi\left(\frac{z}{w}\right) \right\},$$

where

$$\hat{\tau}\left(z\right) \equiv \mathbb{E}_{F,G}\left[\tau(z+\eta)\right] = \begin{cases} \Phi_1\left(z\right) & 0 < z \leq K - \bar{\varepsilon} \\ \Phi_2\left(z\right) & K - \bar{\varepsilon} < z \leq K + \bar{\varepsilon} \\ \tau_2\left(z+\mu\right) - K\Delta_{\tau} & K + \bar{\varepsilon} < z, \end{cases}$$

and where

$$\begin{aligned} \Phi_1\left(z\right) \equiv\; & \tau_1 \left[\int_{K-\bar{\varepsilon}-z}^{K+\bar{\varepsilon}-z} \left(\eta+z\right)\left(1 - G\left(z+\eta-K\right)\right) dF\left(\eta\right) + \int_{0}^{K-\bar{\varepsilon}-z} \left(\eta+z\right) dF\left(\eta\right) \right] \\ & + \tau_2 \left[\int_{K-\bar{\varepsilon}-z}^{K+\bar{\varepsilon}-z} \left(\eta+z\right) G\left(z+\eta-K\right) dF\left(\eta\right) + \int_{K+\bar{\varepsilon}-z}^{\bar{\eta}} \left(\eta+z\right) dF\left(\eta\right) \right] \\ & - \Delta_{\tau} \int_{-\bar{\varepsilon}}^{\bar{\varepsilon}} \left(K+\varepsilon\right)\left(1 - F\left(K+\varepsilon-z\right)\right) dG(\varepsilon), \end{aligned}$$

and

$$\begin{aligned} \Phi_2\left(z\right) \equiv\; & \tau_1 \int_{0}^{K+\bar{\varepsilon}-z} \left(\eta+z\right)\left(1 - G\left(z+\eta-K\right)\right) dF\left(\eta\right) \\ & + \tau_2 \left[\int_{0}^{K+\bar{\varepsilon}-z} \left(\eta+z\right) G\left(z+\eta-K\right) dF\left(\eta\right) + \int_{K+\bar{\varepsilon}-z}^{\bar{\eta}} \left(\eta+z\right) dF\left(\eta\right) \right] \\ & - \Delta_{\tau} \left[\int_{z-K}^{\bar{\varepsilon}} \left(K+\varepsilon\right)\left(1 - F\left(K+\varepsilon-z\right)\right) dG(\varepsilon) + \int_{-\bar{\varepsilon}}^{z-K} \left(K+\varepsilon\right) dG\left(\varepsilon\right) \right], \end{aligned}$$

It is easy to check that $\hat{\tau}\left(\cdot\right)$ is continuously differentiable and strictly concave. Accordingly, the optimal choice, z^*, is pinned down by the first derivative of the objective. Differentiating the objective, we have

$$1 - \hat{\tau}'\left(z\right) - \frac{1}{w}\psi'\left(\frac{z}{w}\right),$$

Moreover,

$$\hat{\tau}'(z) = \begin{cases} \Phi_1'(z) & 0 < z \leq K - \bar{\varepsilon} \\ \Phi_2'(z), & K - \bar{\varepsilon} < z \leq K + \bar{\varepsilon} \\ \tau_2 & K + \bar{\varepsilon} < z, \end{cases}$$

where

$$\Phi_1'(z) = \tau_1 \int_{-\bar{\varepsilon}}^{\bar{\varepsilon}} F(K + \varepsilon - z)\, dG(\varepsilon) + \tau_2 \left(1 - \int_{-\bar{\varepsilon}}^{\bar{\varepsilon}} F(K + \varepsilon - z)\, dG(\varepsilon\right)$$

and

$$\Phi_2'(z) = \tau_1 \int_{z-K}^{\bar{\varepsilon}} F(K + \varepsilon - z)\, dG(\varepsilon) + \tau_2 \left(1 - \int_{z-K}^{\bar{\varepsilon}} F(K + \varepsilon - z)\, dG(\varepsilon\right).$$

