

Incomplete and Endogenous Take-up of Unemployment Insurance

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(*Job Market Paper*)

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The opinions, views, and conclusions expressed are those of the authors and do not necessarily represent those of the Employment Security Department, or the broader Government of Washington state.

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 - Leads more workers to claim benefits (**Endogenous Take-up**)
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- Optimal benefit level decreases by 29 percent (\$633 $\rightarrow$ \$451)
- Marginal value of public funds decreases 27 percent (0.90 $\rightarrow$ 0.66)

Contribution: Identifying causal effect of benefit generosity on UI take-up

- Incomplete take-up in public benefits programs:

UI: Blank & Card (1991), Anderson & Meyer (1997), Lachowska, Sorkin, and Woodbury (2025), McQuillan & Moore (2025a) *Other programs:* Nichols & Zeckhauser (1982); Bertrand et al. (2004), Currie (2006), Moynihan et al. (2015), Bhargava & Manoli (2015), Cranor et al. (2019), Deshpande & Li (2019), Homonoff & Somerville (2019)

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Contribution: Incorporate take-up response in measuring the fiscal cost

- Benefit generosity and claim duration:

Solon (1985), Moffitt (1985), Katz & Meyer (1990), Meyer (1990), Card & Levine (2000), Lalive (2007), Chetty (2008), Johnston & Mas (2018), *RKD:* Card et al. (2015a), Card et al. (2015b), Landais (2015)

Contributions to Literature

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Contribution: Modeling incomplete and endogenous take-up of UI

- Theoretical models of UI and welfare:
Baily (1978), Gruber (1997), Chetty (2006), Kroft (2008), Mitman & Rabinovich (2014), Kroft & Notowidigdo (2016), Schmieder & von Wachter (2016), Landais et al. (2018), Ganong et al. (2022)
MVPF: Hendren & Sprung-Keyser (2020)

Roadmap

1. Theoretical Model
2. Institutional Setting and Data
3. Identification Strategy
4. Empirical Results
5. Welfare and Policy Implications

Theoretical Model - Set Up

Workers: Hand-to-mouth consumption

- When employed, they earn income w_H and pay tax τ
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Job Search: Effort e_i is the share of time employed with increasing and convex cost $\psi(e_i)$

- Search effort e_1 for claimants and e_0 for non-claimants
- Aggregate effort $e = \theta \cdot e_1 + (1 - \theta) \cdot e_0$

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A worker's indirect utility can be expressed with state-dependent utility $v(\cdot)$ and $u(\cdot)$ as:

$$V(q_i, e_i, T_i) = \underbrace{e_i \cdot v(w_H - \tau)}_{\text{Employment}} + \underbrace{(1 - e_i) \cdot u(w_L + T_i \cdot b)}_{\text{Unemployment}} - \underbrace{T_i \cdot q_i}_{\text{Hassle Cost}} - \underbrace{\psi(e_i)}_{\text{Search Cost}}$$

Endogenous Search Effort and Take-up

Assume workers choose both search effort and take-up endogenously. The social planner chooses the benefit b subject to the balanced budget constraint:

$$\begin{aligned} \max_b \quad W(b) &= \int V(q', e_i, T_i) dF(q') \quad \text{s.t.} & e \cdot \tau &= (1 - e_1) \cdot \theta \cdot b \\ & & e_i &= e^*(b, \tau, T_i) \\ & & T_i &= T^*(b, \tau, q_i) \end{aligned}$$

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Worker chooses e_1^* and e_0^* such that:

$$\underbrace{\psi'(e_1^*)}_{\text{Search Cost}} = \underbrace{v(w_H - \tau) - u(w_L + b)}_{\text{Private Benefit}}$$
$$\underbrace{\psi'(e_0^*)}_{\text{Search Cost}} = \underbrace{v(w_H - \tau) - u(w_L)}_{\text{Private Benefit}}$$

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Take-up is defined by the cutoff $\bar{q}^*$ such that:

$$\underbrace{V(\bar{q}^*, e_1^*, 1)}_{\text{Utility if Claiming}} = \underbrace{V(\bar{q}^*, e_0^*, 0)}_{\text{Utility if Not Claiming}}$$

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The cost of raising benefits can be written:

$$\frac{\partial \tau}{\partial b} \cdot e = \underbrace{(1 - e_1) \cdot \theta}_{\text{Mechanical Cost}} - \underbrace{\theta \cdot b \cdot \frac{\partial e_1}{\partial b}}_{\text{Search Effort (Benefit Payments)}} - \underbrace{\frac{\partial e}{\partial b} \cdot \tau}_{\text{Search Effort (Lost Revenue)}} + \underbrace{(1 - e_1) \cdot b \cdot \frac{\partial \theta}{\partial b}}_{\text{Take-up}}$$

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Optimal Policy Condition

The optimal benefit level is such that:

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If we assume perfect take-up ($\theta = 1, \varepsilon_{\theta,b} = 0$), this simplifies to the result from [Chetty \(2006\)](#):

$$\frac{u'(w_L + b) - v'(w_H - \tau)}{v'(w_H - \tau)} = \varepsilon_{1-e,b} - \varepsilon_{e,b} = \frac{\varepsilon_{1-e,b}}{e}$$

Roadmap

1. Theoretical Model
2. Institutional Setting and Data
3. Identification Strategy
4. Empirical Results
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Applying for Unemployment Insurance in WA State

Eligible Job
Separation

Benefit Estimation

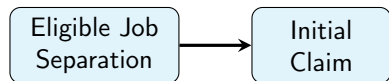
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2. Monetary eligibility
3. Continuing eligibility

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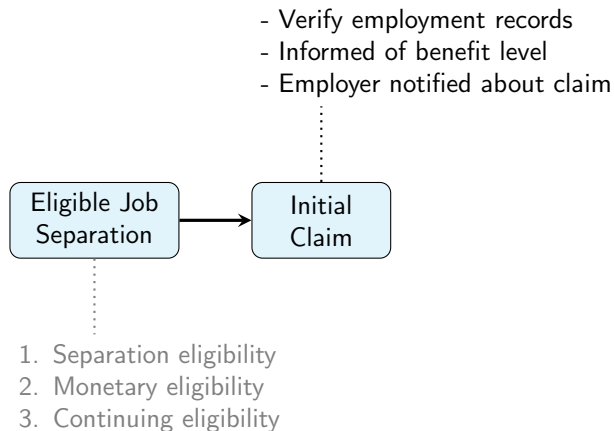
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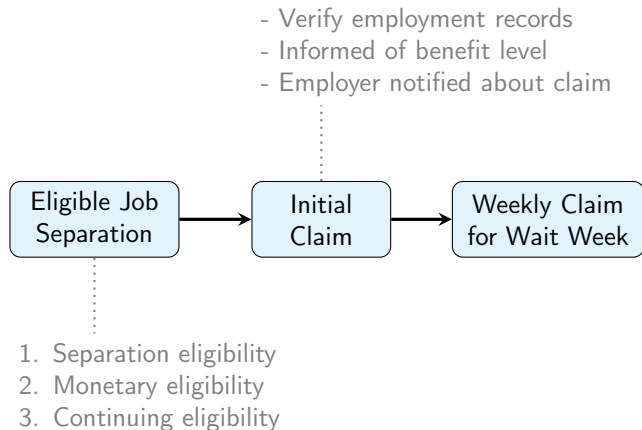
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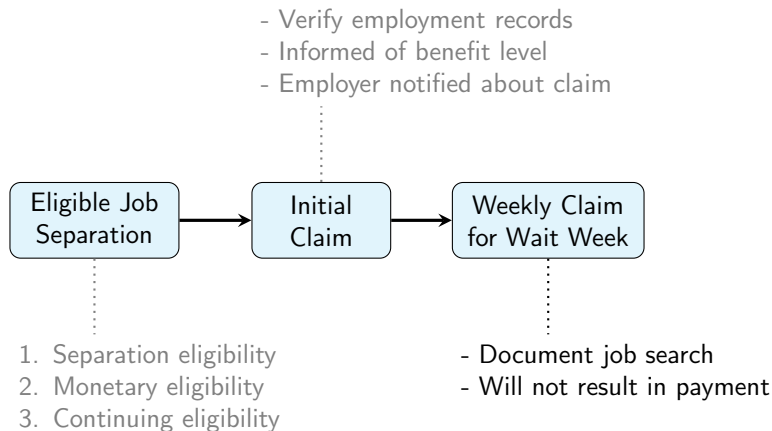
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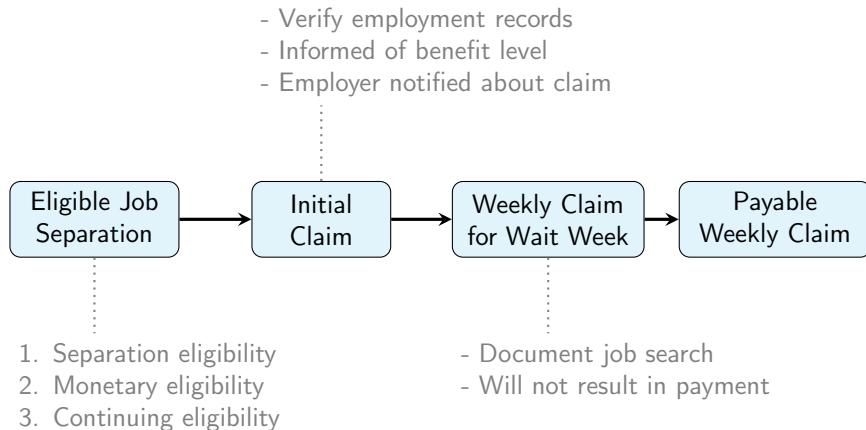
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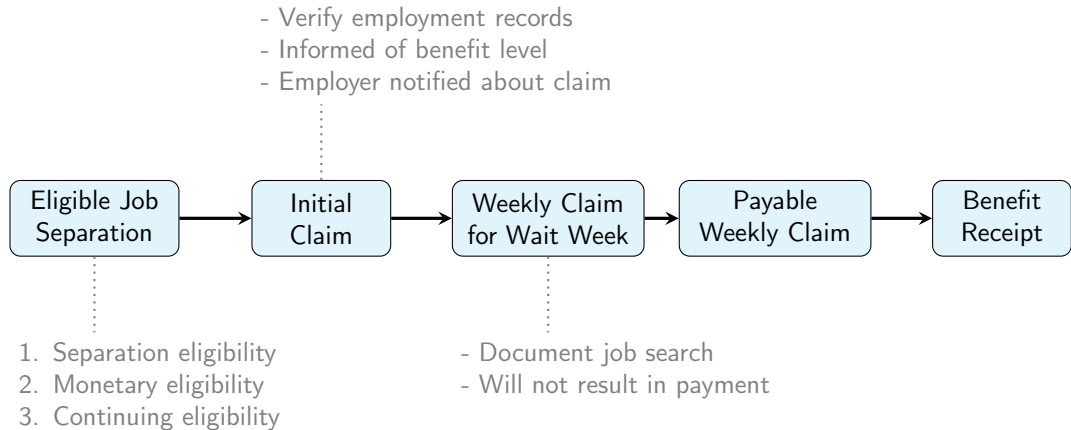
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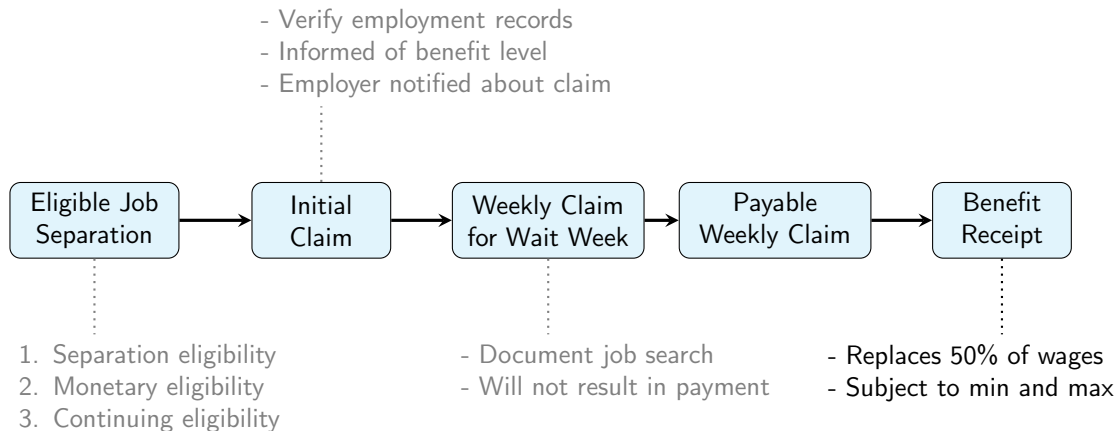
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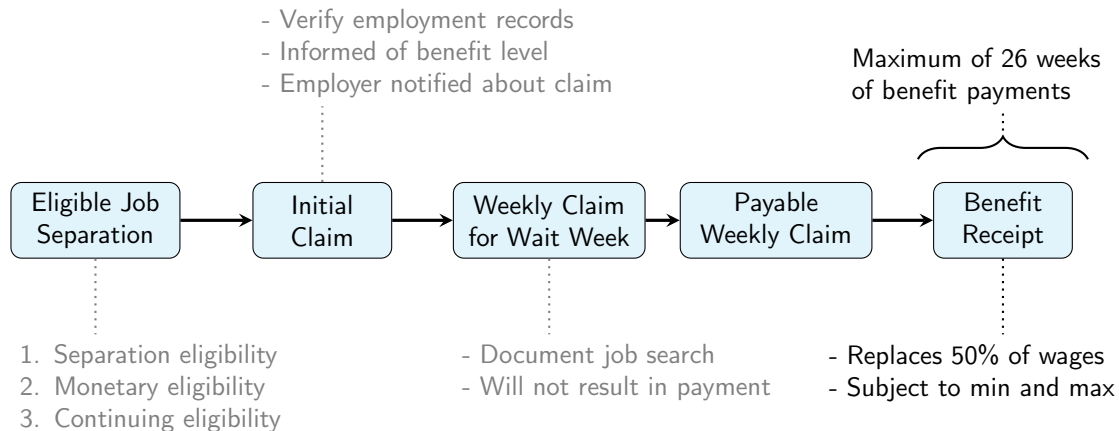
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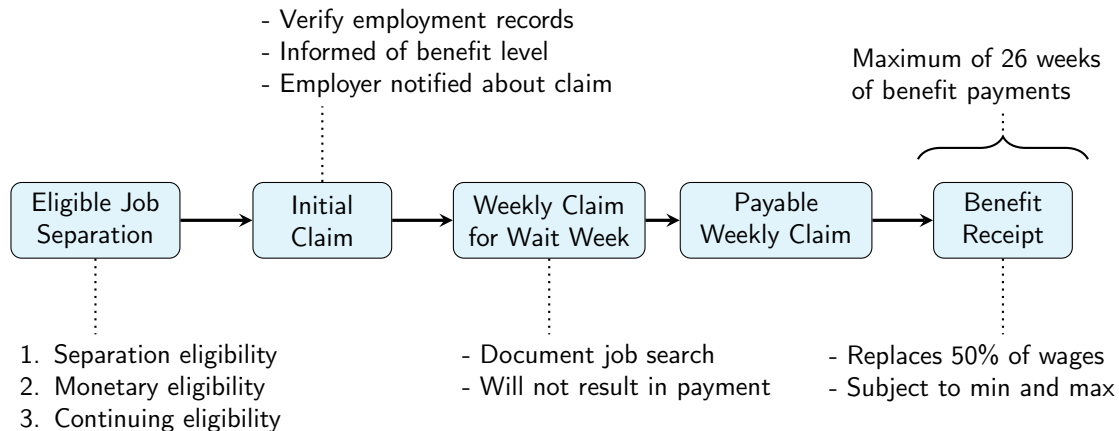
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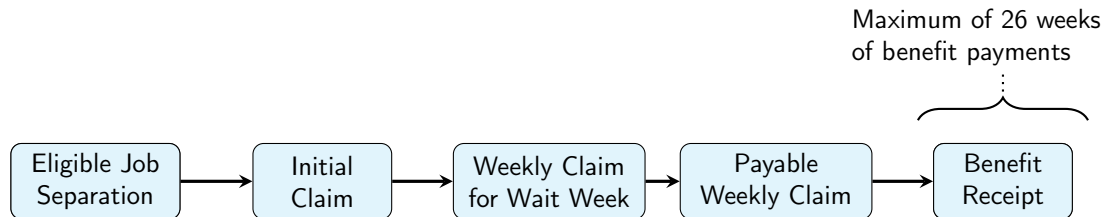
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Take-up: Indicator for whether an eligible worker received UI benefits

