



*The Impact of Unemployment Benefits
Extensions on Disability Insurance
Application and Allowance Rates*

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Recent patterns

- Increased unemployment rate
- Ongoing Unemployment Insurance (UI) extension
- Increases in Social Security Disability Insurance (SSDI) and Supplemental Security Income (SSI) applications

Policy concerns...and a silver lining?

- Both UI and SSDI/SSI discourage job search.
- SSDI/SSI applications increase with unemployment rate.
- But, UI extensions may discourage or delay disability application, especially from the healthier unemployed.

Research questions

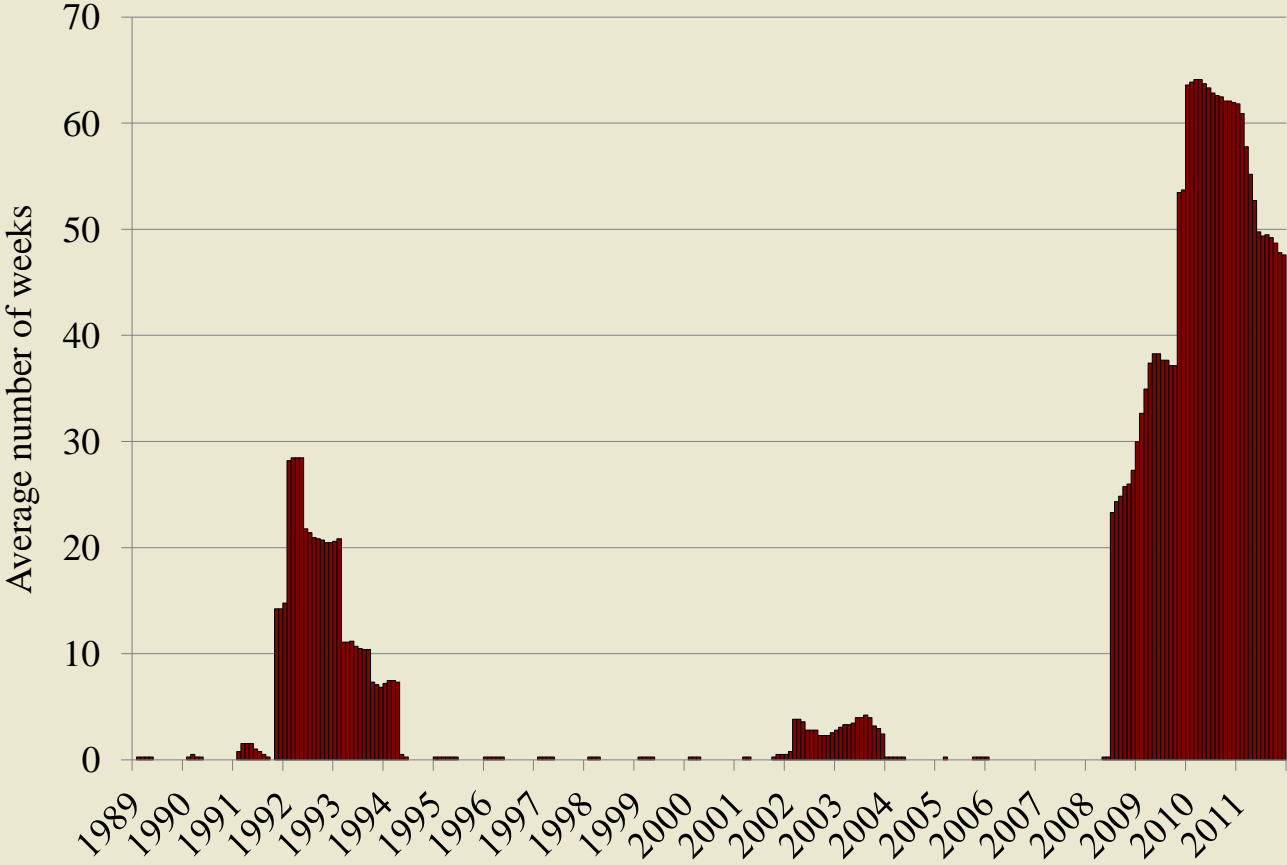
- What is effect of UI extensions on disability applications?
- What is effect of UI expiration, more generally, on applications?
- How does applicant pool change with UI extension?

