



United States Department of Agriculture, Economic Research Service

# SNAP Dynamics in New York 2007-2012

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# Data

- 2007-2012 New York SNAP administrative records (monthly)
  - Age & Gender
  - Case composition
  - Benefit amount
  - Other Public Assistance receipt
    - TANF
    - State General Assistance
  - Geographic location
  - Missing or incomplete: race, income, marital status and educational attainment



# Additional Data sources

- BLS county-level employment data (monthly)
  - Unemployment rates
- Census SAIPE county-level variables (annual)
  - Percent in Poverty
  - Median Income
- ERS County Urban-Rural Continuum Codes



# Data (cont.)

- Administrative records contain a record for each person-month
  - Person identified by Census Bureau via a Protected Identification Key (PIK)
    - Unique identifier used internally by the Census to link individuals across data sets
  - New York Office of Disability and Temporary Assistance (ODTA) also creates a longitudinal recipient identifier
- Cannot distinguish between exit from SNAP and migration from NY state
  - More work to identify prevalence of SNAP movers



# Sample

- Universe of SNAP participants in NY from 2007-2012
- Dropped:
  - Non-PIKed observations
  - Children (under 18) and the very elderly (over 90)
  - Incomplete information on age
- One month gap in spells are smoothed
- 3.17 million individuals (>100 million person-months)



# SNAP Spells in NY 2007-2012

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Type of Censoring	Percent of Spells
Left-censored only	12.8
Right-censored only	30.1
Left- and right-censored	9.3
Complete spells	47.9

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*Source:* NY SNAP Administrative Records, 2007-2012



# SNAP Spells in NY (cont.)

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<b>Number of Spells Per recipient</b>	<b>Percent</b>
One	68.7
Two	21.2
Three	6.9
Four or more	3.2

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*Source:* NY SNAP Administrative Records, 2007-2012



# Total Months on SNAP

<b>Percentile</b>	<b>Months (72 max)</b>
10 <sup>th</sup>	4
25 <sup>th</sup>	11
50 <sup>th</sup>	26
75 <sup>th</sup>	53
90 <sup>th</sup>	71
Mean (S.D.)	32.1 (24.2)

*Source:* NY SNAP Administrative Records, 2007-2012





# Spell Lengths in Months

Spell Type	Median	Mean (S.D.)
All	11	15.1 (13.8)
Non-left-censored	10	13.0 (10.9)
Non-right-censored	11	15.1 (13.8)
Complete	10	13.0 (10.9)

Source: NY SNAP Administrative Records, 2007-2012



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# Entry and Exit Rates by Year

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<b>Year</b>	<b>Entry Rate</b>	<b>Exit Rate</b>
2007	3.4	3.3
2008	3.9	2.8
2009	4.1	2.3
2010	3.5	2.5
2011	3.0	3.0
2012	3.3	3.0