Applying for Unemployment Insurance in WA State



Claim Duration: Number of benefit payments made to a UI recipient

Applying for Unemployment Insurance in WA State



Benefit payments: Number of UI payments made to an eligible worker

1. Employer-employee matched records:

- Universe of workers covered by UI ($\sim 95\%$ of workforce), 2011–present
- Quarterly earnings and hours reported for workers at each employer
- Name, personal identifier, employer, and industry

2. UI claims and compensation records:

- Initial claims, weekly claims
- Benefit payments made to claimants

Sample Construction

Ideal Sample: Workers with a recent eligible job separation

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- 1. Job separation ✓
- 2. Monetarily eligible ✓
- 3. “No fault of their own” ✗

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- Our final sample consists of $\sim 3.4\text{m}$ instances of **Job Loss** from 2011 through 2019
 - Similar approach as [Anderson & Meyer \(1997\)](#) and [Lachowska et al. \(2025\)](#)
 - Supplement with a mass layoff sample and robustness tests

Endogeneity of JS Type

Examples of JL

Examples of LFD

Examples of J2J

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- The schedule $b(V)$ has a change in slope at $V = k$ due to the maximum benefit
- We test whether there is a corresponding change in the relationship between weekly wage V and the outcome Y at that same point $V = k$

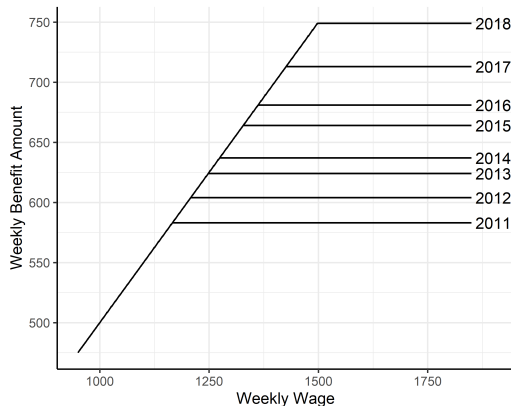
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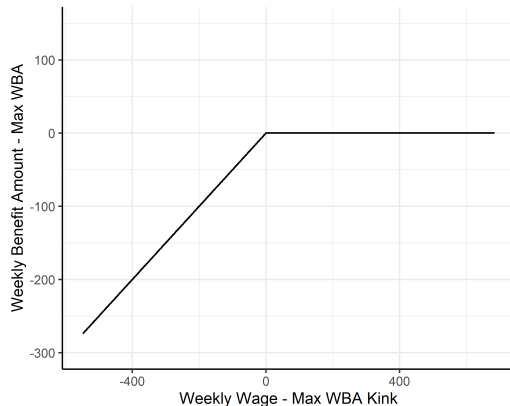
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Intuition: If benefit b has a causal effect on outcome Y , then the kink in $b(V)$ should create a kink in the relationship between weekly wage V and the outcome Y at the same point

The Kink in the Benefits Schedule



(a) Weekly Benefits Schedule



(b) Normalized Benefits Schedule

Estimation with the RKD

Card et al. (2015a) formalizes this logic to show that the RKD identifies a weighted average of the marginal effects of b on Y as:

$$\alpha = \frac{\Delta Y'}{\Delta b'} = \frac{\lim_{v \rightarrow k^+} \frac{dE[Y|V=v]}{dv} - \lim_{v \rightarrow k^-} \frac{dE[Y|V=v]}{dv}}{\lim_{v \rightarrow k^+} b'(v) - \lim_{v \rightarrow k^-} b'(v)}$$

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We estimate the following regression on a local sample with $|V - k| \leq h$:

$$E[Y|V = v] = \beta_0 + \beta_1 \cdot V + \beta_2 \cdot \mathbb{1}[V \geq k] \cdot (V - k)$$

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$$E[Y|V = v] = \beta_0 + \beta_1 \cdot V + \beta_2 \cdot \mathbb{1}[V \geq k] \cdot (V - k)$$

- Numerator $\Delta Y'$: estimated by β_2
- Denominator $\Delta b'$: known from the benefits schedule $b(V)$
- Elasticity: $\varepsilon_{Y,b} = \alpha \cdot \frac{b(V = k)}{E[Y|V = k]}$, where $E[Y|V = k] = \beta_0 + \beta_1 \cdot k$

Identifying Assumptions for the RKD

1. **First Stage:** Treatment $b(V)$ is a known function, everywhere continuous, and continuously differentiable except for the point k where $\lim_{v \rightarrow k^+} b'(v) \neq \lim_{v \rightarrow k^-} b'(v)$
 - Satisfied by the design of the benefits formula

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2. **Smooth Effect of V :** The direct effect of the assignment variable V on the outcome Y must be smooth through the kink
3. **Smooth Density of V :** Density of the assignment variable V is positive, continuous, and smooth through the kink point
 - Rules out precise manipulation by either workers or employers
 - Testable implications: Smoothness of the density and characteristics of our sample

McCrary Test

Covariate Balance

Interpretation

Who are the Workers Near the Kink?

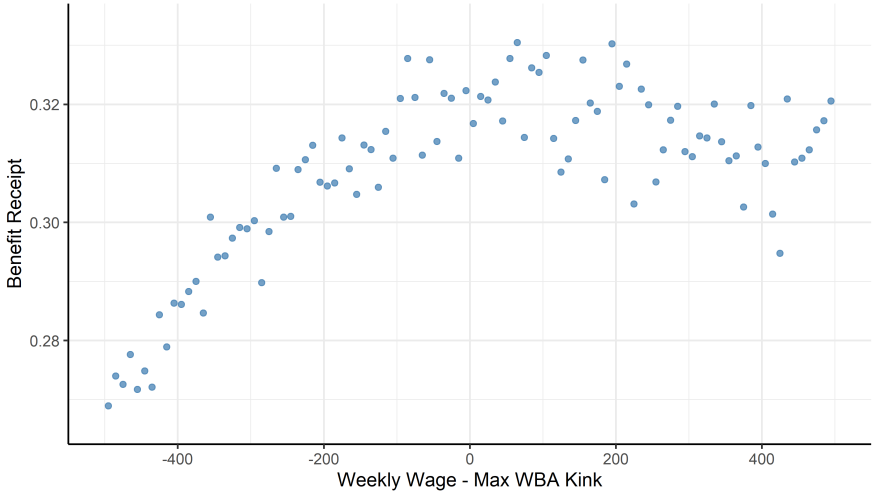
	All Job Losses	Local Sample
<i>Employment over Previous Year</i>		
Total Earnings	\$37,785	\$54,443
Hours Worked	1,566	1,879
Hourly Wage	\$23.10	\$30.84
<i>UI Utilization</i>		
Submit Initial Claim	0.280	0.373
Receive UI benefits	0.207	0.316
Weekly Benefit Amount	\$348	\$578
Share with Min WBA	0.148	0.000
Share with Max WBA	0.152	0.337
Observations	3,378,829	611,063

⇒ The marginal effect is local to this group of higher-income workers

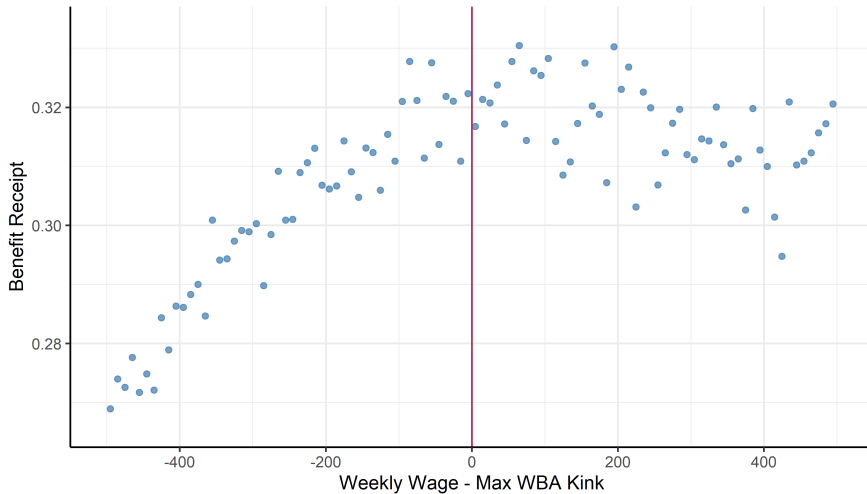
Roadmap

1. Theoretical Model
2. Institutional Setting and Data
3. Identification Strategy
4. Empirical Results
5. Welfare and Policy Implications