Unemployment Insurance (UI)

- Usually 26 weeks at 50 percent of previous earnings, but varies by state
- Duration depends on concentration of earnings
 - More concentrated → shorter duration
- UI Extensions
 - Extended benefits (automatic triggers)
 - Emergency legislation

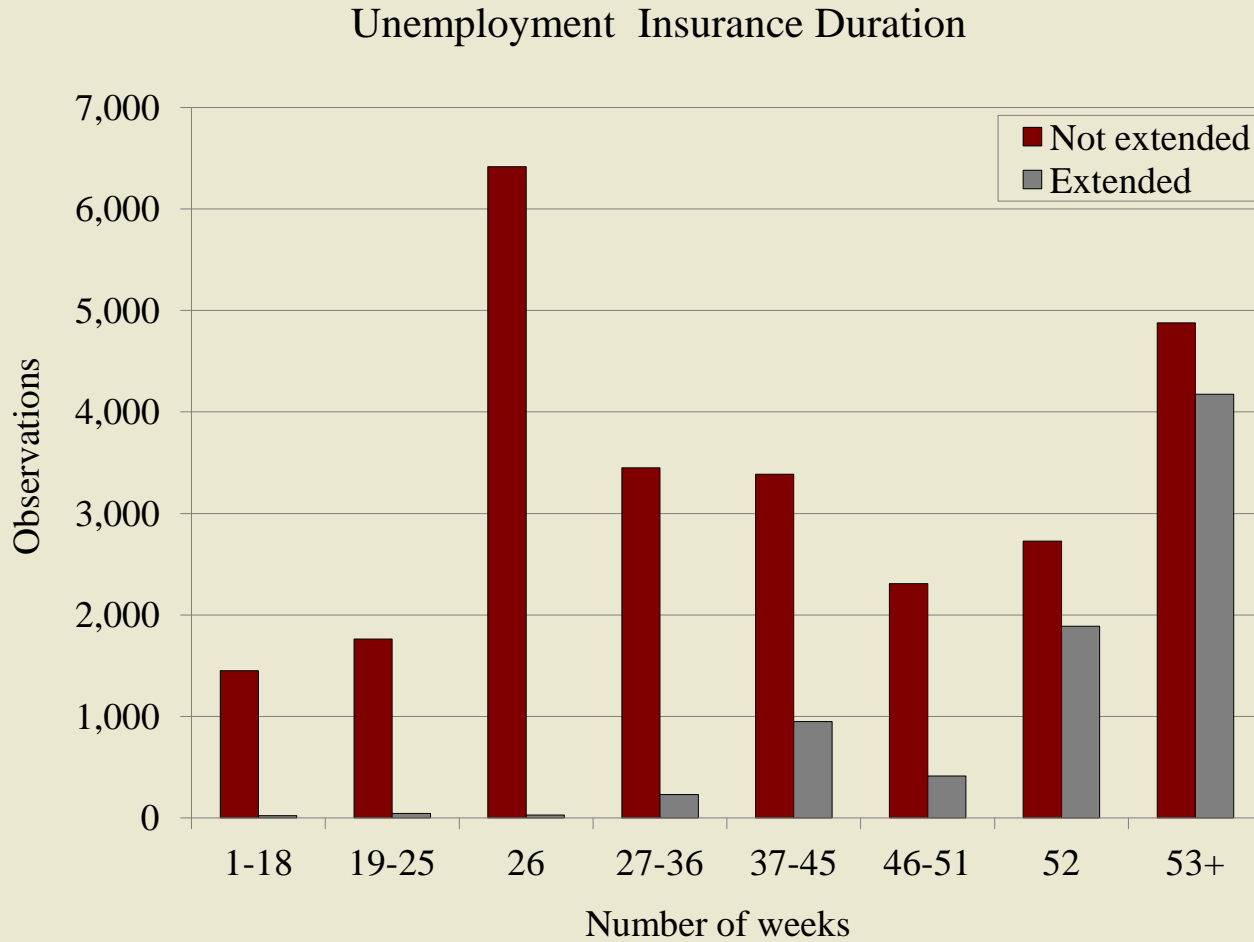
UI extensions

Weeks of Extended Benefits



Source: U.S. Department of Labor.

Variation in UI duration



Source: Author's calculations from the SIPP Gold Standard File.

Social Security Disability Insurance (SSDI)

- Covered if total and recent work history are sufficient
- Applications reviewed by state SSA office
 - Average initial allowance rate of 37 percent
 - Average wait time of 131 days
- Same benefit calculation as retirement program
- Few exits, except for FRA and death

Supplemental Security Income (SSI)

- Means tested
 - Countable income below benefit level
 - \$2000 cap on non-housing wealth
- Same disability screening as SSDI
- Benefits = \$674/mo – countable income
- States supplement federal benefits

Conceptual framework

- Unemployed compare utility from job search and disability application
- For some, search is higher utility with UI, lower when UI is exhausted
- UI extension pushes out point where $U(\text{search}) < U(\text{DI app})$
- Higher-probability (unhealthier) applicants apply immediately, unaffected by extension
- Lower-probability (healthier) applicants delay application until UI exhaustion