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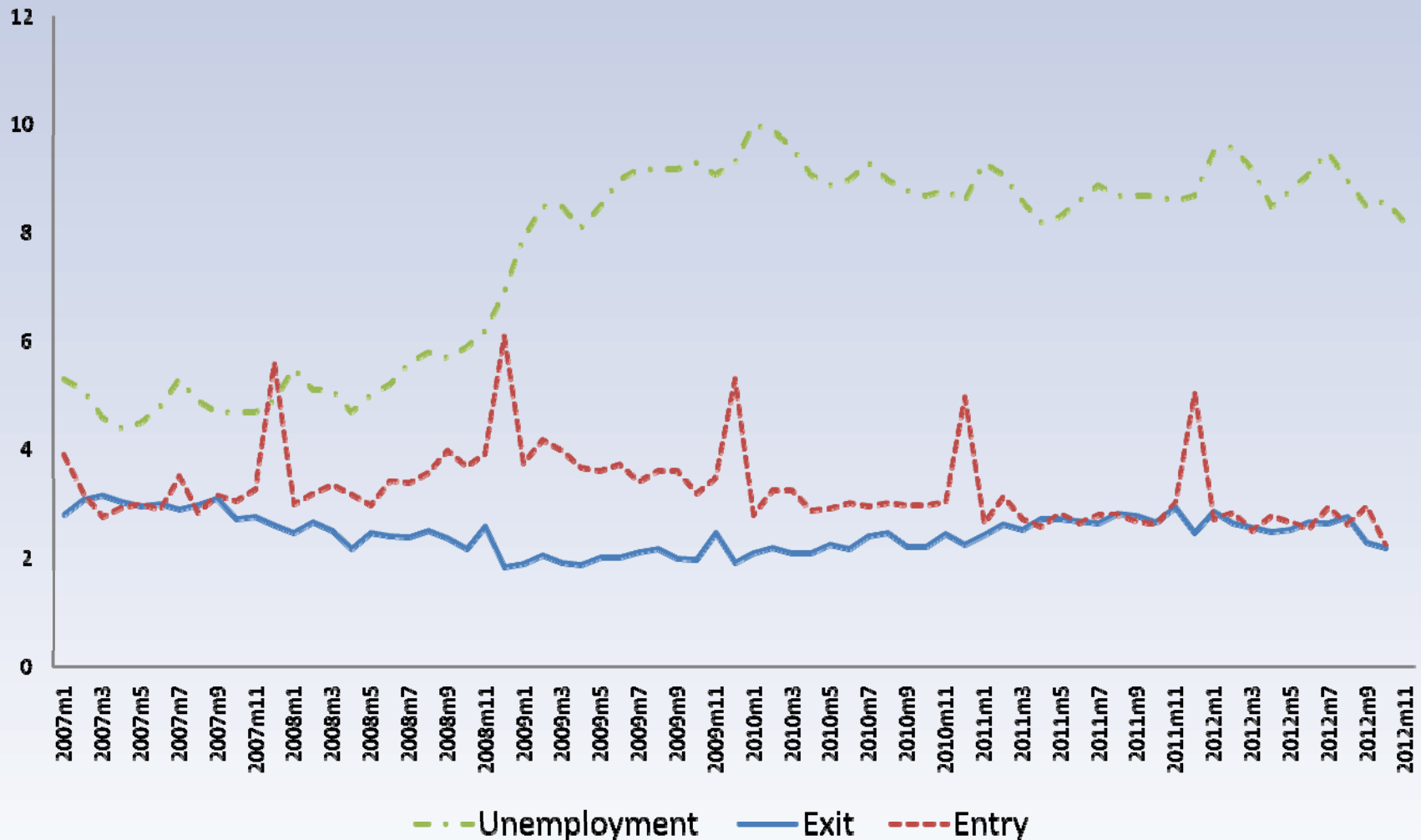
*Source:* NY SNAP Administrative Records, 2007-2012



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# SNAP Entry and Exit Rates in NY