The Effect of Benefit Level on Take-up



The Effect of Benefit Level on Take-up



By Year

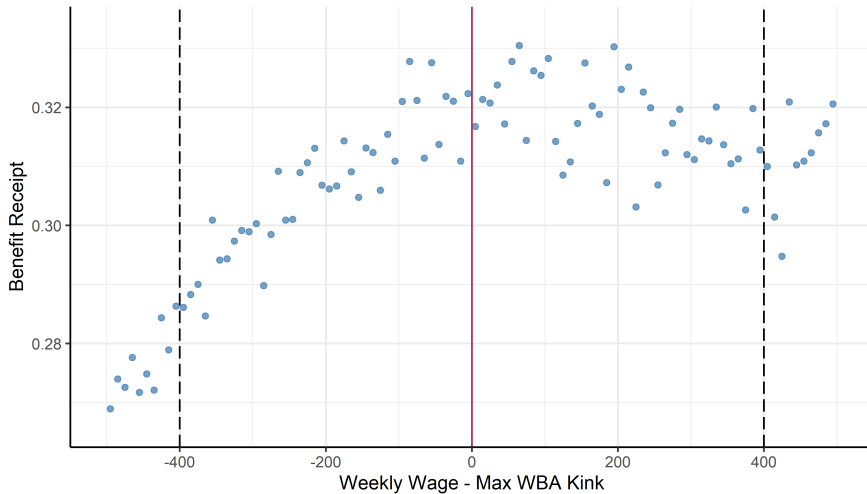
Bandwidth Robustness

JLR

By Industry

By Prev Claim

The Effect of Benefit Level on Take-up



By Year

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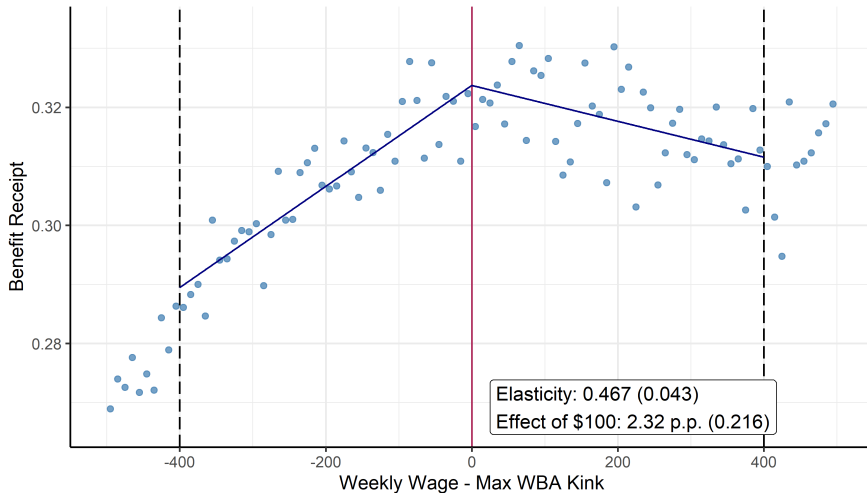
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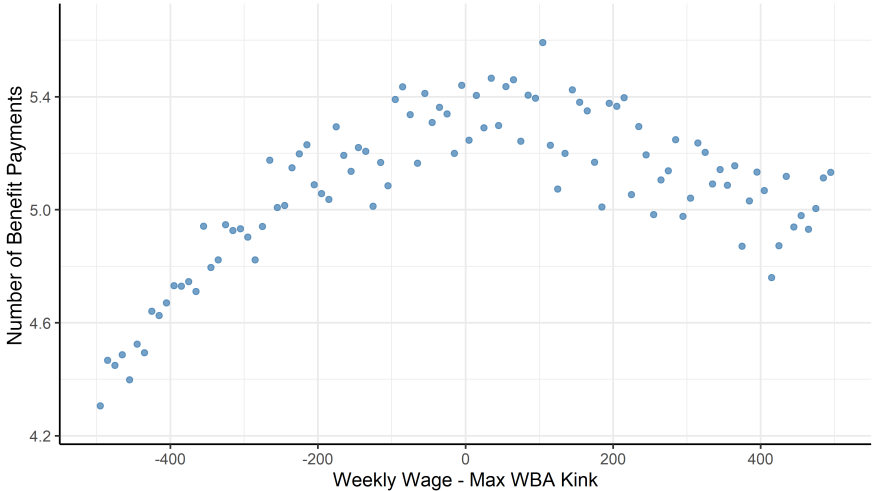
Bandwidth Robustness

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The Effect on the Number of Benefit Payments



By Year

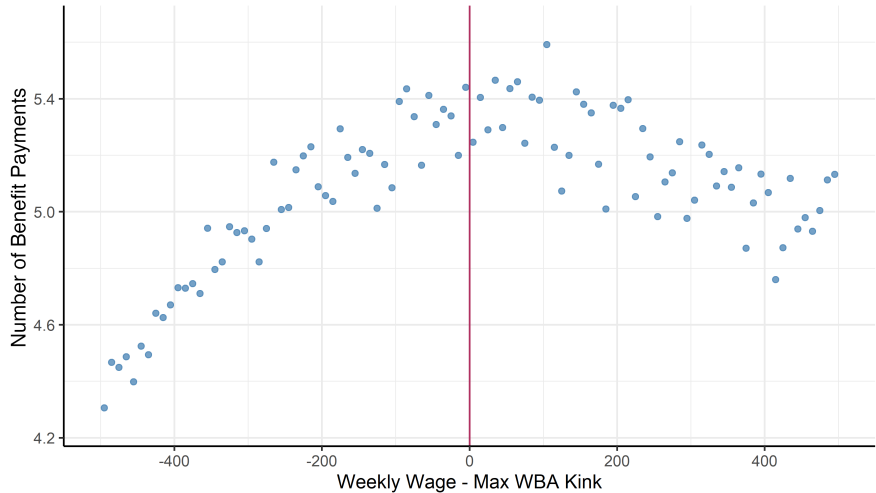
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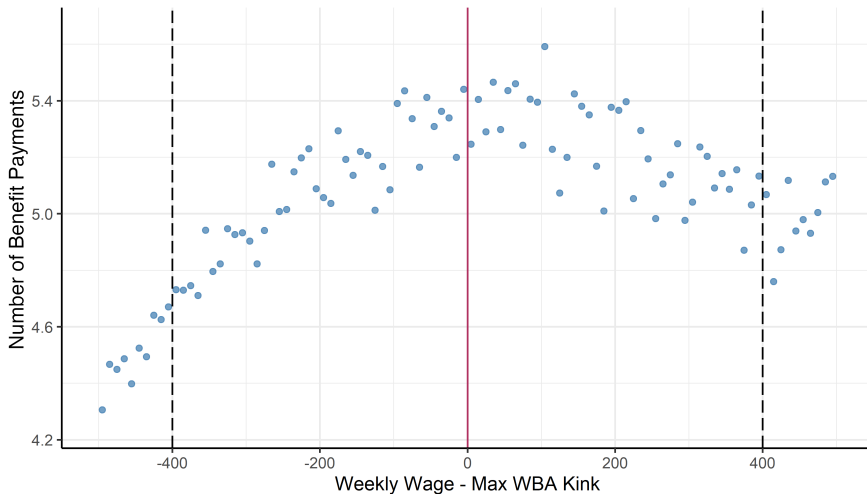
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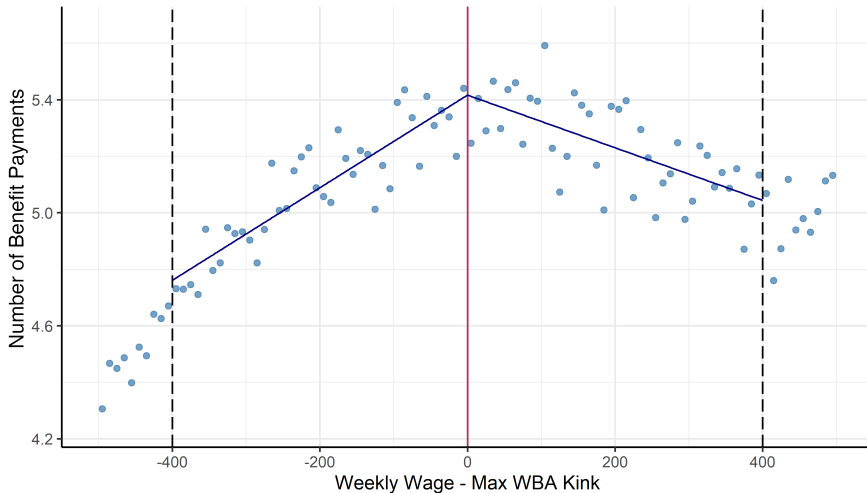
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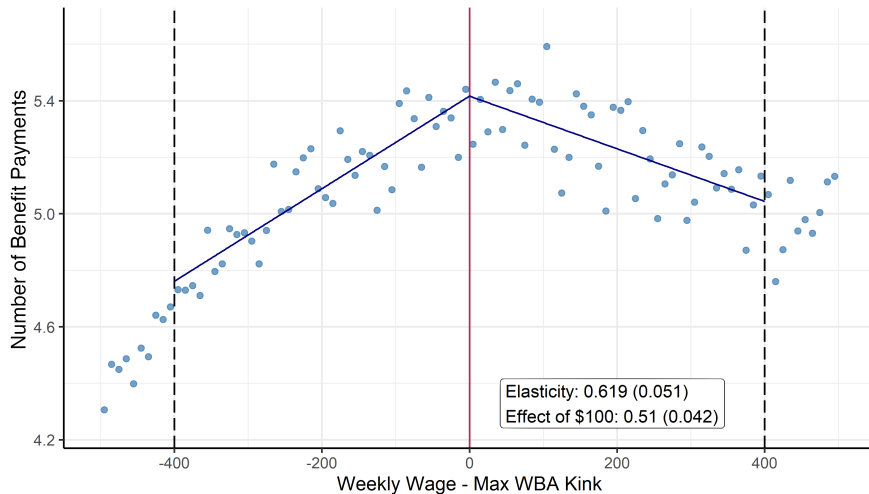
Bandwidth Robustness

JLR

By Industry

By Prev Claim

The Effect on the Number of Benefit Payments



By Year

Bandwidth Robustness

JLR

By Industry

By Prev Claim

Robustness of Estimates:

- Kink in outcome tracks kink in benefits over time Take-up Benefit Payments
- Elasticities are similar in a mass layoff sample Take-up Benefit Payments
- Results are robust to bandwidth choice Take-up Benefit Payments
- Results are robust to definition of job loss JLR Take-up Benefit Payments

Heterogeneity:

- Elasticities are consistent across most industries Take-up Benefit Payments
- Effects are similar for those without previous UI experience PrevClaim Take-up Benefit Payments

Benchmark: Claim Duration Among UI Recipients



Compensation Records

Previous Estimates

Benchmark: Claim Duration Among UI Recipients



Concern: Conditioning on receipt ignores the take-up response

Compensation Records

Previous Estimates

Benchmark: Claim Duration Among UI Recipients



Concern: Conditioning on receipt ignores the take-up response

- **Incomplete:** Take-up drives more than two-thirds of the effect on benefit payments

Compensation Records

Previous Estimates

Benchmark: Claim Duration Among UI Recipients



Concern: Conditioning on receipt ignores the take-up response

- **Incomplete:** Take-up drives more than two-thirds of the effect on benefit payments
- **Selection:** Generosity affects take-up, which may change the composition of recipients

Compensation Records

Previous Estimates

Roadmap

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Calibrating the Optimal Policy Condition

$$\underbrace{\frac{u'(w_L + b) - v'(w_H - \tau)}{v'(w_H - \tau)}}_{\Delta \text{ MU for claimants}} = \underbrace{\varepsilon_{\theta(1-e_1),b}}_{\text{Benefit Payments}} - \underbrace{\varepsilon_{e,b}}_{\text{Tax Revenue}}$$

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Marginal utility:

- Utility exhibits constant relative risk aversion (CRRA) with $u(c) = \frac{1}{1-\rho} \cdot c^{1-\rho}$
- Simplify the LHS of the equation:

$$\frac{u'(w_L + b) - v'(w_H - \tau)}{v'(w_H - \tau)} = \left(\frac{w_H - \tau}{w_L + b} \right)^{\rho} - 1 = \left(\frac{1}{1 + \% \Delta c} \right)^{\rho} - 1$$

- Assume the risk aversion parameter $\rho = 2$
- Estimates of change in consumption $\% \Delta c$ from [Ganong & Noel \(2019\)](#)

Calibrating the Optimal Policy Condition

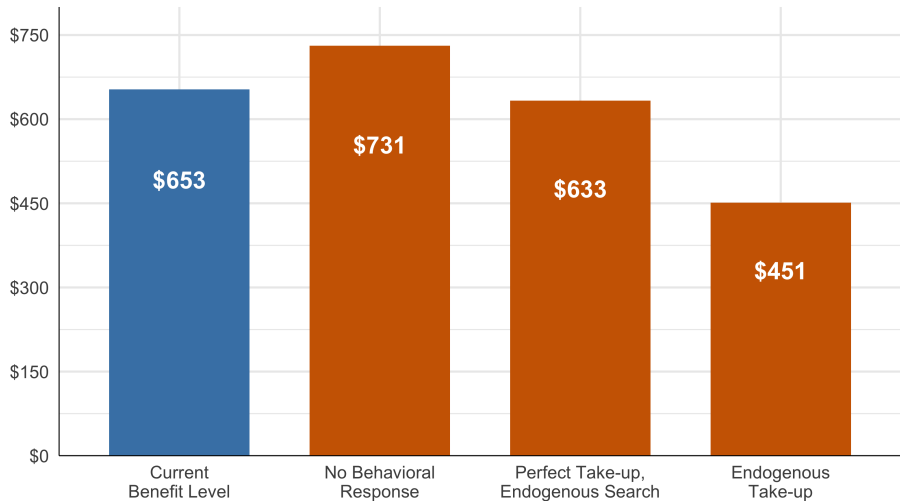
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Behavioral cost:

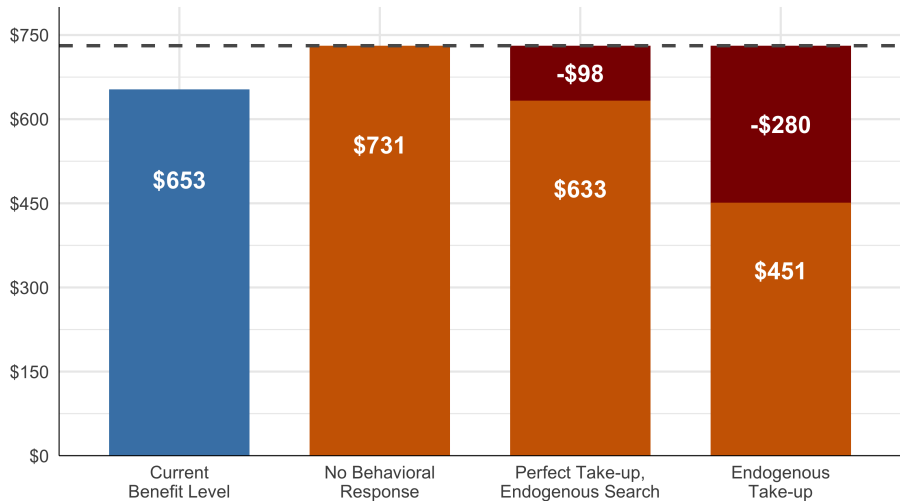
- Elasticity of benefit payments $\varepsilon_{\theta(1-e_1),b}$ identified in our empirical results
- Approximate elasticity of employment $\varepsilon_{e,b}$ assuming employment $e = 0.95$

$$\varepsilon_{e,b} = \frac{e-1}{e} \cdot \varepsilon_{1-e,b} \approx \frac{e-1}{e} \cdot \theta \cdot \varepsilon_{1-e_1,b}$$

Endogenous Take-up Lowers the Optimal Benefit Level



Endogenous Take-up Lowers the Optimal Benefit Level



[Table](#) [Robustness](#)

Question: How effective is spending to make UI more generous compared to other policies?

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- Approach: Marginal value of public funds ([Hendren & Sprung-Keyser, 2020](#))

MVPF of Raising Benefit Levels

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$$WTP = \frac{u'(w_L + b)}{v'(w_H - \tau)} = \left(\frac{1}{1 + \% \Delta c} \right)^\rho$$

MVPF of Raising Benefit Levels

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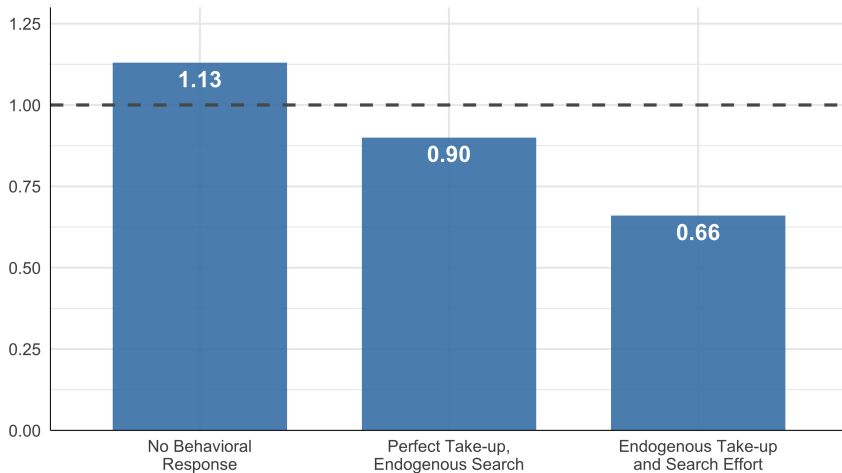
Beneficiary's Willingness-to-Pay:

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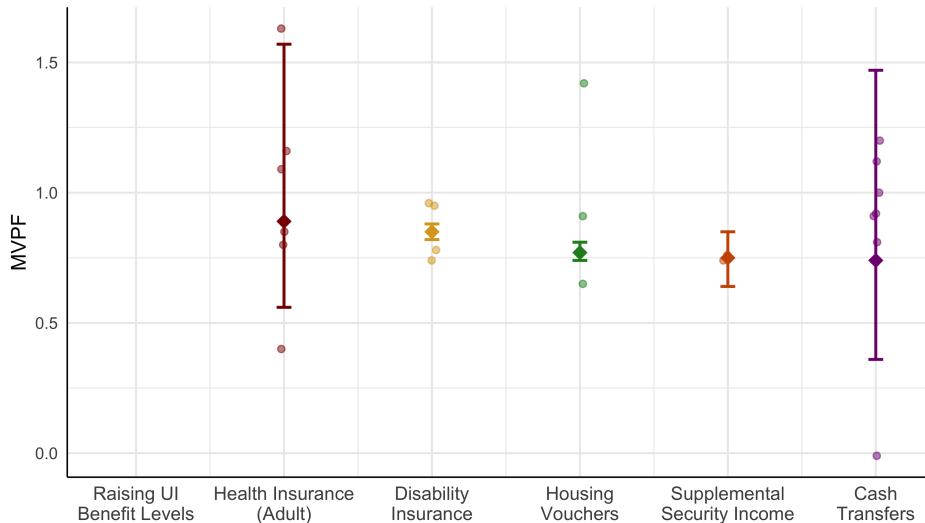
Net Cost to Government:

$$G = \underbrace{1}_{\text{Mechanical}} + \underbrace{\varepsilon_{\theta(1-e_1),b}}_{\text{Benefit Payments}} + \underbrace{\varepsilon_{1-e_1,b} \cdot \left(\frac{\tau}{b} \right)}_{\text{Lost Tax Revenue}}$$

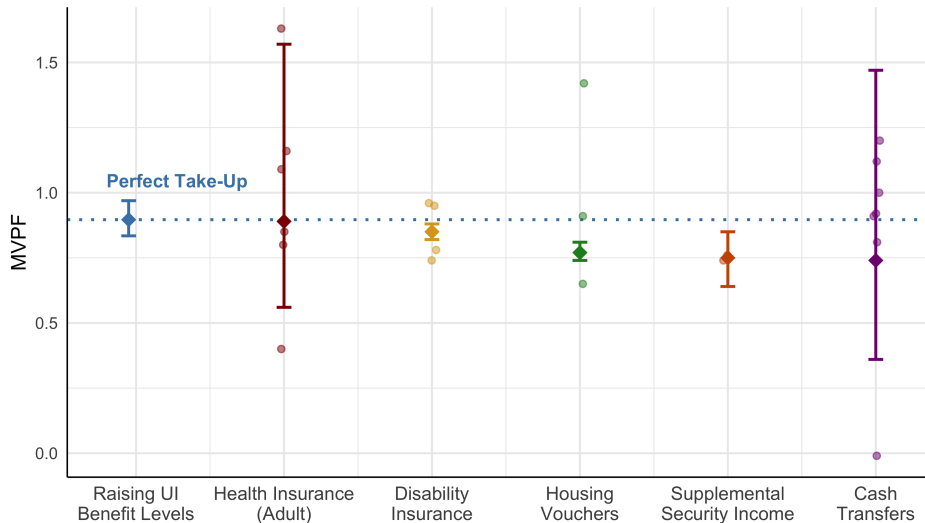
Endogenous Take-up Lowers the Value of Raising Benefits

[Table](#)[Robustness](#)[Existing Estimates](#)

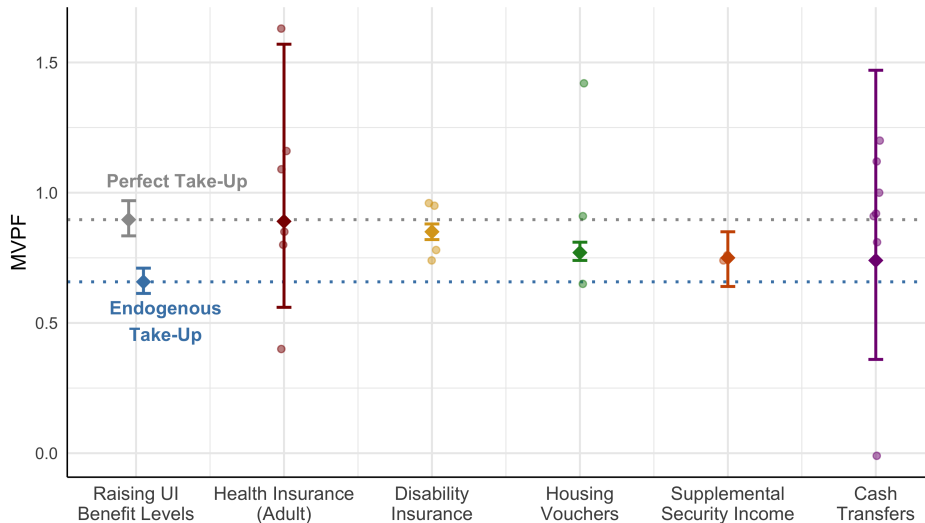
Endogenous Take-up Shifts Policy Priorities



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Conclusion

This Paper: We leverage an RKD over a sample of job losses to identify the effect of benefit level on take-up and the number of benefit payments

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1. Take-up responds to benefit generosity

- 10% ↑ benefit level $\Rightarrow$ 4.7% ↑ take-up $\Rightarrow$ 6.2% ↑ benefit payments

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2. The take-up response is three times as costly as the duration response

- Standard approach misses this margin by conditioning on benefit receipt

3. Endogenous take-up makes raising benefit levels much more costly

- Optimal benefit level is 29% lower (\$633 $\rightarrow$ \$451)
- MVPF is 27% lower (0.90 $\rightarrow$ 0.66)

Thank You!

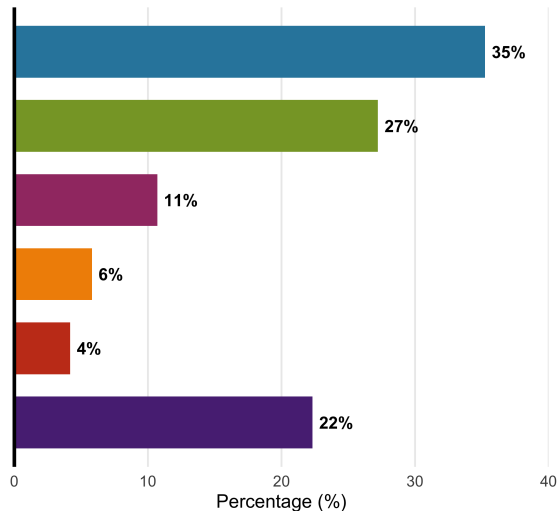
Comments/questions can be sent to
`casey_mcquillan@brown.edu`

Appendix

Reasons for Not Filing for Unemployment Benefits

Responses

- Cost-Benefit Considerations (35%)
- Re-employment Expectations (27%)
- Information (11%)
- Stigma (6%)
- Access & Support (4%)
- Other (22%)

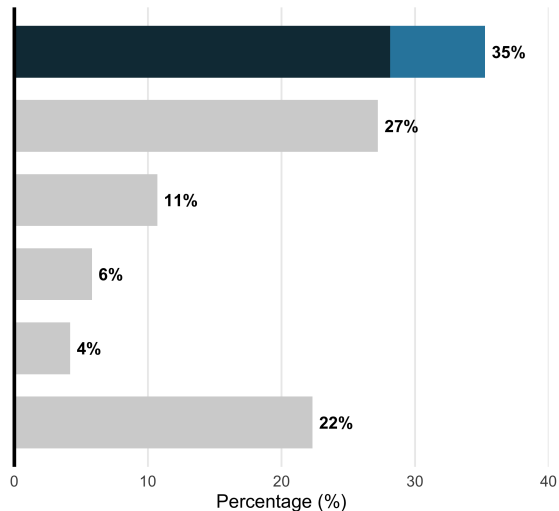


Source: CPS UI Non-Filer Supplement, 2018 [N=1,532].

Reasons for Not Filing for Unemployment Benefits

Cost-Benefit Considerations

- Don't need money/benefits too small (28%)
- Too much work/hassle (7.1%)



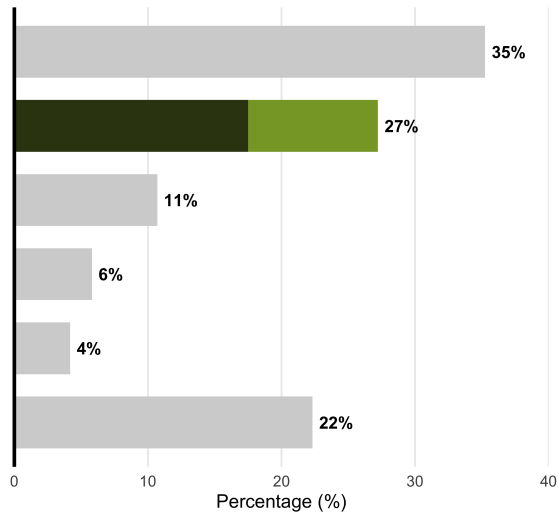
Source: CPS UI Non-Filer Supplement, 2018 [N=1,532].