Previous literature

- UI disincentive effects
 - Mortensen 1977, Moffitt 1985, Meyer 1990, Katz and Meyer 1990, Card and Levine 2000
- Disability insurance and the macroeconomy
 - Applications: Rupp and Scott 1998, Autor and Duggan 2003
 - Allowances: Rupp and Stapleton 1995, Strand 2002
- Job loss or UI benefits and disability
 - Roed and Zhang 2005, Pellizzari 2006, Lindner 2011

Data

- Individuals: SIPP Gold Standard File
 - SIPP: job loss, demographics, quarterly income
 - SSA 831 File: disability activity
 - SSA/IRS earnings records
- States:
 - UI: DOL Comparison of State UI Laws
 - Disability: SSA State Agency Monthly Workload
- Sample: 29,900 unemployed from 1990-2009

Survivor functions by UI extensions

Survivor Functions from Time of Job Loss, by whether Benefits are Extended



Source: Author's calculations from the SIPP Gold Standard File.

Timing of disability application by UI month

Timing of Disability Application Relative to Unemployment Insurance Exhaustion

Month	All	Never extended	Already extended	Extended (further)
>2 mo before UI ends	114.8	85.8	29.1	11.0
1-2 mo before UI ends	78.9	57.8	18.7	6.2
Month UI ends	89.7	60.0	22.0	10.1
1-2 mo after UI ends	62.4	42.2	14.5	6.6
3-6 mo after UI ends	46.8	30.0	10.4	6.4
7-12 mo after UI ends	38.7	23.6	10.4	4.6
13-24 mo after UI ends	32.6	19.2	7.1	6.3
25-48 mo after UI ends	24.6	14.5	5.1	5.0

Note: Figures are applications in the average month over the given time period.

Source: Author's calculations from the SIPP Gold Standard File.

Individual-level empirical model

- Multinomial Logit Regression
 - Apply to SSDI
 - Find a job
- Control for:
 - Indicators for UI exhaustion and extension
 - UI and SSDI benefit levels
 - Unemployment rate
 - Wealth, spouse's income, and previous income
 - Demographics, health insurance, work limitations
 - Dummies for month since job separation (duration dependence)

Individual-level results

Mean Derivatives from Multinomial Logit Regression Results for SSDI Application and Job-Finding

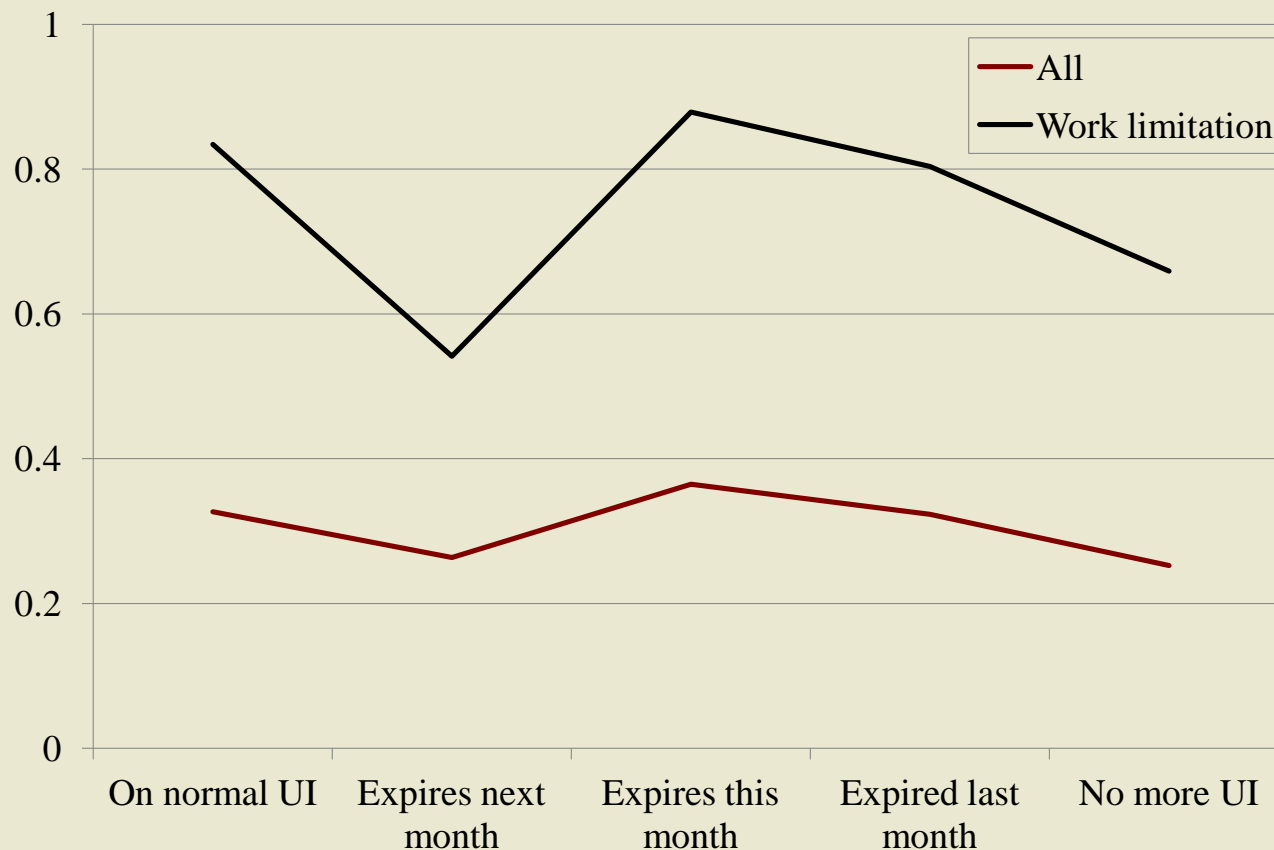
	Not work limited		Work limited	
	Apply to SSDI	Find job	Apply to SSDI	Find job
ln(previous earnings)	1.6	1.3 **	2.5	1.4
ln(spouse's earnings)	-0.7	-1.0 ***	-0.9	-0.6 *
ln(UI benefit)	-1.2	-0.5	-1.1	3.2
ln(SSDI benefit)	-52.1 ***	-0.4	-24.9 ***	0.1
Unemployment rate (current)	10.5 ***	-17.3 ***	1.7	-13.4 ***
Unemployment rate (at job loss)	-11.3 ***	13.7 ***	0.7	10.3 ***
Work limited (0/1)	0.0	0.0	0.0	0.0
No health insurance currently (0/1)	37.4 ***	-29.9 ***	-10.2	-20.4 ***
Sample size	467,424		167,382	