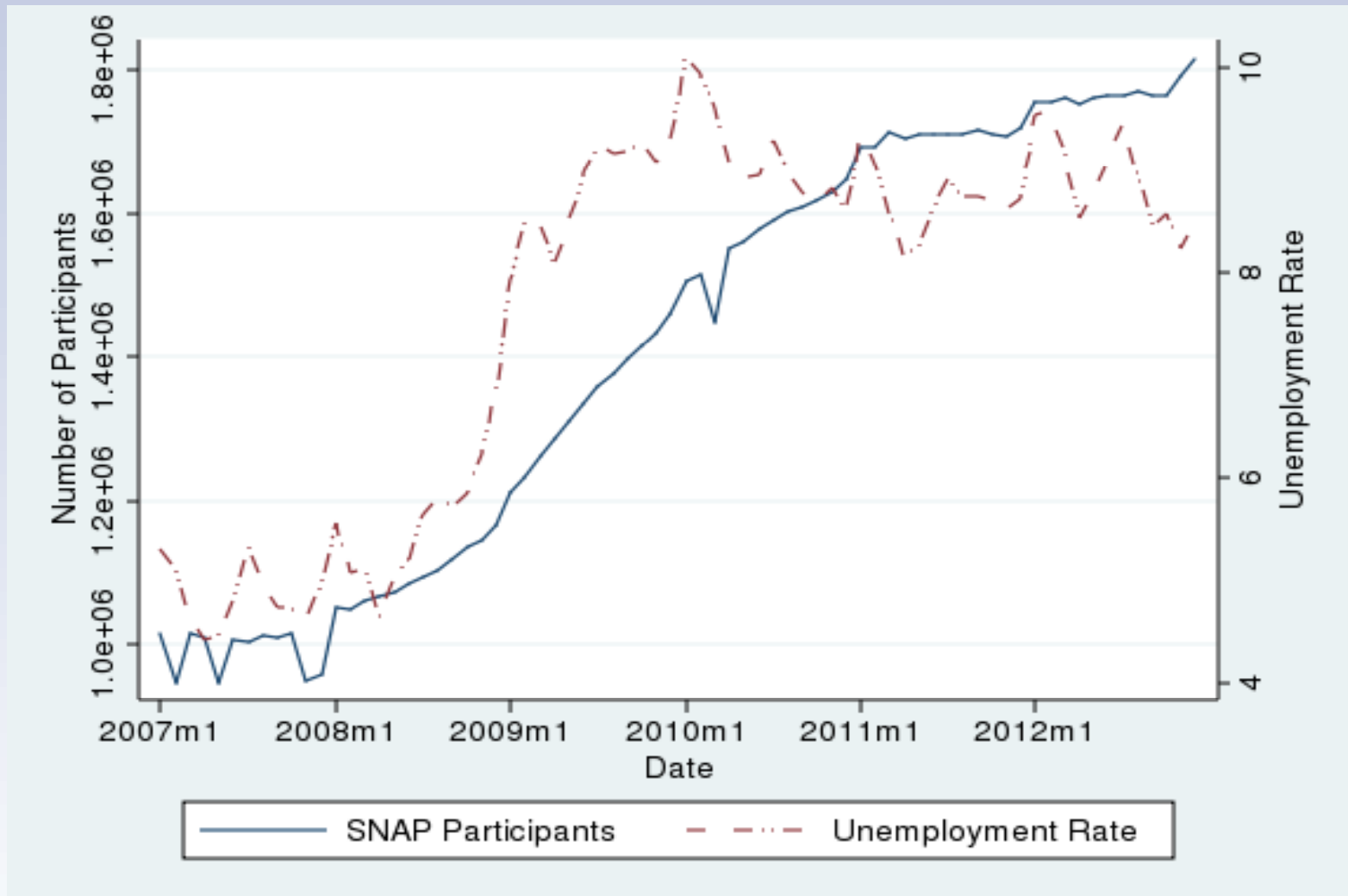
Source: NY SNAP Administrative Records, 2007-2012, and BLS county unemployment



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# NY SNAP Caseload and Unemployment



Source: NY SNAP Administrative Records, 2007-2012, and BLS unemployment rates



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# Hazard Models of SNAP Exit

- Discrete-time hazard model using complementary log-log link function
  - Duration effects modeling using flexible baseline hazard function
- Left-censored spells dropped, analyzed separately
  - Analysis of new spell starts since 2007
- One period (month) spells dropped



# Hazard Model: Variables

- Demographics (age, gender, case composition, other program receipt, urban-rural code)
- Benefit amount (reflects net unit income)
- Spell number (since 2007)
- County level information
  - Unemployment Rates
  - Poverty Rates