Reasons for Not Filing for Unemployment Benefits

Expecting Re-employment

■ Expect to get new job (17.5%)

■ Expect to be recalled (9.7%)

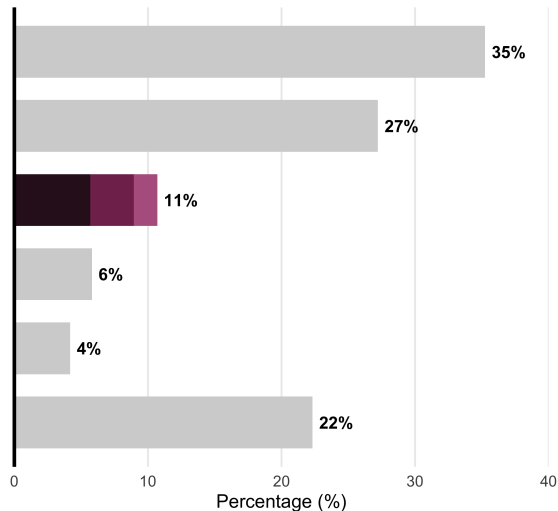


Source: CPS UI Non-Filer Supplement, 2018 [N=1,532].

Reasons for Not Filing for Unemployment Benefits

Information

- Didn't know benefits existed (5.7%)
- Didn't know where/how to apply (3.3%)
- Employer gave no info (1.8%)

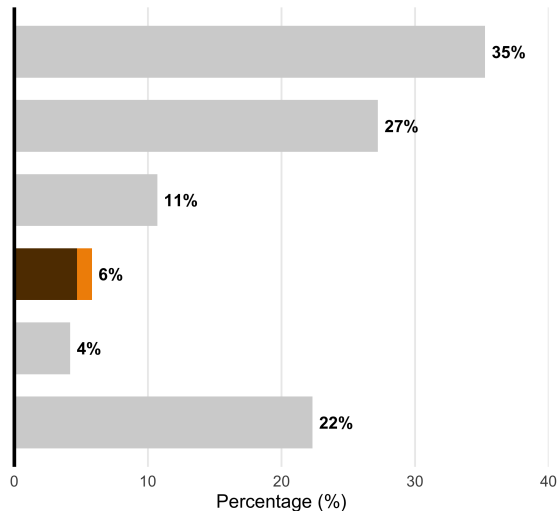


Source: CPS UI Non-Filer Supplement, 2018 [N=1,532].

Reasons for Not Filing for Unemployment Benefits

Stigma

- Feels like welfare (4.7%)
- Worried about future job (1.1%)

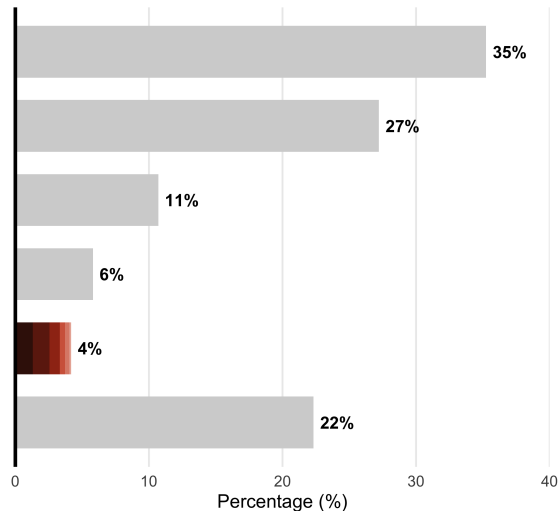


Source: CPS UI Non-Filer Supplement, 2018 [N=1,532].

Reasons for Not Filing for Unemployment Benefits

Access & Support

- Application too confusing (1.3%)
- No transportation (1.2%)
- Couldn't get help with application (0.8%)
- No phone/computer/internet (0.4%)
- Phone/internet system not working (0.3%)
- Not available in their language (0.1%)



Source: CPS UI Non-Filer Supplement, 2018 [N=1,532].

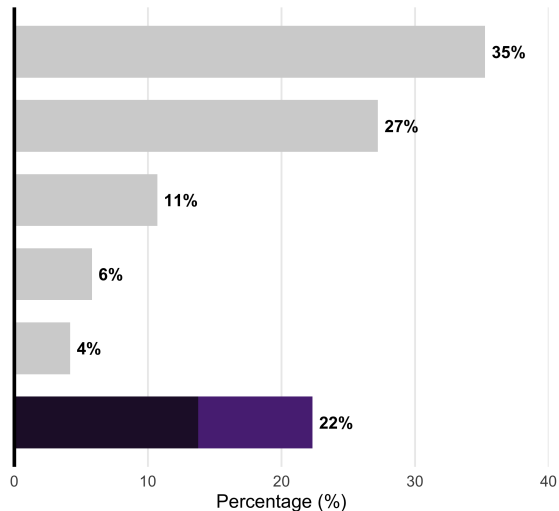
Reasons for Not Filing for Unemployment Benefits

Other

■ Other reason (13.8%)

■ Plan to file soon (8.6%)

[Back](#)



Source: CPS UI Non-Filer Supplement, 2018 [N=1,532].

Workers' Understanding of the Benefits Schedule

How do workers know about their benefits?

- Stated on the preliminary determination letter received after filing an initial claim
- Benefit estimation tool on the website
- Calling an agent for additional assistance

Survey evidence suggests there is no systematic bias in beliefs among UI non-filers

WBA Accuracy (McQuillan & Moore, 2025a)

Estimate your weekly benefit amount

Once you identify the 2 quarters when you earned the most, you can estimate your weekly benefit amount.

- 1 Enter your total wages earned during those 2 quarters into the boxes below.
- 2 Choose "Calculate" to see how much you might receive. Choose "Clear" to start over.

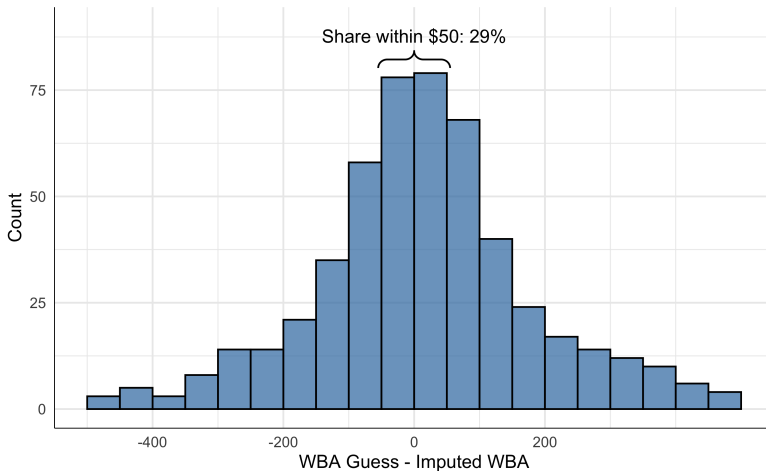
First high Quarter:

Second high Quarter:

Your weekly benefit amount:

770

Estimated WBA in Survey of Non-Recipients



Source: Survey of recently unemployed workers who did not claim UI from [McQuillan & Moore \(2025a\)](#) [N=530].

Examples of Job Loss

Example #1:		$t-2$	$t-1$	t	$t+1$	$t+2$	$t+3$
	Employer A	100	100	25	0	0	0
	Employer B	0	0	0	50	100	100
	Total Hours	100	100	25	50	100	100

Example #2:		$t-2$	$t-1$	t	$t+1$	$t+2$	$t+3$
	Employer A	100	100	0	0	0	0
	Employer B	0	0	0	25	100	100
	Total Hours	100	100	0	25	100	100

Criteria:

- Job separation in quarter t
- Records employment before quarter $t + 5$
- Drop in total hours greater than 15% from $t - 1$ to t

Example of Labor Force Exit

Labor Force Exit:

	$t-1$	t	$t+1$	$t+2$	$t+3$	$t+4$	$t+5$	$t+6$
Employer A	100	25	0	0	0	0	0	0
Employer B	0	0	0	0	0	0	0	80
Total Hours	100	25	0	0	0	0	0	80

⇒ No employment for 5 consecutive quarters after a job separation

Job Loss:

	$t-1$	t	$t+1$	$t+2$	$t+3$	$t+4$	$t+5$	$t+6$
Employer A	100	25	0	0	0	0	0	0
Employer B	0	0	0	0	0	80	100	100
Total Hours	100	25	0	0	0	80	100	100

⇒ Re-employment 4 quarters after job separation

Example of Job-to-Job Transition

Job-to-Job Transition:

	$t-2$	$t-1$	t	$t+1$	$t+2$	$t+3$
Employer A	100	100	40	0	0	0
Employer B	0	0	50	100	100	100

⇒ 10% drop in total hours between $t - 1$ and t

Job Loss:

	$t-2$	$t-1$	t	$t+1$	$t+2$	$t+3$
Employer A	100	100	45	0	0	0
Employer B	0	0	25	100	100	100

⇒ 30% drop in total hours between $t - 1$ and t

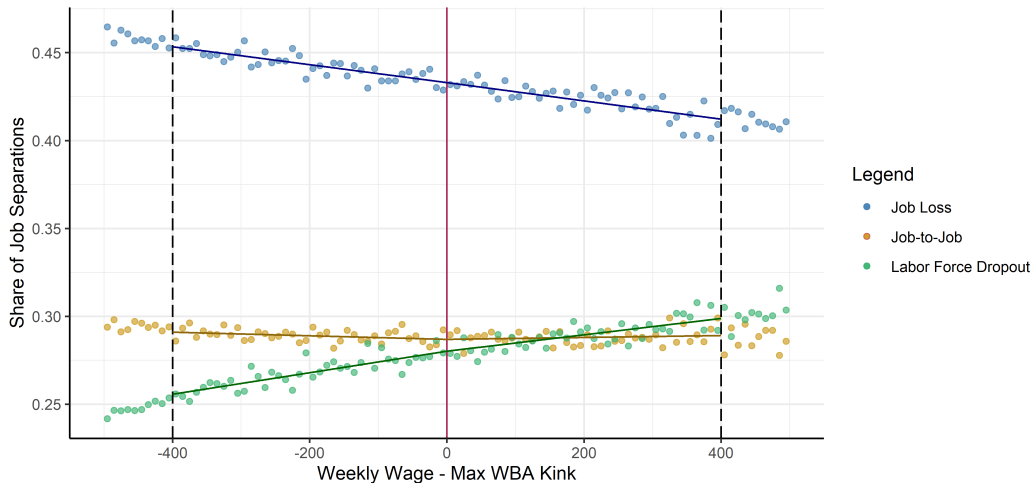
Potential Endogeneity of Job Separation Type

Potential Concern: We focus on when a worker experiences a job loss, but benefit generosity may affect the type of job separation

- *Higher benefits* might lead workers who would leave the labor force to search for employment
- *Lower benefits* might lead workers to secure new employment immediately after separating

Testable Implication: If the type of job separation is endogenous to benefits, then the kink in benefits would create a kink in the share classified as a job loss