Statistical significance of the coefficient estimates: *** - Significantly different from zero at the 99 percent confidence level ** - 95 percent confidence level * - 90 percent confidence level

Source: Author's calculations from the SIPP Gold Standard File.

Hazard to SSDI application

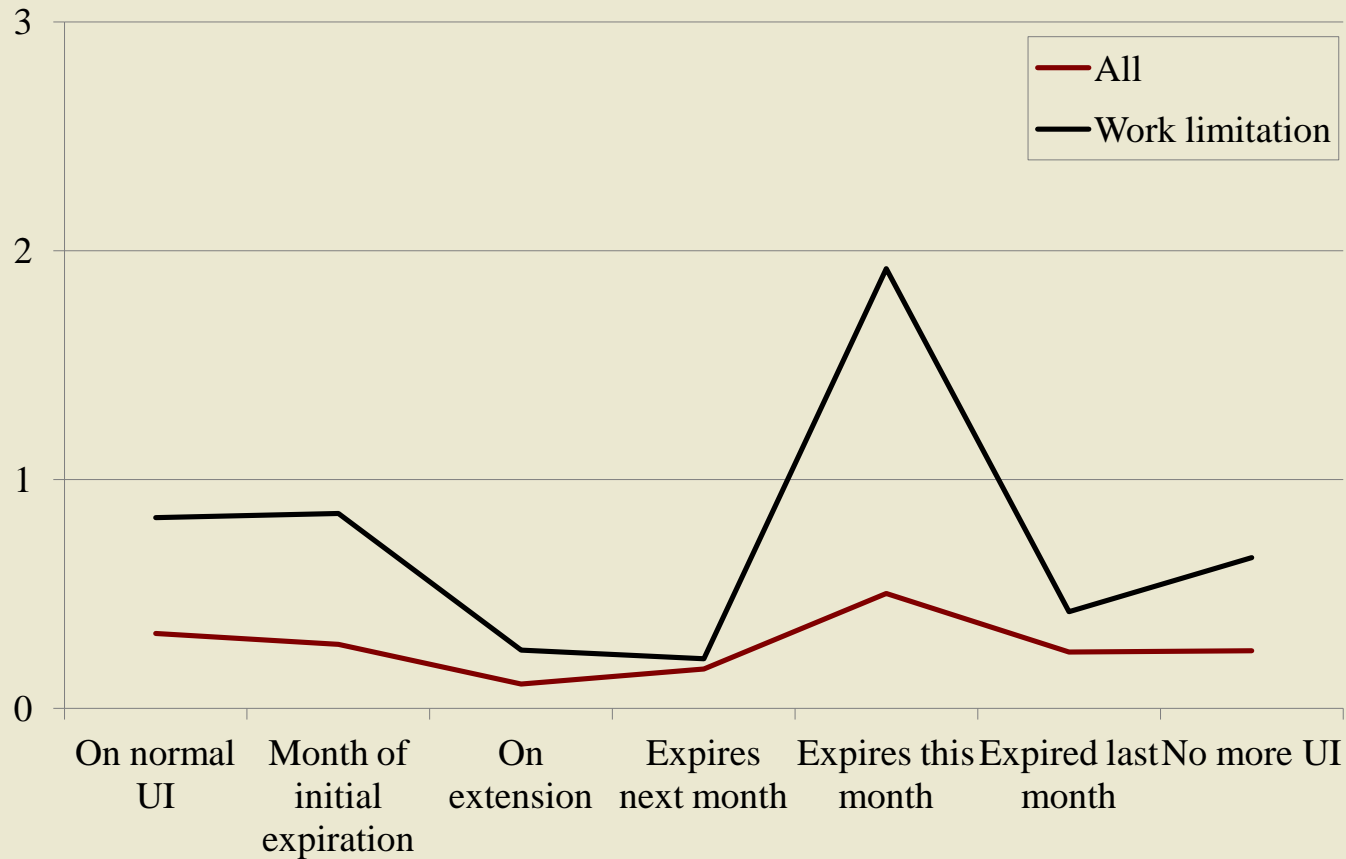
Probability of Applying to SSDI, by Remaining UI Eligibility: No Extension