We assume i. $\tau_2 < 1$, ii. $1 - \tau_2 - \frac{1}{w}\psi'(0) > 0$, and iii. $1 - \tau_2 - \frac{1}{w}\psi'\left(\frac{K-\bar{\varepsilon}}{w}\right) + \Delta_\tau \int_{-\bar{\varepsilon}}^{\bar{\varepsilon}} F(\varepsilon + \bar{\varepsilon})\, dG(\varepsilon) < 0$. These conditions guarantee that there is an interior solution $z^* \in (0, K - \bar{\varepsilon})$ to the consumer's maximization problem. These assumptions are the economically natural ones: the first captures the obvious fact that the marginal tax rate when it is steepest should not be greater than 1; the second means that it is very cheap for the worker to work a little (if given the opportunity), and is a necessary condition for the problem to have a non-trivial solution (in which the worker works at all); and the third represents the notion that the worker's controllable labor is minute in relation to her aggregate rest-of-the-year uncertainty.

The first-order condition, which defines the worker's optimal labor z^* implicitly, is

$$1 - \tau_2 = \frac{1}{w}\psi'\left(\frac{z^*}{w}\right) - \Delta_\tau \int_{-\bar{\varepsilon}}^{\bar{\varepsilon}} F(K + \varepsilon - z^*)\, dG(\varepsilon). \tag{2}$$

Giving the worker the informational treatment and making her aware of the kink's location yields the first-order condition

$$1 - \tau_2 = \frac{1}{w}\psi'\left(\frac{z_T}{w}\right) - \Delta_\tau F(K - z_T), \tag{3}$$

where the subscript T is a mnemonic for treatment. Our final, and main, result of this appendix is to establish that when their future income is sufficiently uncertain, the informational treatment has a negligible effect on the worker's choice of z. Before doing so, we establish a pair of other results. First, we relate the shape of the distribution over uncertain future income to over-or-under-supply of short-term labor. Defining the interval $S_F \equiv [K - \bar{\varepsilon} - z^*, K + \bar{\varepsilon} - z^*]$, where z^* is the solution to (4), we have

Proposition 1. *If F is convex on S_F, z^* is greater than z_T.*

Proof. By Jensen's inequality,

$$\frac{1}{w}\psi'\left(\frac{z^*}{w}\right) - \Delta_\tau \int_{-\bar{\varepsilon}}^{\bar{\varepsilon}} F\left(K+\varepsilon-z^*\right) dG\left(\varepsilon\right) \leq \frac{1}{w}\psi'\left(\frac{z^*}{w}\right) - \Delta_\tau F\left(K+\mu_\varepsilon-z^*\right) \leq \frac{1}{w}\psi'\left(\frac{z^*}{w}\right) - \Delta_\tau F\left(K-z^*\right.$$

if F is convex (concave). This, plus the observation that the right-hand side of this is strictly increasing in z^*, establish the result. □

An easy sufficient condition for $z^* \geq z_T$ is for the density f to be single peaked, with the peak at some point greater than $K+\bar{\varepsilon}$. Note that if the average upward bias of η, μ_ε, equals 0 we have the result that a concave F (e.g., one with a single-troughed density) begets a smaller z^*as a result of the vagueness. However, if η's upward bias is strictly positive, this need no longer be so.

Our next result compares the worker's choice of z^* for a pair of distributions over future incomes F and $\hat{F}$. Letting $\hat{z}^*$ be the solution to (4) when the distribution is $\hat{F}$,

Proposition 2. *Let $\hat{F}$ be dominated by F in the mean-preserving rotation order, with rotation point $a \geq K-\bar{\varepsilon}$. Then $\hat{z}^* \geq z^*$.*