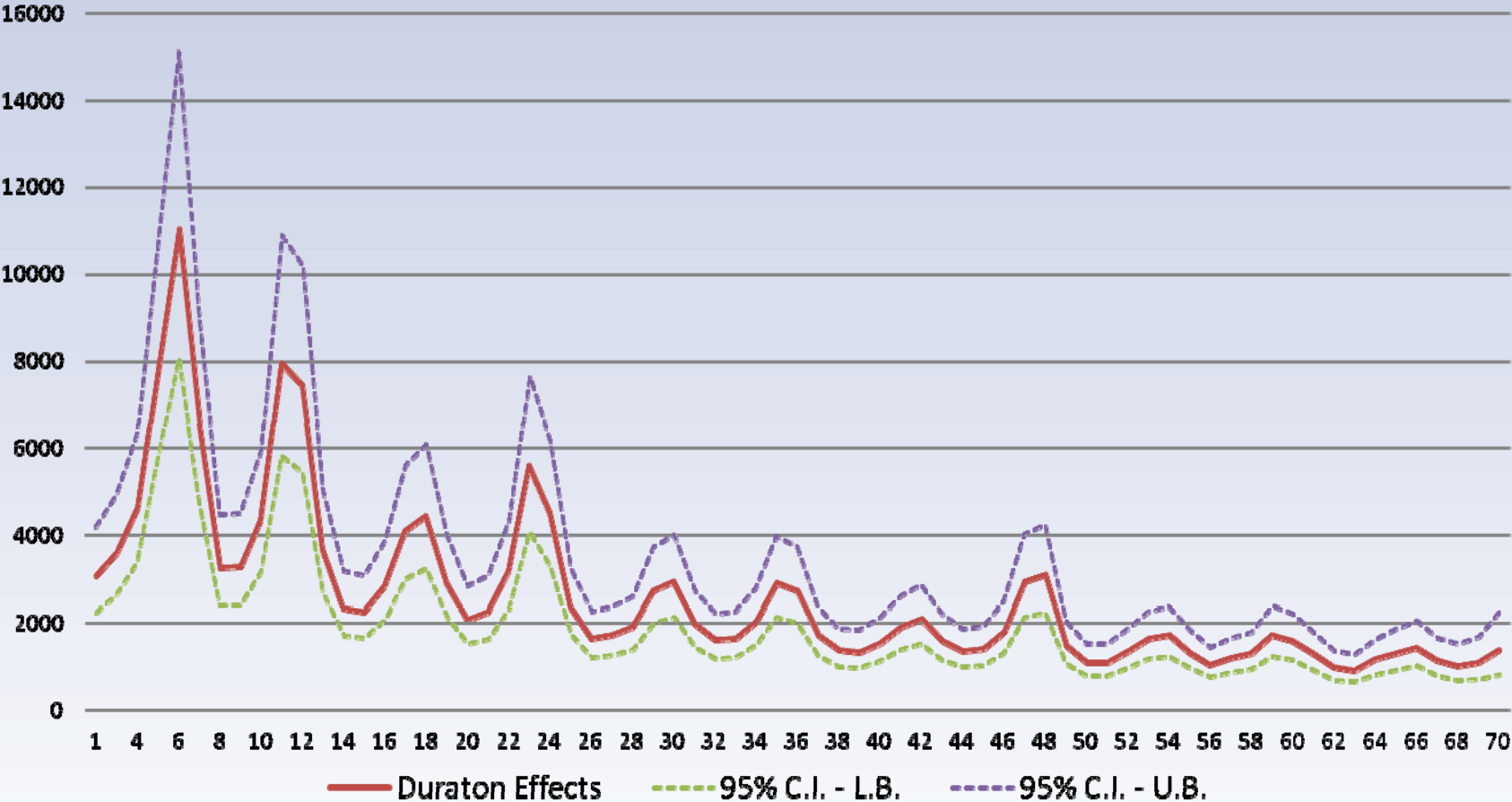


# Hazard Model of Exits

- 2.4 million “exits” in 71 month period
- 1.86 million from non-left-censored spells
- 22,300,000 person-months



# SNAP Exit Model: Baseline Hazard



Source: NY SNAP Administrative Records, 2007-2012, BLS unemployment rates, and Census SAIGE variables