Source: Author's calculations from the SIPP Gold Standard File.

Hazard to SSDI application

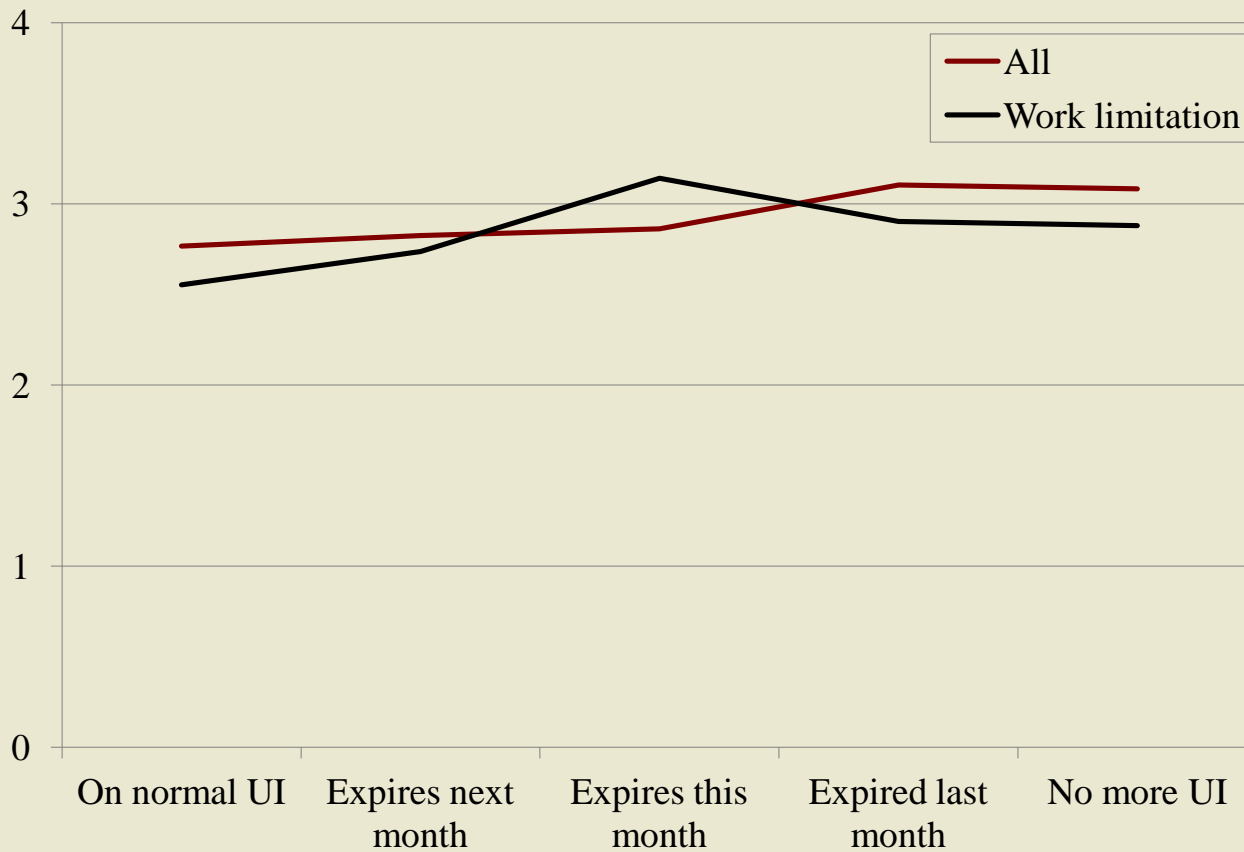
Probability of Applying to SSDI, by Remaining UI Eligibility: UI Extended



Source: Author's calculations from the SIPP Gold Standard File.

