

The Effect of Safety Net Programs on Food Insecurity

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Motivation

- Food security is a key input into individual well-being
- Prior research suggests that (after controlling for selection) Federal nutrition programs reduce food insecurity
- Much less is known about how *non-food* safety net programs affect food insecurity
- Other safety net programs may also allow at-risk families to avoid food insecurity

Motivation II

- Safety net includes a number of different programs that interact with each other
 - Many families simultaneously receive benefits from multiple programs
 - Enrollment in some programs may facilitate SNAP enrollment
 - Participation in some programs crowds out food assistance
- Important to look at the effectiveness of the aggregate safety net
- Effects may depend on mix of cash- and non-cash benefits, and degree to which non-food transfers crowd out food-specific transfers

Research Questions

- What is the effect of a more generous aggregate safety net on low food security in low-income single-parent families?
- Does it matter whether benefits are in the form of food or cash?

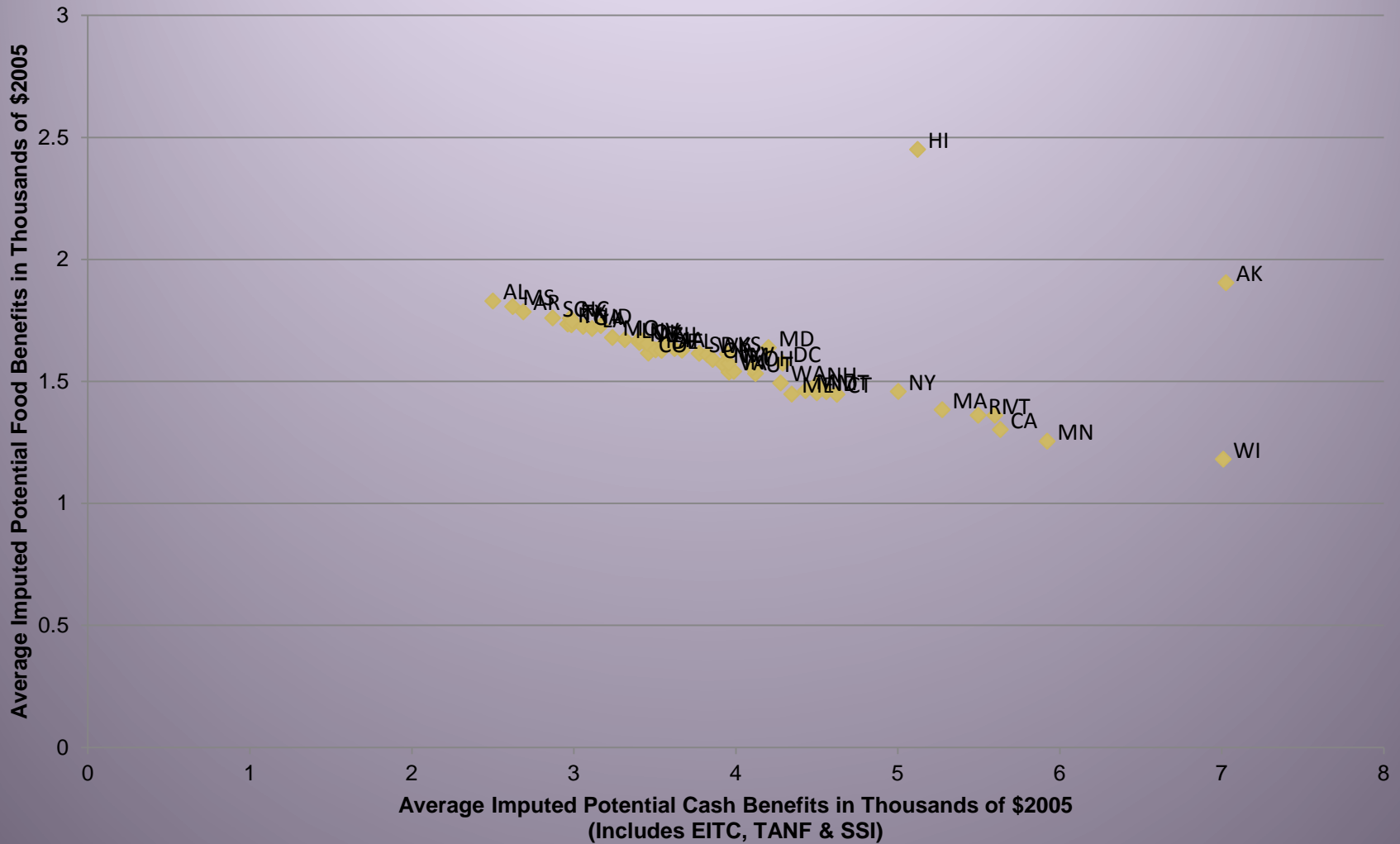
Preview of Findings

- Each \$1000 in potential benefits reduces LFS by 1.1 p.p. (on base of 33 percent)
- Food assistance reduces food insecurity, but no evidence of substantial differential effects of cash versus food benefits

Safety Net Programs We Consider

- Cash programs:
 - Temporary Assistance to Needy Families (TANF)
 - Supplemental Security Income (SSI)
 - Earned Income Tax Credit (EITC)
- Food programs:
 - Supplemental Nutrition Assistance Program (SNAP)
 - Supplemental Nutrition for Women, Infants, and Children (WIC)
 - National School Lunch Program
- Health program:
 - Medicaid/Children's Health Insurance Program

Figure 1. Cash vs. Food Imputed Potential Benefits For Representative Sample Using 2001 Policies



Multiple Program Participation March CPS

	Fraction With...	Any Family TANF Reptd.	Any Family SSI Reptd.	Any Family EITC Imputed	Any HH Food Asst. Reptd.	Any Family Medicaid Reptd.
Conditional On...						
Any Family TANF Reported		1.00	0.15	0.49	0.94	0.99