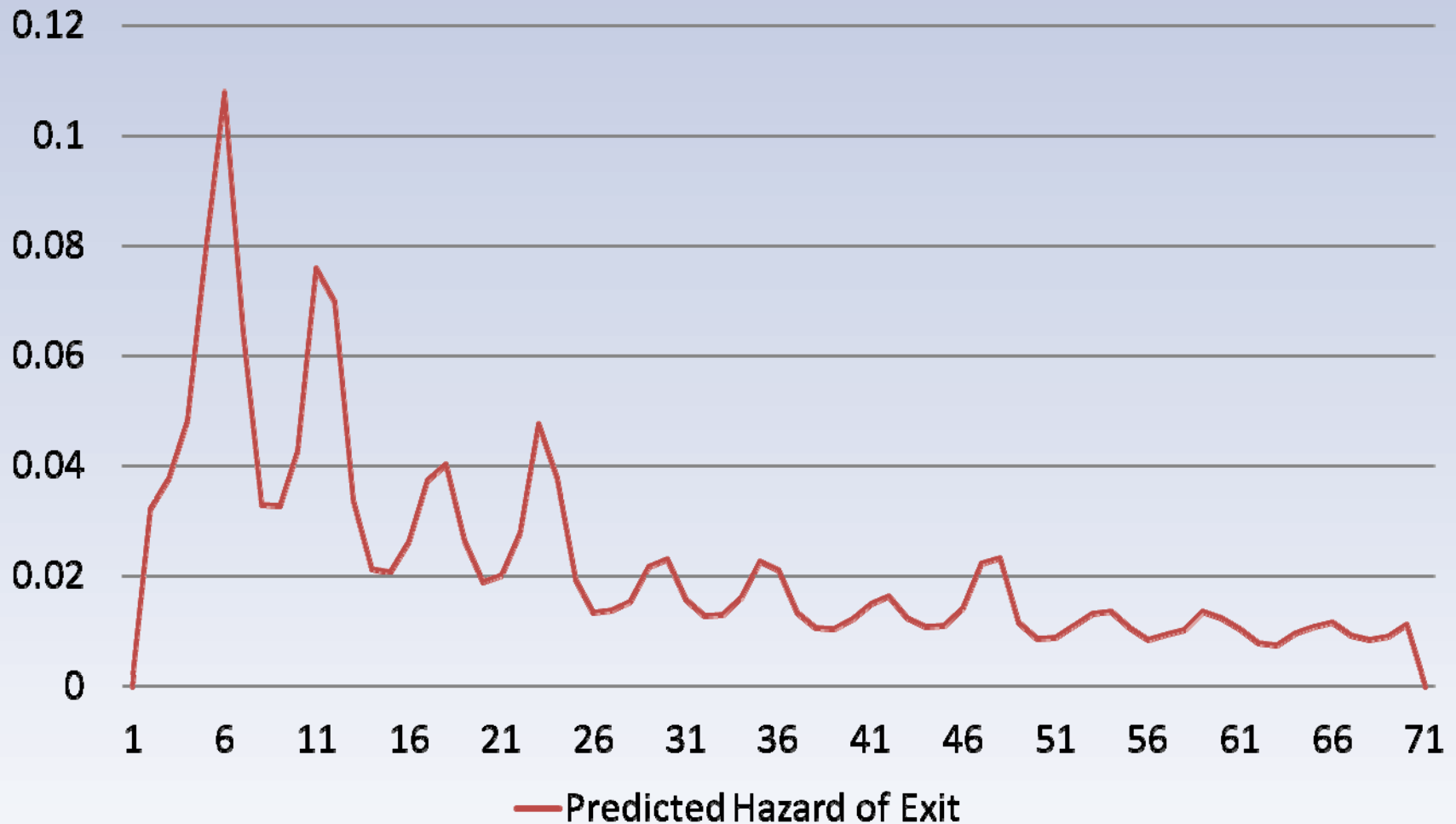


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# Predicted Exit Hazard by Spell Duration