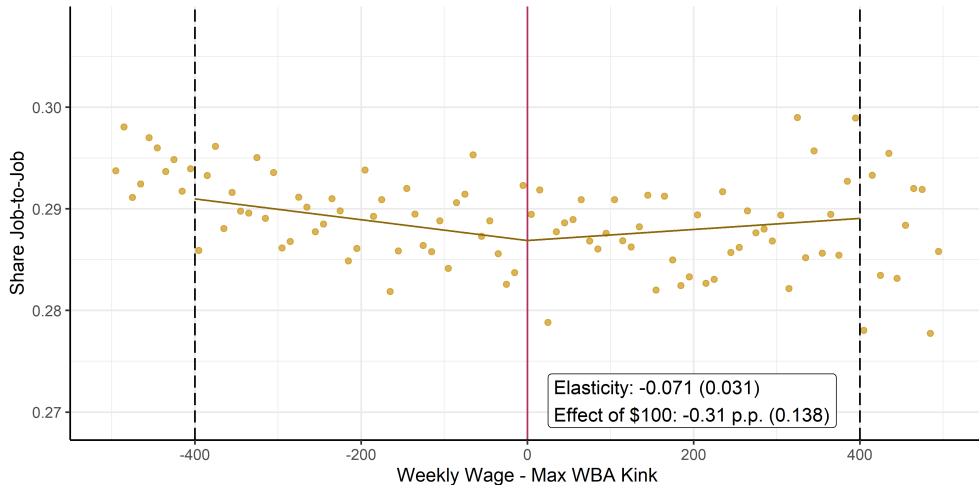
Endogeneity of Job Separation Type



Endogeneity of Job Loss



Endogeneity of Job-to-Job Transition

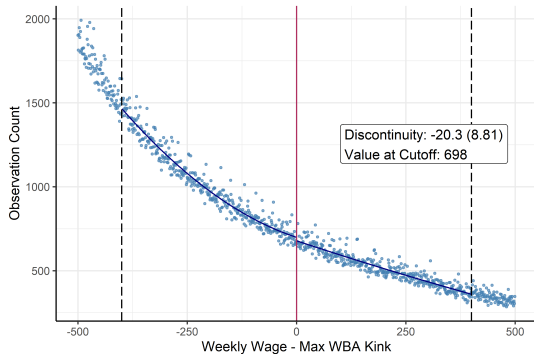


Endogeneity of Labor Force Dropout



No Evidence of Manipulation in the Assignment Variable

(a) Density of V



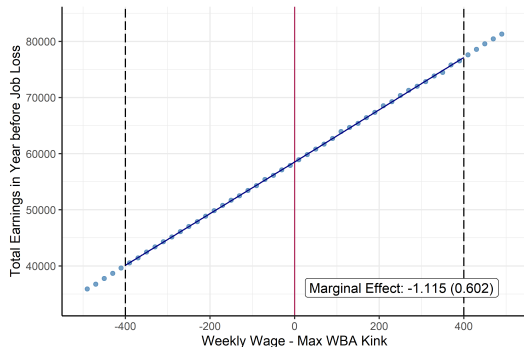
(b) Change in Density of V



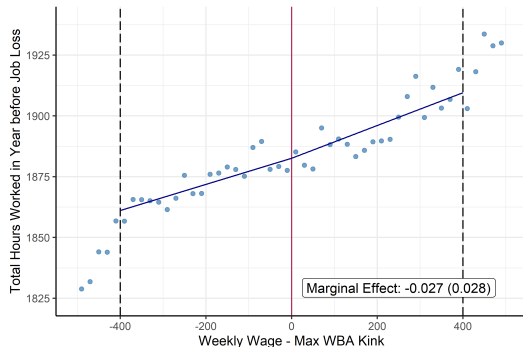
⇒ No evidence of precise manipulation by workers or employers

Worker Characteristics are Smooth through the Kink

(a) Earnings in Previous Year



(b) Hours Worked in Previous Year



⇒ No evidence of a kink in characteristics of the sample

Identification and Interpretation with Likely-Eligible Workers

Potential Concern: Some workers in the sample may not actually be eligible for UI benefits

Resolution: This does not threaten identification of a causal effect, assuming the share of workers that are truly eligible is smooth through the kink

Interpretation: Assume a share $\lambda \in (0, 1)$ of workers at the kink are eligible

- Our estimate of the marginal effect is an **intention-to-treat (ITT)** effect:

$$\hat{\alpha} = \alpha \cdot \lambda \leq \alpha$$

- Our estimate of the elasticity still approximates the true elasticity since both the marginal effect and expected outcome are scaled by λ :

$$\hat{\varepsilon}_{Y,b} = \hat{\alpha} \cdot \frac{b(V=k)}{\hat{Y}} = \alpha \cdot \lambda \cdot \frac{b(V=k)}{E[Y | V=k] \cdot \lambda} = \alpha \cdot \frac{b(V=k)}{E[Y | V=k]} = \varepsilon_{Y,b}$$

Robustness to Definition of Job Loss

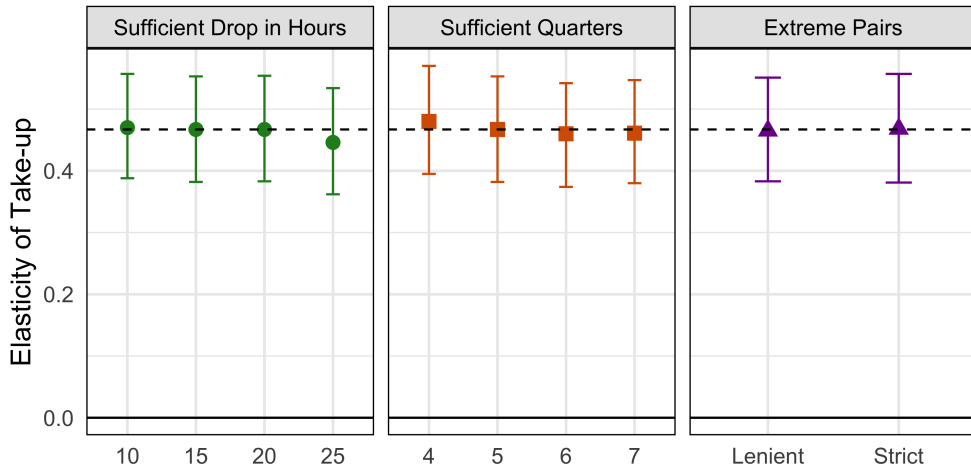
Classifying job separations depends on two parameters:

- **Sufficient Drop in Hours:** The maximum percentage drop in total hours in the quarter after a Job Separation whereby a Job Separation is still classified as a Job-to-Job Transition.
 - Increasing this parameter leads more Job Losses to be classified as Job-to-Job transitions
- **Sufficient Quarters:** The number of consecutive quarters of non-employment after a Job Separation so that it is classified as a Labor Force Dropout
 - Increasing this parameter leads more Labor Force Dropouts to be classified as Job Losses

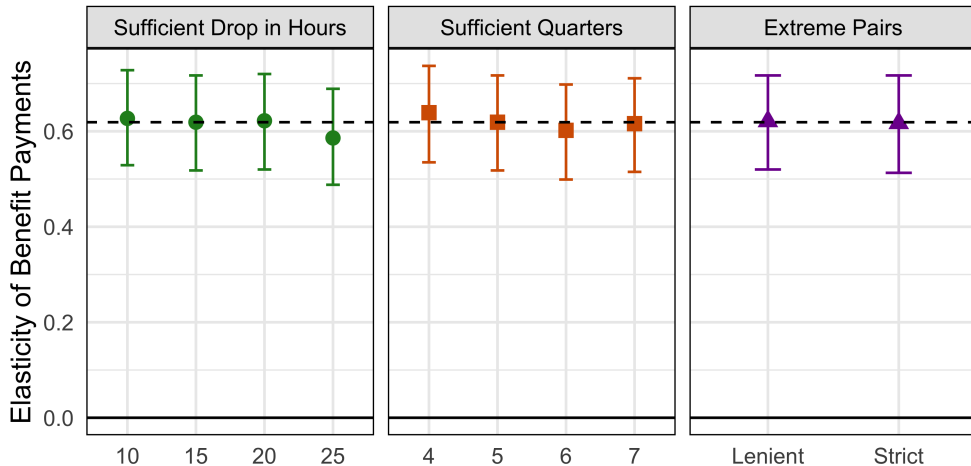
We consider the following when testing the robustness to the definition of Job Loss:

- Varying the **Sufficient Drop in Hours** to be 10, 15, 20, 25
- Varying the **Sufficient Quarters** to be 4, 5, 6, 7
- The most lenient definition of Job Loss (10 percent drop in hours, 7 quarters)
- The most stringent definition of Job Loss (25 percent drop, 4 quarters)

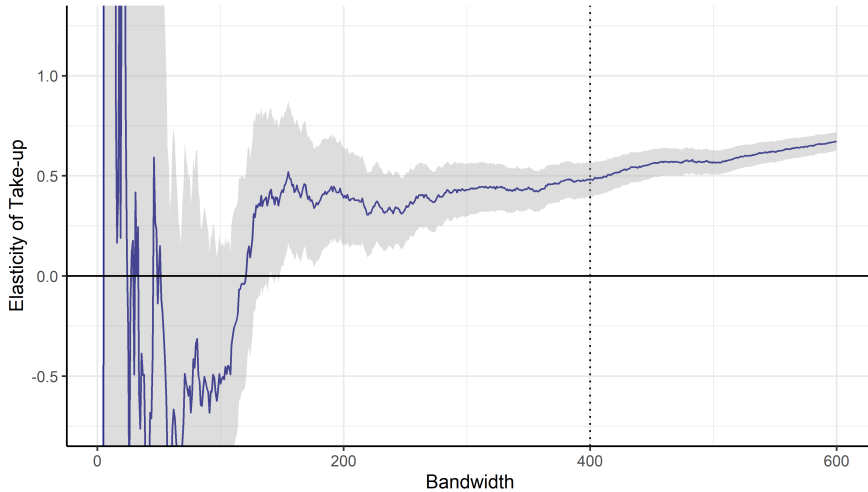
Job Loss Robustness: Elasticity of Take-up



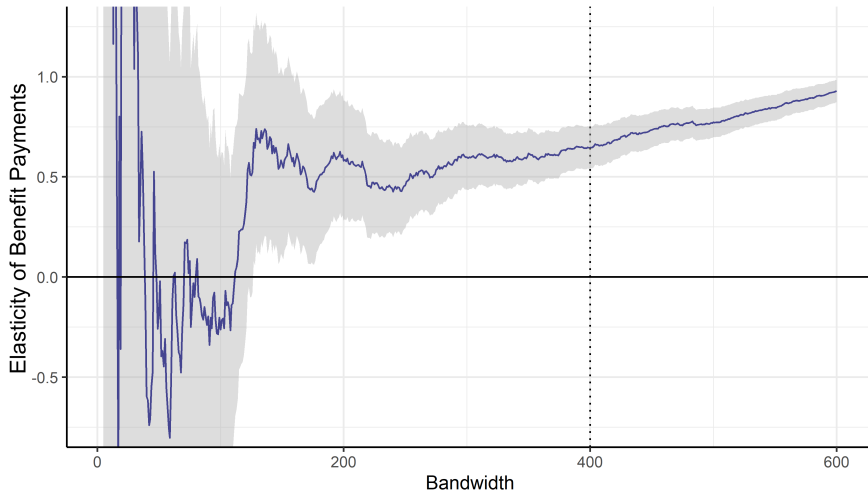
Job Loss Robustness: Elasticity of Benefit Payments



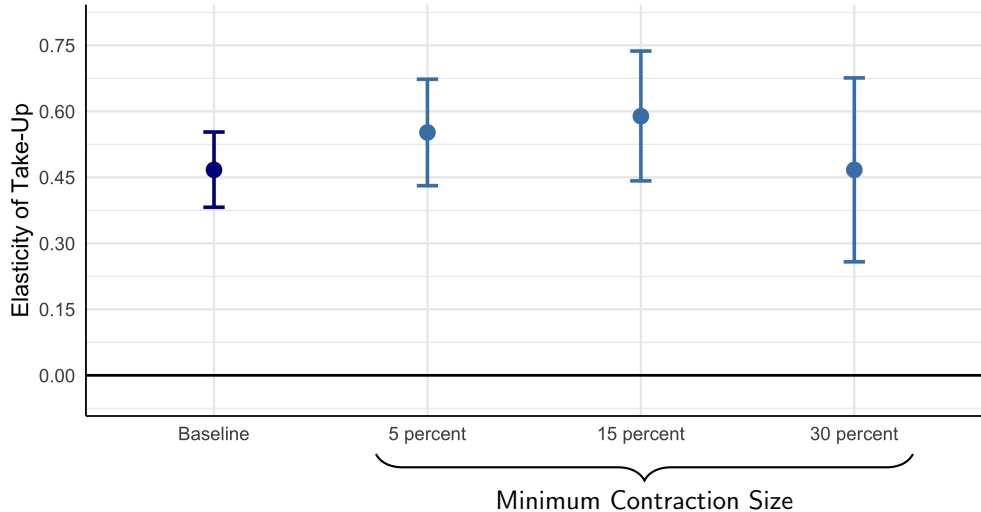
Elasticity of Take-up Across Bandwidth



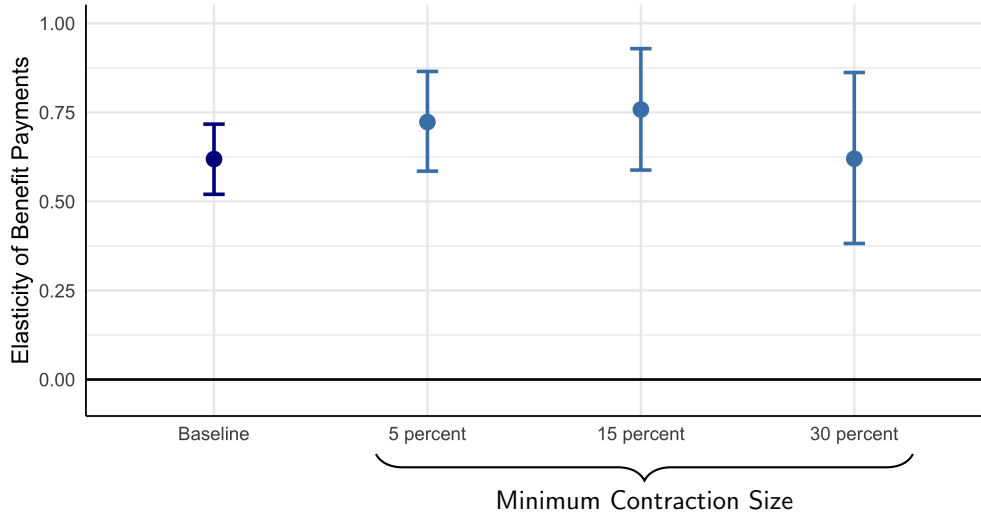
Elasticity of Benefit Payments Across Bandwidth



Effect on Take-up in Mass Layoffs



Effect on Benefit Payments in Mass Layoffs



Effects by Previous UI Experience

Hypothesis: Workers who previously applied for UI benefits may better understand the system and respond more strongly to the kink in the benefits schedule than first-time applicants.