Any Family SSI Reported		0.24	1.00	0.33	0.82	0.96
Any Family EITC Imputed		0.07	0.03	1.00	0.53	0.49
Any Household Food Assistance Reported		0.17	0.09	0.67	1.00	0.72
Any Family Medicaid Reported		0.19	0.11	0.64	0.76	1.00
Unconditional		0.10	0.06	0.66	0.53	0.51

Data

- December Current Population Survey 2001-2009 Food Security Supplement (FSS)
- Focus on single-parent non-immigrant families <300% of the poverty line
- Supplement with earnings information from CPS Outgoing Rotation group data and multiple sources for policy parameters
- Primary sample N=28,194

Research Design

- We would like to estimate:

$$\begin{aligned} Insecurity_{icst} = & B_0 + B_1 benefit_{icst} + Xi_{cst} \propto \\ & + \theta_s + \gamma_t + \mu_{icst} \end{aligned}$$

Where *Insecurity* is an indicator of LFS status of family *i* in demographic cell *c* in state *s* in year *t*, *Benefit* is the dollar amount of safety net benefits, and *X* is a vector of controls

- BUT
 - (1) Benefits received and earnings are not observed in December CPS
 - (2) Factors that lead to benefit receipt also lead to LFS

SOLUTION: Use simulated benefit eligibility for a national sample subjected to policy rules in each state and year (Currie and Gruber 96)

Research Design (pt. 2)

1. Create multi-program eligibility and potential benefit calculator which incorporates cross-program eligibility effects for each state and year 2001-2009.

(FSS/ORG data → EITC → SSI → TANF →
Medicaid/CHIP → Food Assistance)

2. Use fixed nationally representative low-income sample (December 2001 CPS) to find the average imputed real potential benefit level for each demographic cell in the national sample for policies by state-year; these averages are the *Simulated Real Potential Benefits* defined by cell-state-year.

Research Design (pt.3)

3. Take the actual December CPS samples and subject them to the calculator. For each family in the sample find *Imputed Real Potential Benefits*.
4. Merge the *Simulated Real Potential Benefits* into the CPS by cell, state, and year.
5. Perform an IV regression examining LFS where *Simulated Real Potential Benefits* instrument for *Imputed Real Potential Benefits*.