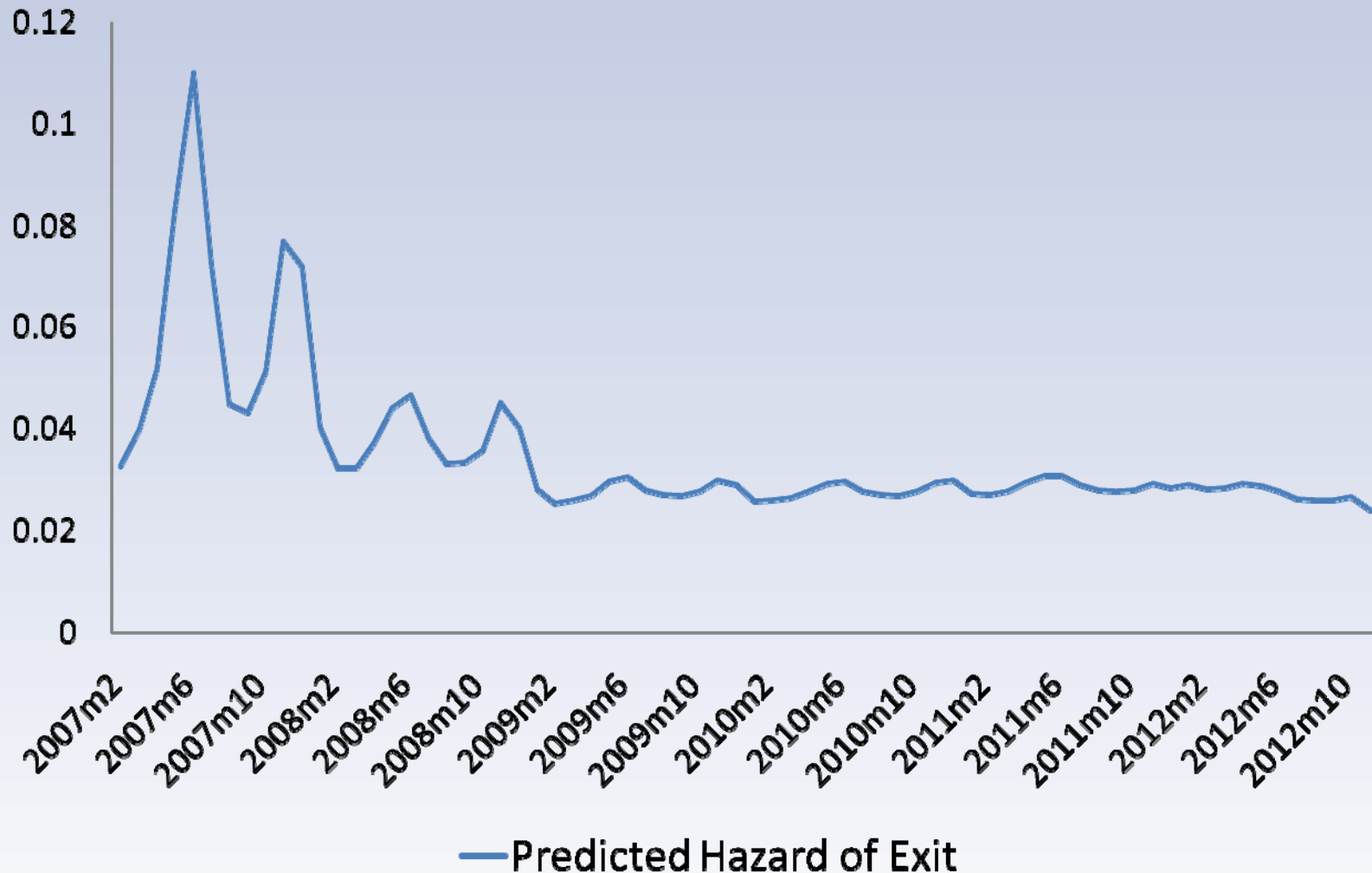
Source: NY SNAP Administrative Records, 2007-2012, BLS unemployment rates, and Census SAIGE variables



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# Predicted Exit Hazard by Date



Source: NY SNAP Administrative Records, 2007-2012, BLS unemployment rates, and Census SAIFE variables



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# Hazard Ratios of SNAP Exit

	Non-Left-Censored Spells		Left-Censored Spells	
	Est	S.E.	Est	S.E.
<b>Female</b>	0.825	0.002	0.885	0.004
<b>Age</b>	1.007	0.000	0.922	0.001
<b>Age squared</b>	1.000	0.000	1.001	0.000
<b># Children</b>	0.948	0.001	0.956	0.001
<b># Non-elderly</b>	1.111	0.001	1.211	0.003
<b># Elderly</b>	0.926	0.003	0.933	0.006

*Source:* NY SNAP Administrative Records, 2007-2012, BLS unemployment rates,

# Hazard Ratios of SNAP Exit, continued

	Non-left-censored spells		Left-censored spells	
	Est	S.E.	Est	S.E.
<b>ln(Benefit Amt)</b>	0.865	0.001	0.884	0.002
<b>%Δ ln(Benefit Amt)</b>	0.976	0.004	0.885	0.007
<b>ln(Unemployment Rate)</b>	0.697	0.008	0.836	0.019
<b>ln(% in Poverty)</b>	0.624	0.005	0.628	0.010
<b>TANF</b>	0.392	0.003	0.439	0.007
<b>Other Public Assistance</b>	0.703	0.003	0.810	0.008

Source: NY SNAP Administrative Records, 2007-2012, BLS unemployment rates, and Census SAIPE variables



# Conclusions

- Evidence of increased hazard of exit at 6 and 12 month re-certification intervals.
- County unemployment rates, poverty rates and median income associated with significantly lower hazard of exit.
- Negative income “shocks” (as proxied by change in benefit amount) are associated with a lower exit hazard.
- Additional non-elderly members increase the exit hazard
  - Additional children and elderly decrease it.



# Future Directions

- Investigate rate of out-of-state movers among SNAP participants
- Other data sources (e.g., housing data?)
- Other multivariate methods
  - Duration models with unobserved heterogeneity
  - Lagged dependent variable models
- Link to American Community Survey
- More States!



Thank You!  
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