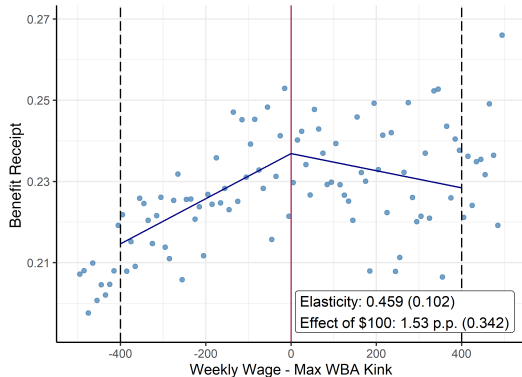
Approach: We use instances of job loss from 2016-Q1 through 2019-Q1, separating the sample based on whether the worker previously submitted an initial claim during a pre-period from 2011-Q1 through 2013-Q4.

Results:

- Marginal effects are similar for both groups
- Baseline take-up is much higher for workers who previously applied
- As a result, elasticity is actually lower for those with prior experience with the UI system

Effect on Take-up by Previous UI Experience

(a) No record of initial claim

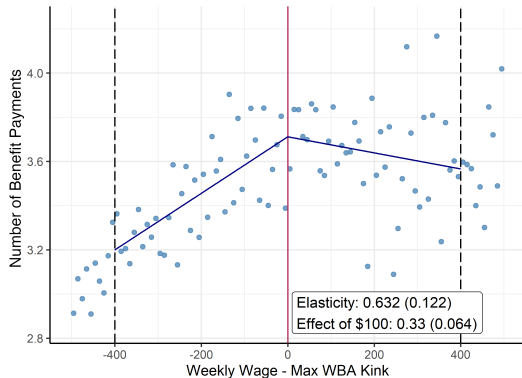


(b) Previously applied

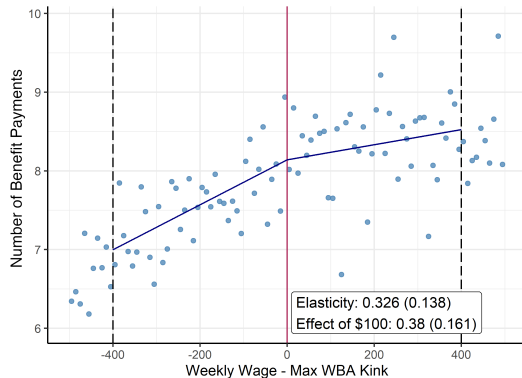


Effect on Benefit Payments by Previous UI Experience

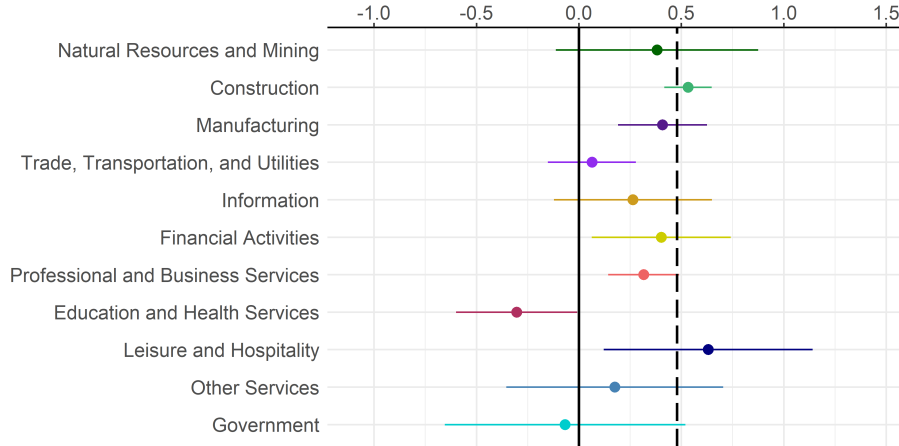
(a) No record of initial claim



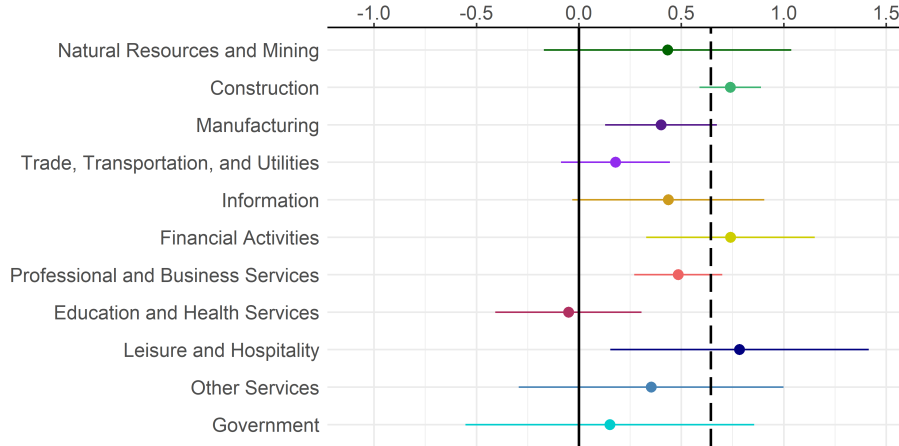
(b) Previously applied



Elasticity on Take-up by Industry



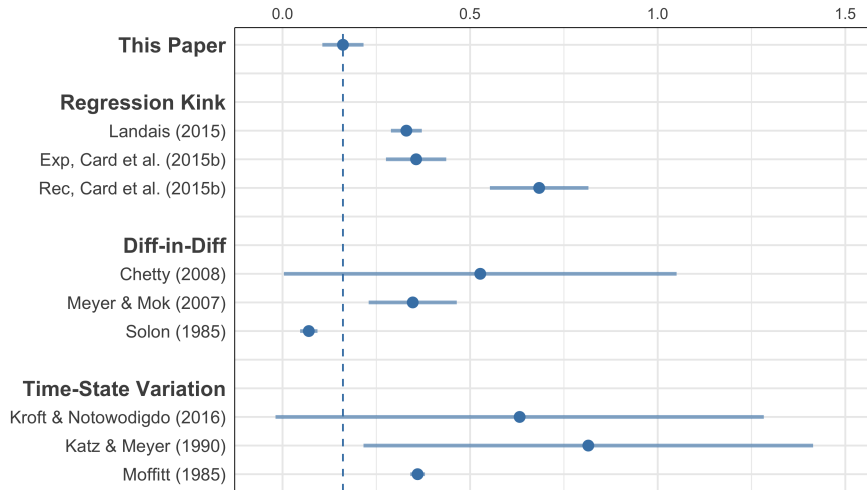
Elasticity on Benefit Payments by Industry



The Effect on Average Claim Duration - Compensation Records



Previous Estimates of the Elasticity of Claim Duration



Optimal Policy Calibrations

	No Behavioral Response	Perfect Take-up, Endogenous Search	Endogenous Take-up and Search Effort
Optimal Benefit Level	\$731	\$633	\$451
Diff. from full insurance	\$0	-\$98	-\$280
Share of full insurance	1.00	0.87	0.62

[Back](#)[Robustness](#)

Optimal Policy Calibrations - Robustness

	Baseline	Risk Parameter		Consumption Drop		
		$\rho = 1.5$	$\rho = 2.5$	3%	10%	15%
No Behavioral Response	\$731	\$731	\$731	\$692	\$784	\$849
Diff. from full insurance	\$0	\$0	\$0	\$0	\$0	\$0
Share of full insurance	1.00	1.00	1.00	1.00	1.00	1.00
Perfect Take-up	\$633	\$602	\$652	\$594	\$685	\$751
Diff. from full insurance	-\$98	-\$129	-\$79	-\$98	-\$98	-\$98
Share of full insurance	0.87	0.82	0.89	0.86	0.88	0.88
Endogenous Take-up	\$451	\$371	\$502	\$412	\$503	\$568
Diff. from full insurance	-\$280	-\$360	-\$230	-\$280	-\$280	-\$280
Share of full insurance	0.62	0.51	0.69	0.59	0.64	0.67

[Graph](#)
[Table](#)

MVPF of Raising Benefit Levels

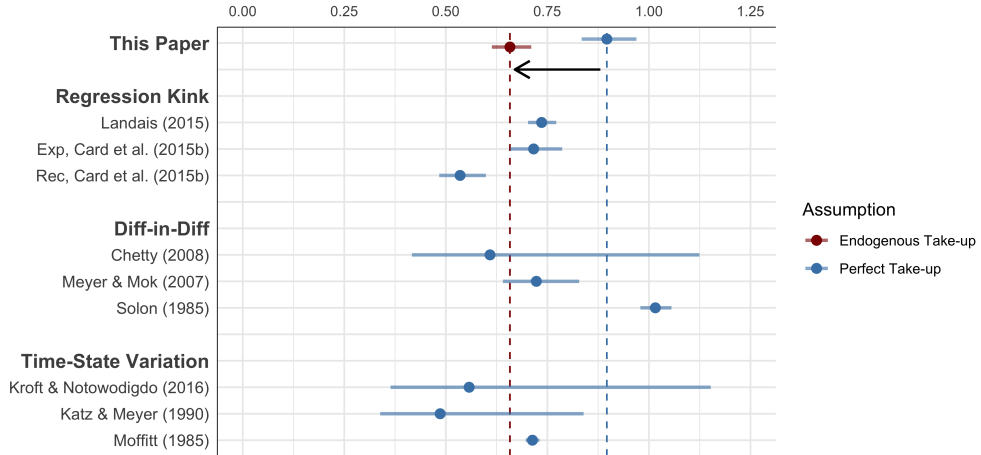
	No Behavioral Response	Perfect Take-up, Endogenous Search	Endogenous Take-up and Search Effort
MVPF	1.13	0.90	0.66
Willingness-to-pay	1.13	1.13	1.13
Cost to government	1.00	1.26	1.72

[Graph](#)[Robustness](#)

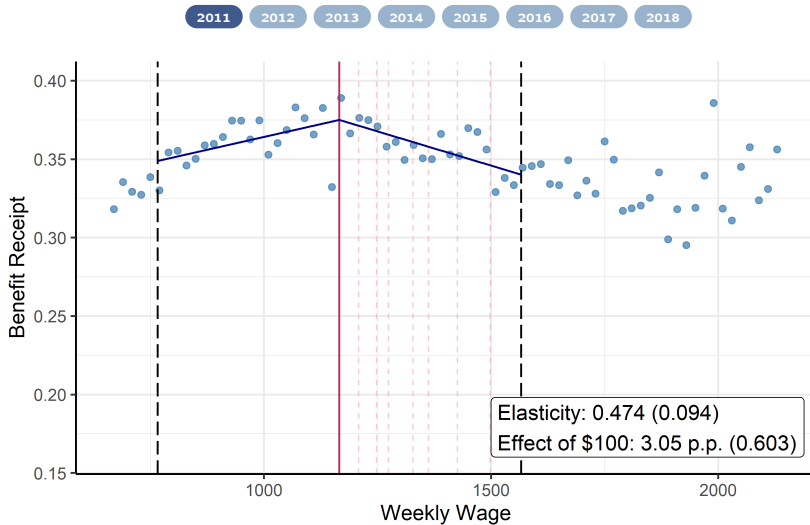
MVPF of Raising Benefit Levels - Robustness

	Baseline	Risk Parameter		Consumption Drop		
		$\rho = 1.5$	$\rho = 2.5$	3%	10%	15%
No Behavioral Response	1.13	1.10	1.17	1.06	1.23	1.38
Willingness-to-pay	1.13	1.10	1.17	1.06	1.23	1.38
Cost to government	1.00	1.00	1.00	1.00	1.00	1.00
Perfect Take-up	0.90	0.87	0.92	0.84	0.98	1.10
Willingness-to-pay	1.13	1.10	1.17	1.06	1.23	1.38
Cost to government	1.26	1.26	1.26	1.26	1.26	1.26
Endogenous Take-up	0.66	0.64	0.68	0.62	0.72	0.80
Willingness-to-pay	1.13	1.10	1.17	1.06	1.23	1.38
Cost to government	1.72	1.72	1.72	1.72	1.72	1.72

