Does the Economy Explain the Explosion in the SNAP Caseload?

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Outline

- ***Background: Policy and Literature***
- Methods and Data
- Results
- Discussion

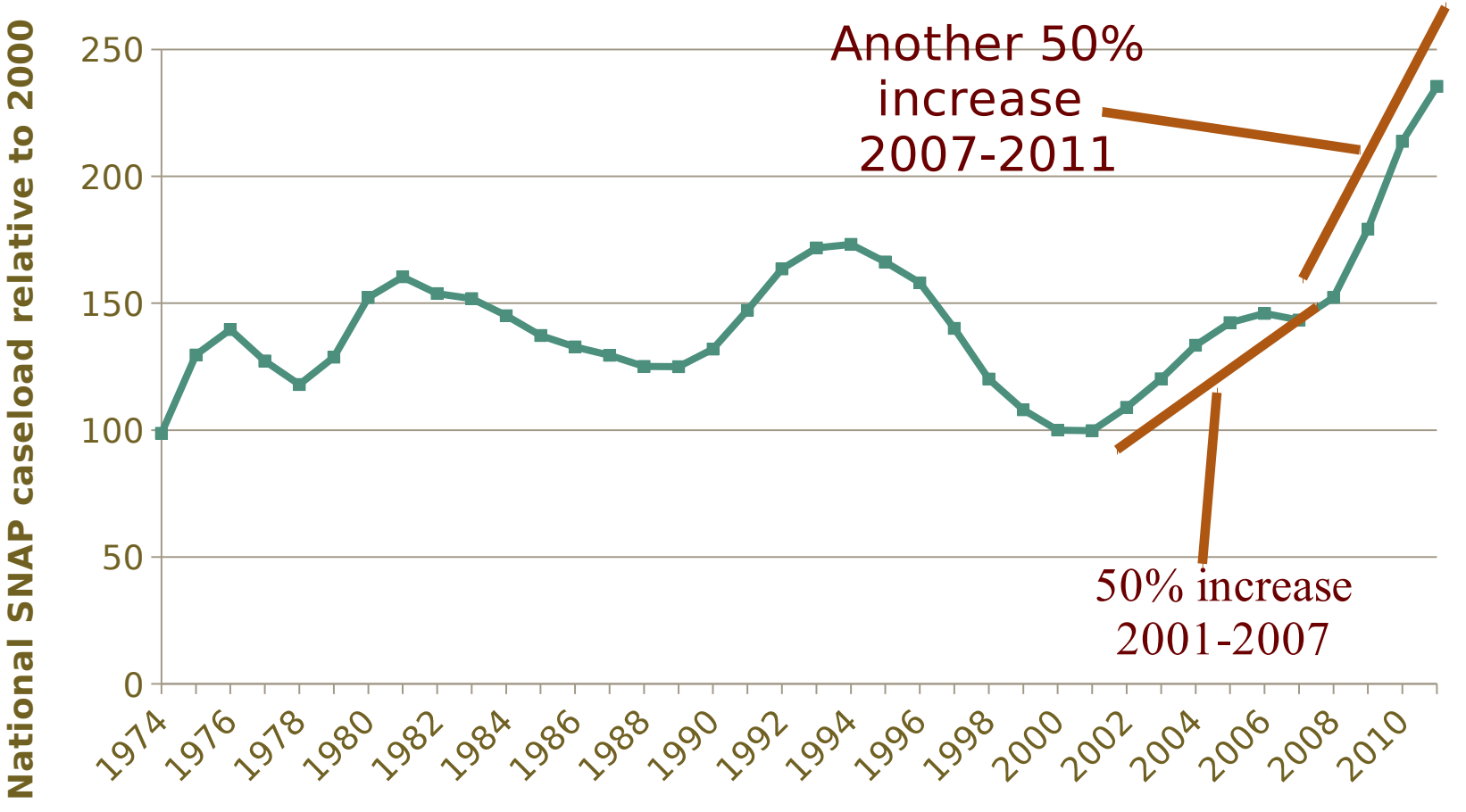
SNAP

- SNAP/Supplemental Nutrition Assistance Program
  - Nationwide since 1974
- Provides “near cash” for the purchase of groceries (and seeds) at approved retailers via EBT cards
- Broad targeting
  - Main restriction is income: 130% of FPL
  - Compared with other means-tested programs (e.g., EITC, welfare/TANF, Medicaid*), minimal family composition/age restrictions
- National average benefit: $133 monthly per recipient (FFY2012)