Hazard to job finding

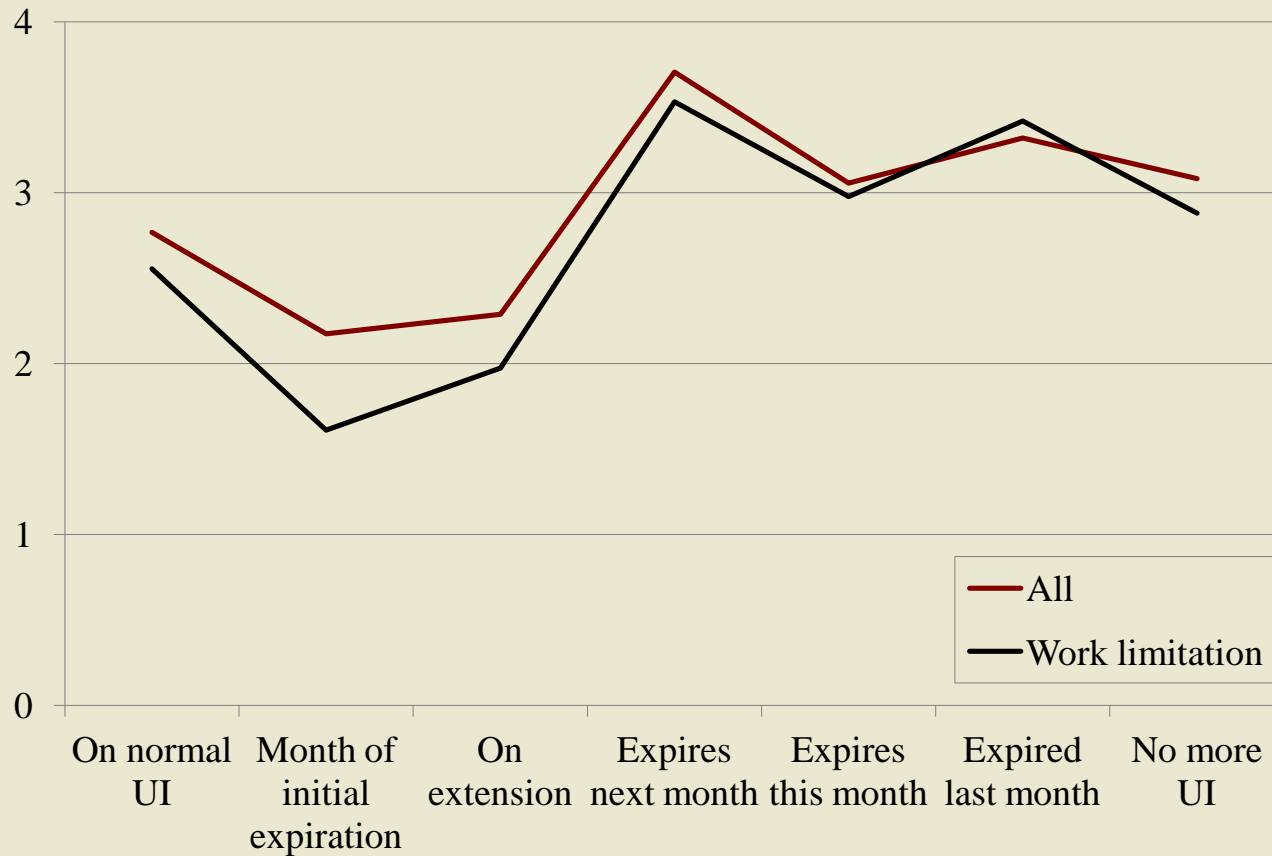
Probability of Finding a Job, by Remaining UI Eligibility: No Extension



Source: Author's calculations from the SIPP Gold Standard File.

Hazard to job finding (cont'd)