Proof. By definition

$$-\int_{-\bar{\varepsilon}}^{\bar{\varepsilon}} F\left(K+\varepsilon-z^*\right) dG\left(\varepsilon\right) \geq -\int_{-\bar{\varepsilon}}^{\bar{\varepsilon}} \hat{F}\left(K+\varepsilon-z^*\right) dG\left(\varepsilon\right),$$

and the monotonicity of the right-hand side of (4) completes the result. □

In short, a worker with more uncertain future income chooses to work more in the current, controllable period. At mid-year, the worker chooses her current earnings z while the remaining, uncertain part of annual income, η, determines whether year-end income falls below the kink K. The marginal dollar of z faces the low tax rate τ_1 if realized income is below K and the high rate τ_2 otherwise, so the expected marginal tax on z is a probability-weighted average of τ_1 and τ_2. Holding the mean of η fixed, increasing its dispersion (at the relevant margin) weakly raises the probability that year-end income lands below K. That lowers the expected marginal tax on z (toward τ_1), equivalently raises the expected net-of-tax wage, and thus induces a higher optimal z until the marginal disutility of work again equals the (now higher) expected return. This is the economic force behind Proposition 2: a mean-preserving spread/rotation of η increases optimal mid-year earnings, as visible in Figure 1. In sum, the effect is driven by a change in the mix of marginal tax rates induced by dispersion

We now state and prove our main result: if the uncertainty about future earnings is sufficiently large, correcting the misperception about the kink has little effect.

Proposition 3. *For any $\rho > 0$, there exists an $\alpha > 0$ such that if $F(K + \bar{\varepsilon} - z^*) - F(K - \bar{\varepsilon} - z^*) < \alpha$ (where z^* is the solution to (4) and z_T is the solution to (5)), $|z_T - z^*| < \rho$.*

Proof. By the monotonicity of F,

$$F(K - \bar{\varepsilon} - z) - F(K - z) \leq \int_{-\bar{\varepsilon}}^{\bar{\varepsilon}} F(K + \varepsilon - z)\, dG(\varepsilon) - F(K - z) \leq F(K + \bar{\varepsilon} - z) - F(K - z).$$

Consequently, for any $\beta > 0$, there exists an $\alpha > 0$ such that if $F(K + \bar{\varepsilon} - z^*) - F(K - \bar{\varepsilon} - z^*) < \alpha$, $\left| \int_{-\bar{\varepsilon}}^{\bar{\varepsilon}} F(K + \varepsilon - z^*)\, dG(\varepsilon) - F(K - z^*) \right| < \beta$.

By the FOCs,

$$\frac{1}{w}\psi'\left(\frac{z^*}{w}\right) - \Delta_\tau \int_{-\bar{\varepsilon}}^{\bar{\varepsilon}} F(K + \varepsilon - z^*)\, dG(\varepsilon) + \Delta_\tau F(K - z^*) = \frac{1}{w}\psi'\left(\frac{z_T}{w}\right) - \Delta_\tau F(K - z_T) + \Delta_\tau F(K - z^*).$$

Consequently, for any $\beta > 0$, there exists an $\alpha > 0$ such that if $F(K + \bar{\varepsilon} - z^*) - F(K - \bar{\varepsilon} - z^*) < \alpha$,

$$\left| \frac{1}{w}\psi'\left(\frac{z^*}{w}\right) - \Delta_\tau F(K - z^*) - \left(\frac{1}{w}\psi'\left(\frac{z_T}{w}\right) - \Delta_\tau F(K - z_T)\right) \right| < \beta.$$

By the continuity and strict monotonicity of $\frac{1}{w}\psi'\left(\frac{\cdot}{w}\right) - \Delta_\tau F(K - \cdot)$, for any $\rho > 0$, there exists a $\hat{\beta} > 0$ such that if $\beta < \hat{\beta}$, $|z_T - z^*| < \rho$. □

Because the binary distribution with support $\{0, \bar{v}\}$ and mean μ is a mean-preserving spread of all distributions supported on $[0, \bar{v}]$ with mean μ, we immediately have the following corollary.

Corollary 1. *If the distribution over future future earnings is sufficiently dispersed, the effect of the information treatment on labor is negligible.*

Proof. This follows by observing that for any distribution supported on $[0, \bar{v}]$ with mean μ that is sufficiently close (in the total-variation distance) to the binary distribution with support $\{0, \bar{v}\}$ and mean μ, the value $F(K + \bar{\varepsilon} - z) - F(K - \bar{\varepsilon} - z)$ must be negligible for all $z \in [0, K - \bar{\varepsilon})$. □