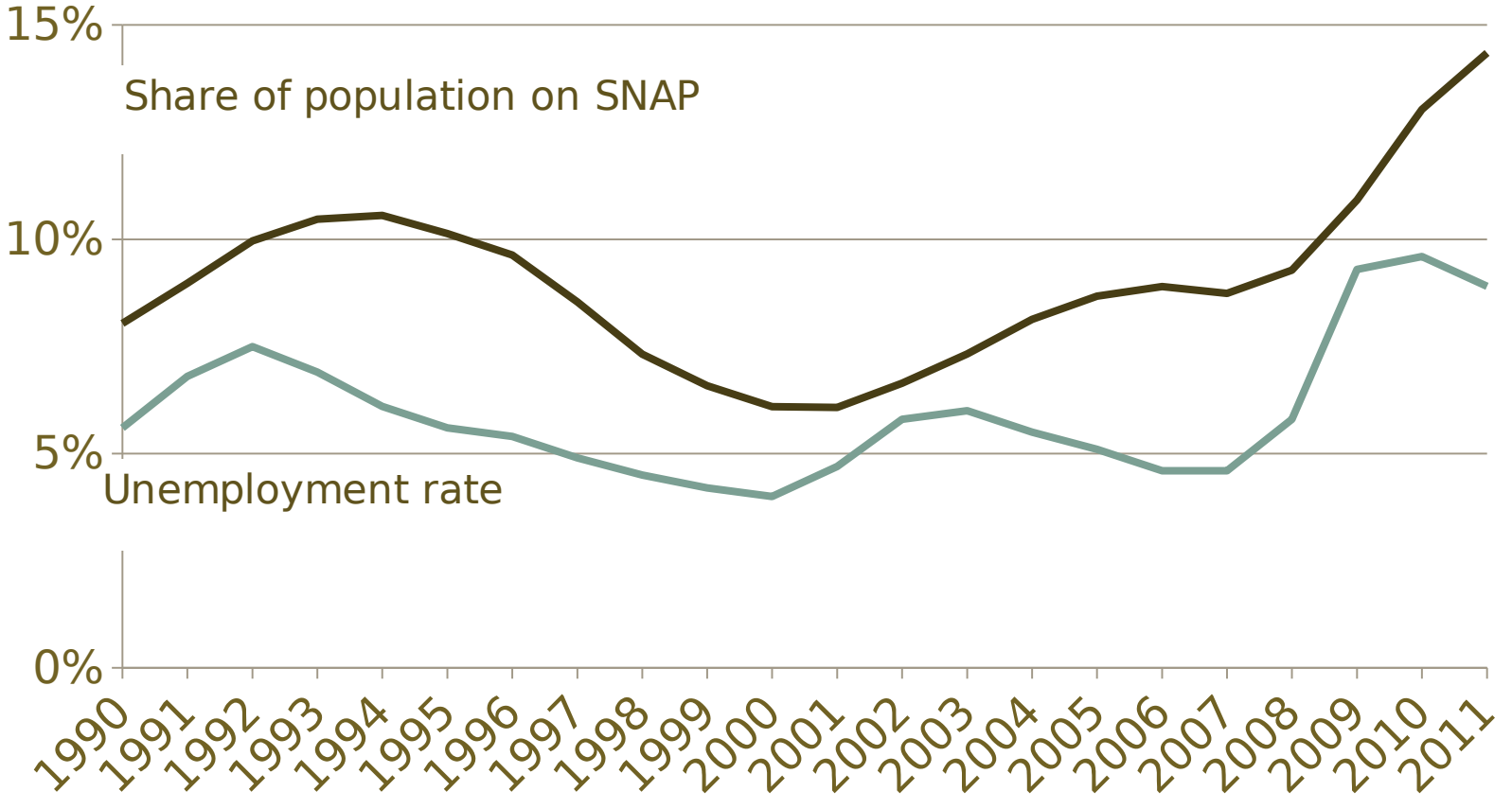
ntil January 2014 when roughly states will participate in the Medicaid expa