Probability of Finding a Job, by Remaining UI Eligibility: UI Extended



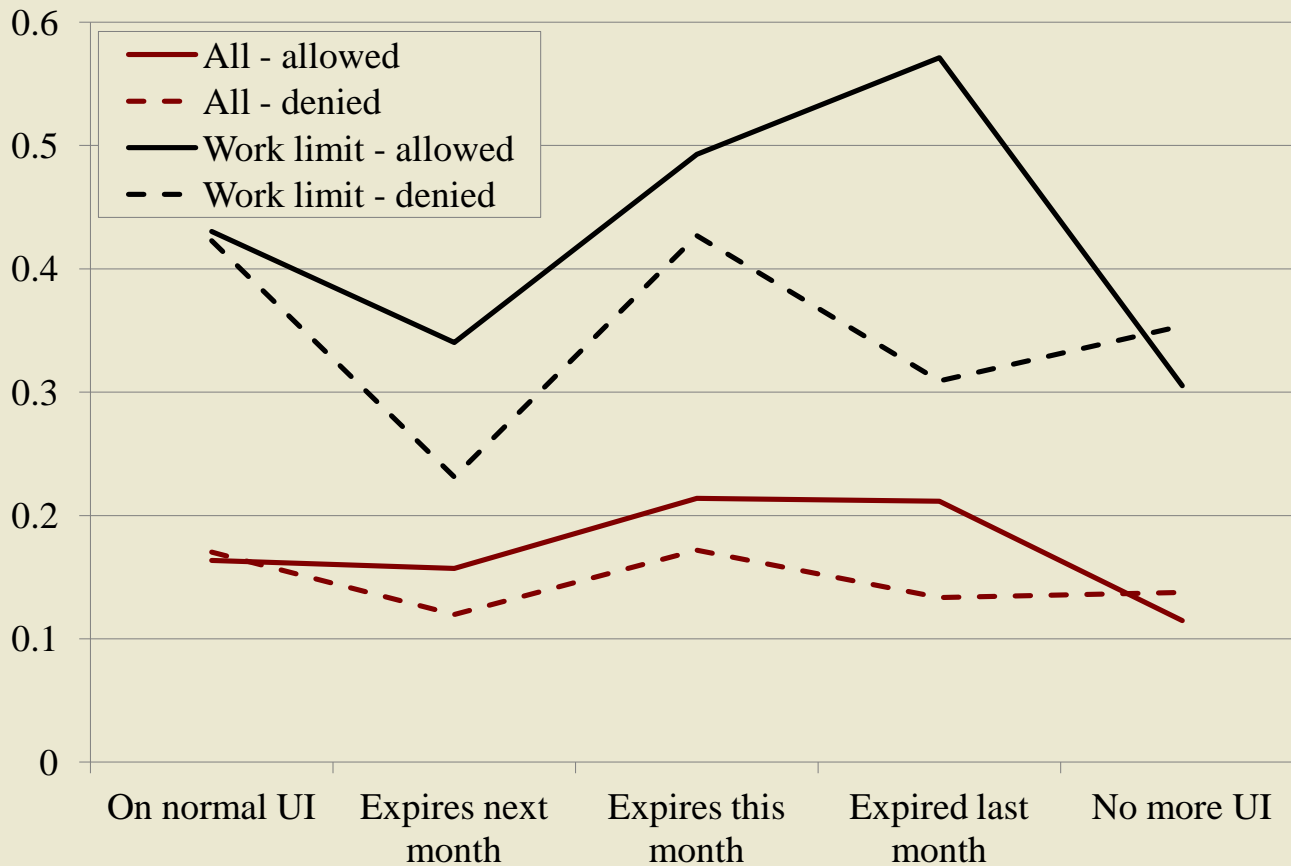
Source: Author's calculations from the SIPP Gold Standard File.

Individual-level empirical model

- Multinomial Logit Regression
 - Apply to SSDI **successfully**
 - Find a job
 - **Apply to SSDI unsuccessfully**
- Control for:
 - Indicators for UI exhaustion and extension
 - UI and SSDI benefit levels
 - Unemployment rate
 - Wealth, spouse's income, and previous income
 - Demographics, health insurance, work limitations
 - Dummies for month since job separation (duration dependence)