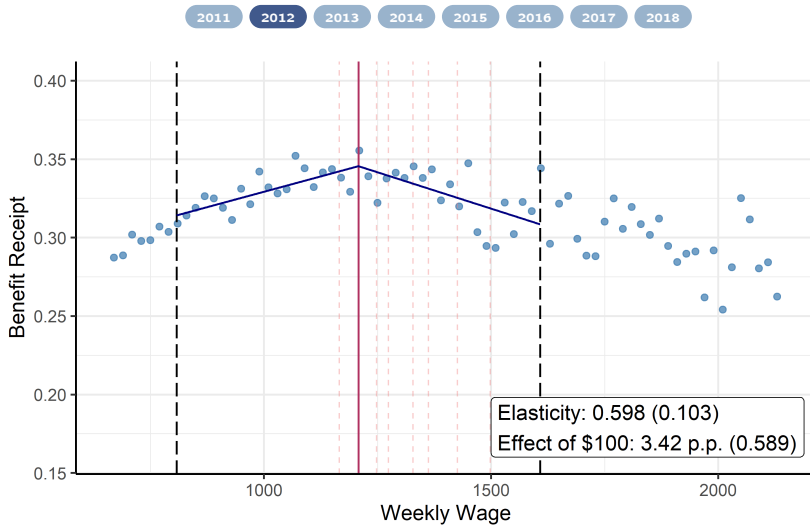
Existing Estimates Overstate the Value of Raising Benefits



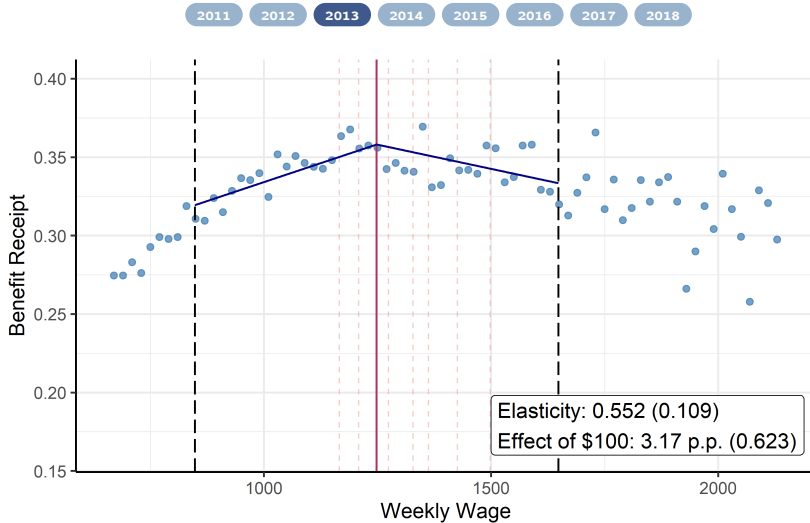
Effect on Take-up by Year



Effect on Take-up by Year



Effect on Take-up by Year



Effect on Take-up by Year



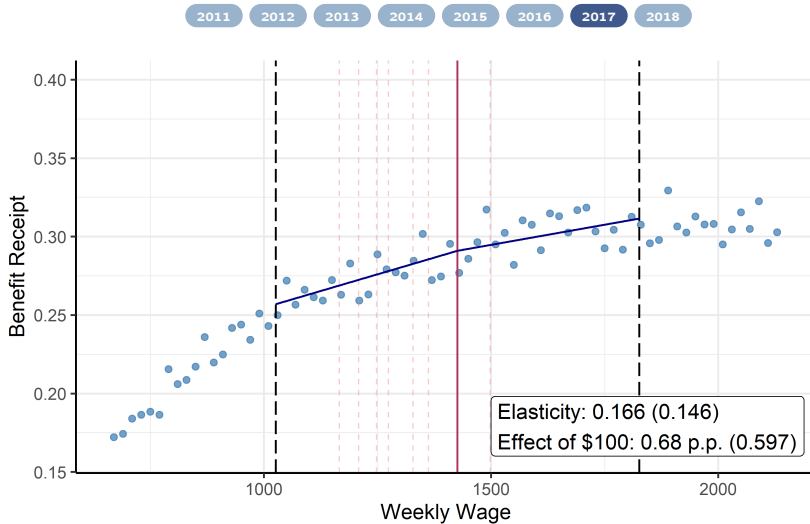
Effect on Take-up by Year



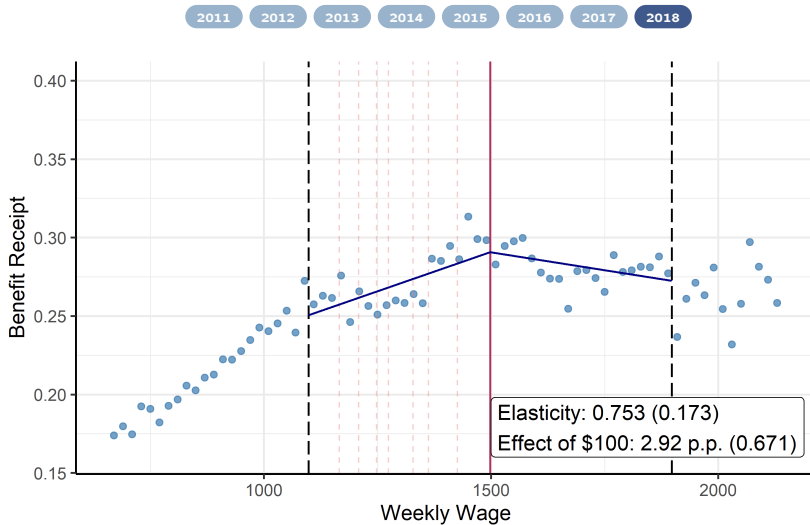
Effect on Take-up by Year



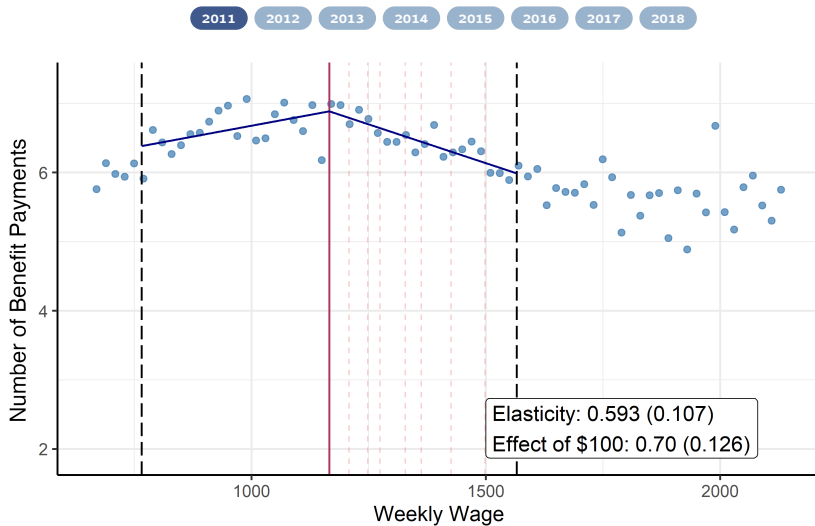
Effect on Take-up by Year



Effect on Take-up by Year



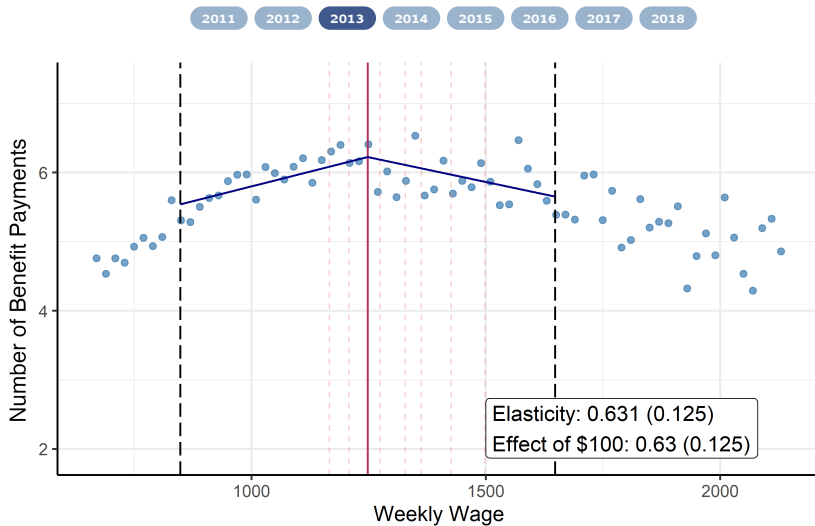
Effect on Benefit Payments by Year



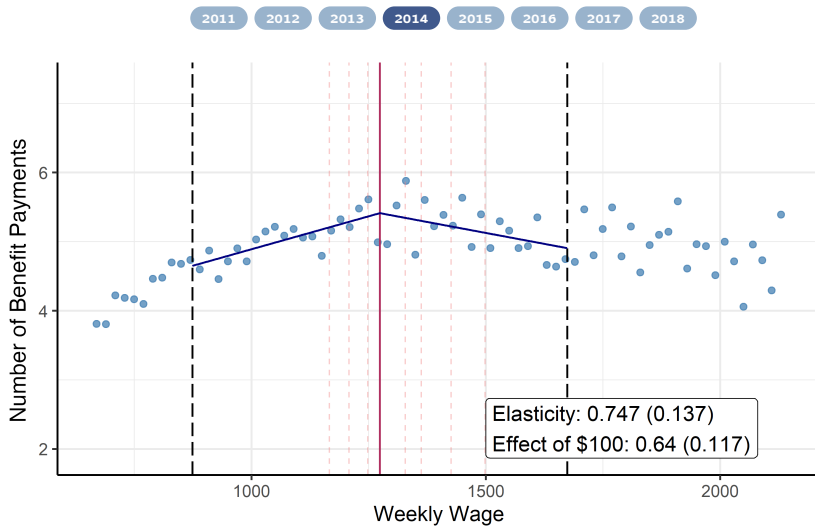
Effect on Benefit Payments by Year



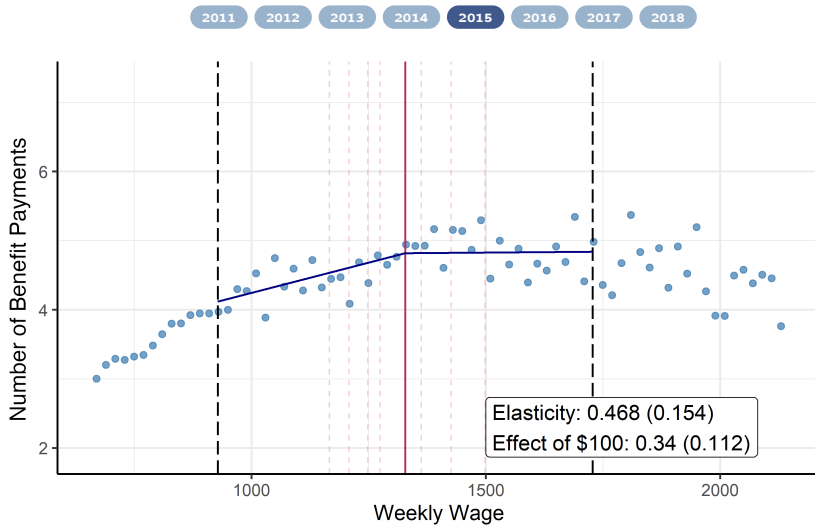
Effect on Benefit Payments by Year



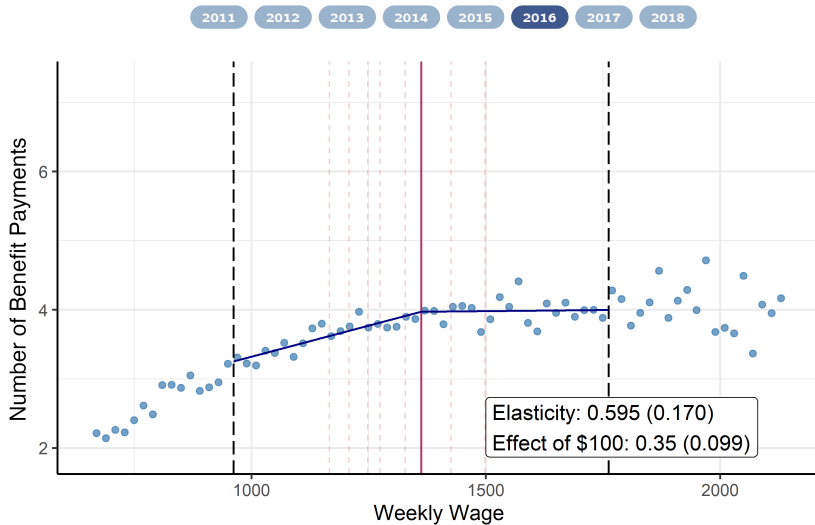
Effect on Benefit Payments by Year



Effect on Benefit Payments by Year



Effect on Benefit Payments by Year



Effect on Benefit Payments by Year



Effect on Benefit Payments by Year