Caseload Grew Substantially, Both Before and During/After the Great Recession

Caseload Higher than at any Point in Program's History



For the Most Part, Strongly Related to the Economy



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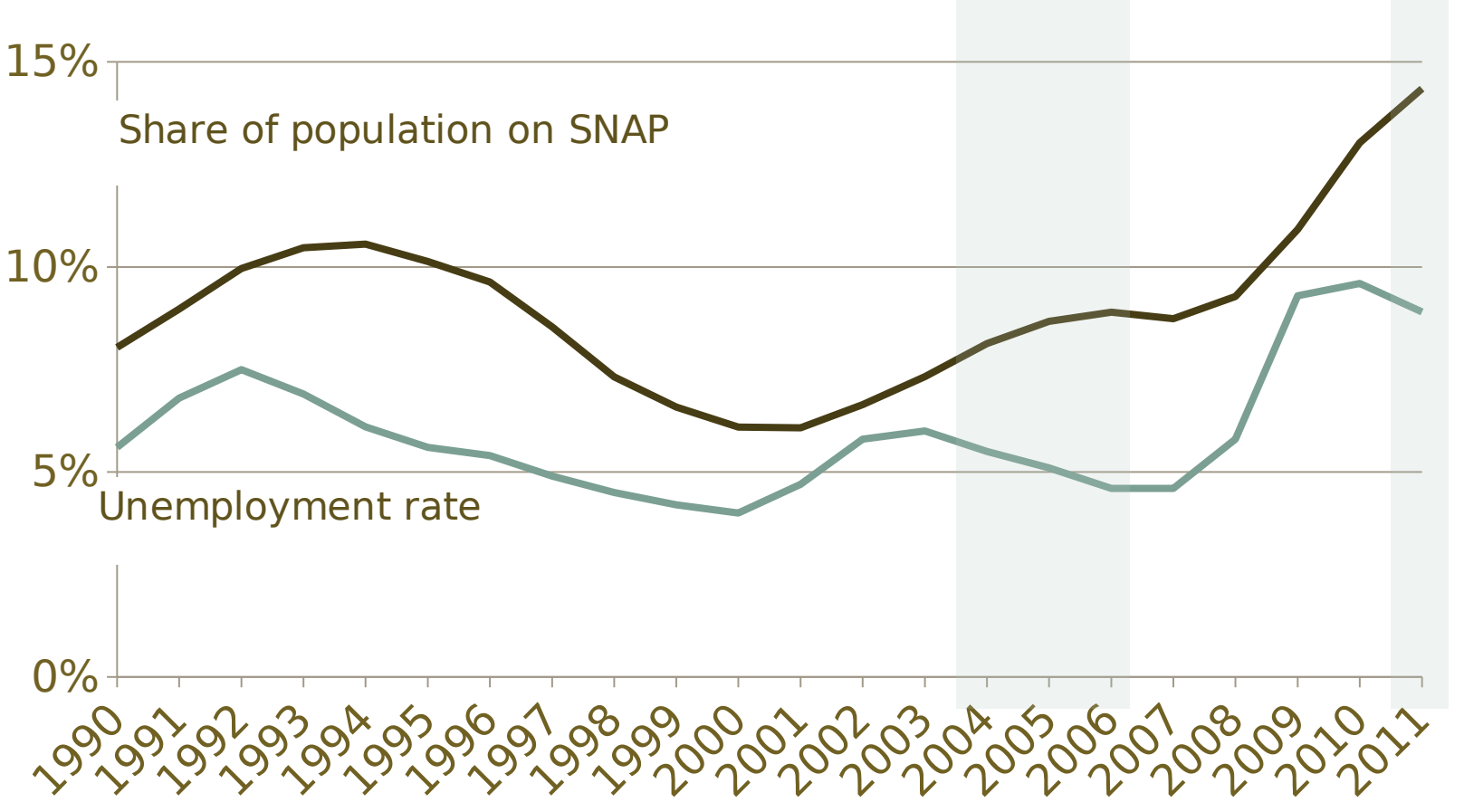

But not always!

“Soaring” SNAP Caseload in the News

The New York Times

SUNDAY, NOVEMBER 29, 2009

U.S. TO PRESSURE MORTGAGE FIRMS FOR LOAN RELIEF

OFFICIAL FAULTS BANKS

$75 Billion Federal Push to Stem Foreclosures Is Falling Short

Food Stamp Use Soars Across U.S., and Stig

The Literature

- Kabbani and Wilde (2003; *Journal of Human Resources*) using Food Stamp Program Quality Control (FSPQC)
- Hanratty (2006, *Journal of Policy Analysis and Management*) using Survey of Income and Program Participation (SIPP)
- Ratcliffe, McKernan, and Finegold (2009, *Social Services Quarterly*) using SIPP
- Mabli, Martin, Castner (2009, USDA ERS report), using Current Population Survey (CPS) and modeling take-up
- Klerman and Danielson (2011) using SNAP QC data to model per capita participation across demographic / earnings sub-groups

PPIC

This Paper

- In part updates Klerman and Danielson (2011)
- Three main contributions to understanding the sources of the large SNAP caseload increase
  - More recent data / through and beyond the Great Recession
  - Disaggregate to sub-state level / measure local labor markets
  - Disaggregate to sub-state level / relax the state-level difference-in-differences assumption of common national year-to-year shifts

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Data

- SNAP recipient counts: FNS National Data Bank
  - Reported by states at state level but also "program area" level (typically counties)
- Population: Census estimates
- Economy: BLS
  - Unemployment rate (local and state)
  - Employment (local and state)
- Policies (SNAP, TANF):
  - State-level
  - Update of our previous research (Danielson, Klerman, Andrews, and Krimm, 2011)