Hazard to SSDI application

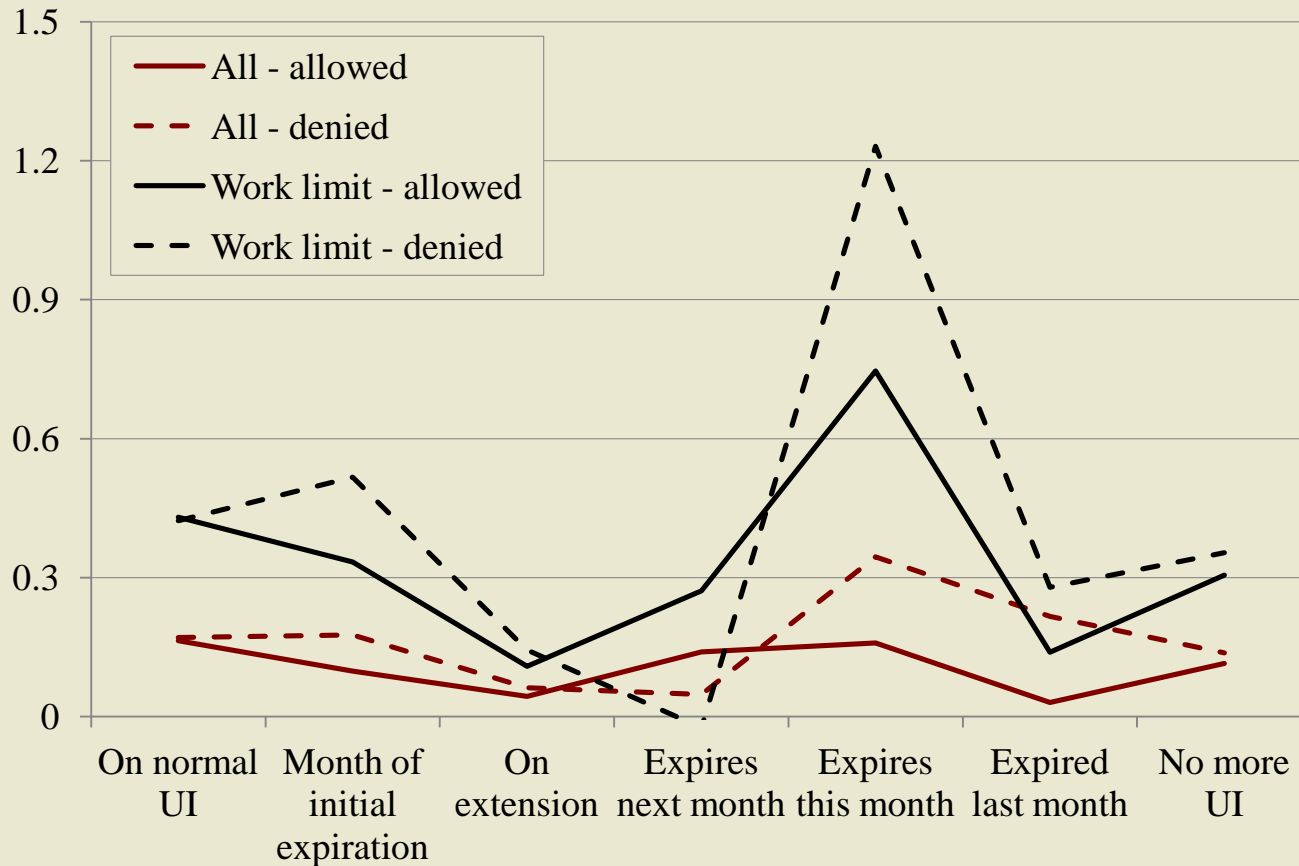
Probability of Applying to SSDI, by Remaining UI Eligibility: No Extension



Source: Author's calculations from the SIPP Gold Standard File.

Hazard to SSDI application (cont'd)

Probability of Applying to SSDI, by Remaining UI Eligibility: UI Extended



Source: Author's calculations from the SIPP Gold Standard File.

State-level results

Estimated Effect of New, Ongoing, and Phased-Out Extensions on Application and Allowance Rates

	Application rate	Allowance rate
12 months before extension (0/1)	-0.028 *** (0.005)	0.673 ** (0.306)
First months of extension (0/1)	-0.026 *** (0.008)	1.217 *** (0.419)
Ongoing extension (0/1)	0.023 ** (0.012)	0.871 ** (0.426)
Extension phase-out (0/1)	0.057 *** (0.013)	0.665 (0.406)
R ²	0.849	0.712
Sample size	6885	6885

Statistical significance of the coefficient estimates: *** - Significantly different from zero at the 99 percent confidence level ** - 95 percent confidence level * - 90 percent confidence level

Source: Author's calculations from the SIPP Gold Standard File.

Cost of UI extension

- How much does UI extension cost?
 - Extra UI benefits
 - Fewer, or at least delayed, SSDI applications
 - SSDI allowance vs. denial probability
 - Medicare benefits after 24 months of SSDI
- Expected cost of original UI duration vs. 13- or 26-week extension
 - Expected UI cost = $[1 - P(\text{job})] \times \text{UI benefit}$
 - Expected DI cost = $P(\text{allow}) \times [\text{DI benefits} + \text{LR DI cost} + \text{LR Medicare cost}]$

Cost of UI extension (cont'd)

Simulation Results: Expected Cost of 13- or 26-Week UI Extension

Extension weeks	Per-person cost (\$)			Percent change		
	0 wks	13 wks	26 wks	0 to 13	0 to 26	13 to 26
Total cost	2442	2665	2973	10.7	25.4	13.3
UI	1501	1757	2080	18.2	42.2	20.7
SSDI and Medicare	1065	1028	1011	-6.4	-9.2	-2.7

Source: Author's calculations from the SIPP Gold Standard File.

Summary of results

- Jobless individuals with work limitations:
 - 61% less likely to apply for SSDI during UI extensions.
 - 192% more likely to apply in the last month of UI eligibility.
- State allowance rate rises after UI is extended, but no statistical difference in timing for allowed vs. denied applications.
- 13-week extension increases UI program costs by 18 percent, partially offset by 6 percent savings in SSDI.

Implications

- SSDI/SSI, at least in part, supplements UI.
- UI extensions seem to have little long-run effect on SSDI applications.
- Still, even if UI extension only delays SSDI application...
 - delay may allow for job finding;
 - potentially reduce permanent SSDI and Medicare;
 - paying benefits out of general revenue, not SSDI Trust Fund.
- So, UI extension may be underrated.