Equation 1: DiD Model, State Level

$$y_{s,t} = \log\left[\frac{M_{s,t}}{N_{s,t}}\right] = \alpha + Z_{s,t}\gamma + \mu_s + f(s,t,\tau) + \varepsilon_{s,t}$$

- Subscript *s*: state
- Covariates *Z* at state level: includes proxies for the economy and policies (SNAP, TANF)
- Fixed effects: state, year, month, state-specific linear trends
- *Strategy precludes measurement of national-level changes*

Equation 2: DiD Model, LMA Level

$$y_{c,s,t} = \log\left[\frac{M_{c,s,t}}{N_{c,s,t}}\right] = \alpha + X_{c,s,t}\beta + Z_{s,t}\gamma + \eta_c + f(c,t,\tau) + \varepsilon_{c,s,t}$$

- Subscript *c*: sub-state unit
  - Labor Market Area (LMA)
- Dependent variable, *y*, and covariates *X* at LMA level
- Covariates *Z* at state level
- Fixed effects: LMA, year, month, LMA-specific linear trends
- *Strategy precludes measurement of national-level changes*

Equation 2: DiDiD Model

$$y_{c,s,t} = \log\left[\frac{M_{c,s,t}}{N_{c,s,t}}\right] = \alpha + X_{c,s,t}\beta + \eta_c + f(c,s,t,\tau) + \varepsilon_{c,s,t}$$

- Subscripts, dependent variable, and covariates, as in Equation 2
- Changes to fixed effects
  - State <u>x</u> year (in place of state, year)
- *Strategy precludes measurement of national- or state-level changes*

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DiD Specification (Equation 1)

Level of aggregation of the dependent variable: States

	(1)	(2)	(3)	(4)
State level				
Unemployment rate	0.037 (0.004)***			0.014 (0.005)***
Employment/population		-3.461 (0.408)***	-2.730 (0.406)***	-2.018 (0.504)***
Retail employment/population			-7.659 (4.222)*	-7.544 (4.049)*
Food, accommodation emp/pop			-0.123 (2.327)	

Notes:
N=13,050
Robust standard errors (clustered on state) in parentheses
*** p<0.01, ** p<0.05, * p<0.1
F-test of joint significance p<0.05 or better, all columns

DiD Specification (Equation 2)

Level of aggregation of the dependent variable: LMAs

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
State level									
Unempl rate	0.043		0.036				0.033		0.032
	(0.005)***		(0.006)***				(0.008)***		(0.008)***
Employment/pop				-2.766		-1.925	-1.971		-1.217
				(0.456)***		(0.482)***	(0.341)***		(0.401)***
Retail emp/pop							8.201		9.844
							(7.665)		(7.674)
LMA level									
Unempl rate		0.019	0.007					0.012	0.001
		(0.003)***	(0.003)**					(0.004)***	(0.004)
Employment/pop					-1.370	-0.956		-1.040	-0.851
					(0.292)***	(0.302)***		(0.307)***	(0.332)**
Retail emp/pop								-1.121	-1.736
								(1.527)	(1.451)

Notes:
N=62,863
Robust standard errors (clustered on LMA) in parentheses
*** p<0.01, ** p<0.05, * p<0.1
F-test of joint significance p<0.05 or better, all columns

DiDiD Specification (Equation 3)

Contemporaneous and lagged models

	(1)	(2)
Specification:	**DDD**	**DDD**
LMA level		
Unemployment rate	0.0051	-0.0022
	(0.0026)*	(0.0024)
L12 unemployment rate	-	0.0068
	-	(0.0017)***
L24 unemployment rate	-	0.0077
	-	(0.002)***
Employment/population	-1.159	-0.806
	(0.279)***	(0.248)***
L12 Employment/population	-	-0.335
	-	(0.116)***
L24 Employment/population	-	-0.0165
	-	(0.129)

Notes:
N=62,863
Robust standard errors (clustered on LMA) in parentheses
*** p<0.01, ** p<0.05, * p<0.1
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Summary and Discussion

Innovation	***Finding***
• State-level proxies raised concern about mis-measurement of (truly sub-state) economic conditions • Solution: Measure economy at sub-state level	• Measurement error in sub-state proxies raises some questions about sub-state analysis • However, both state and LMA-level proxies robustly significant
• Omitted state *x* year factors bias estimates of the economy • Solution: DiDiD models (i.e., go to sub-state level and include state x year fixed effects)	• Accounting for these factors reduces estimates of the impact of the economy, but estimates remain significant
• Caseload adjusts sluggishly to changing economy • Solution: Include lagged	• Lagged estimates are significant, but long lags not supported

Next Steps

- "Equivalent" effects of economic proxies
  - Scale of employment to population ratio impacts similar to unemployment rate impacts?
- Simulations across specifications
  - How much of the 2000-2011 caseload increase is accounted for across models?