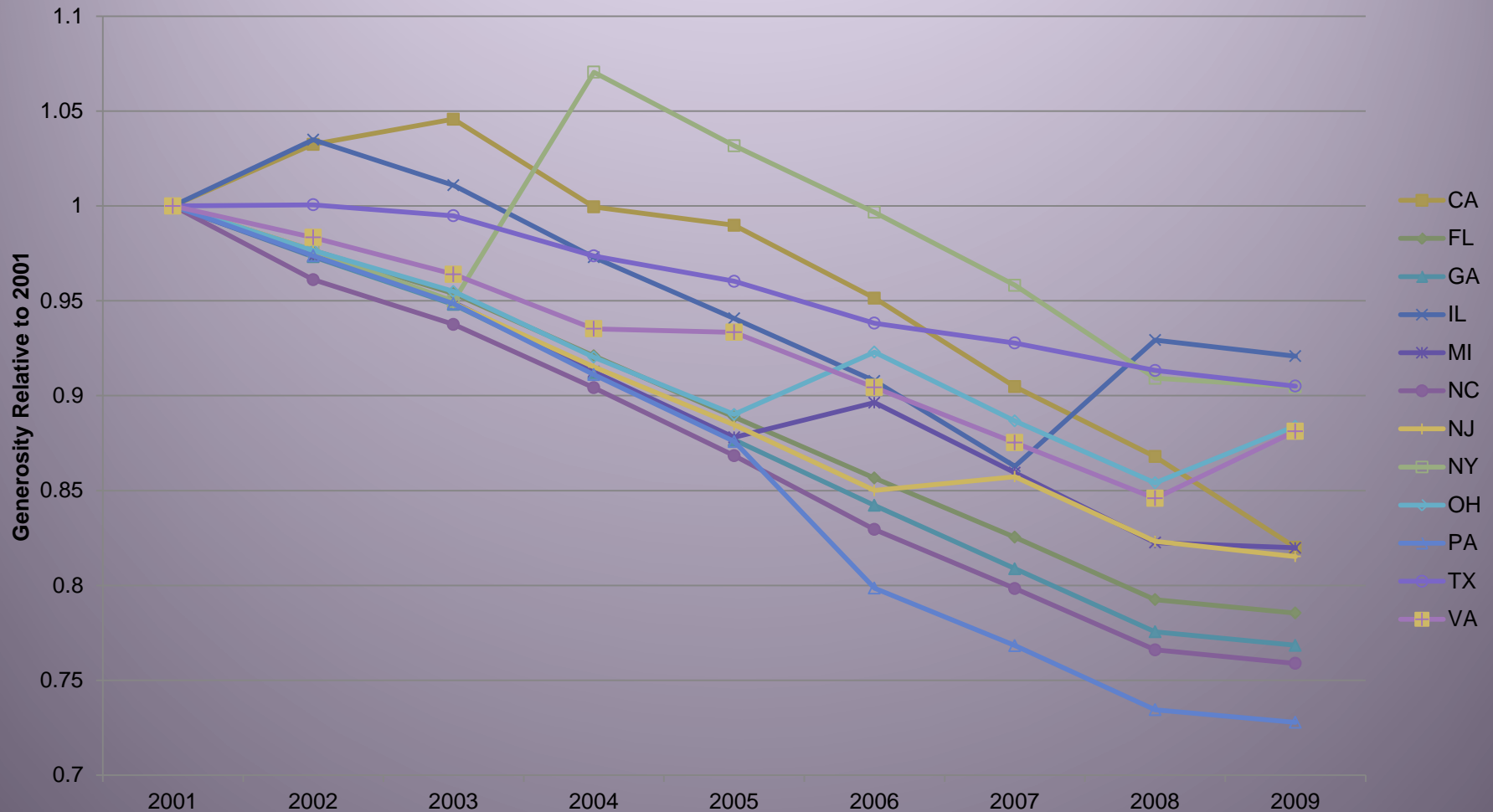
Sources of Variation

- State-Time-Demographic Cell variation in policy Generosity
- IV Strategy removes individual economic conditions as a source of bias
- Need to establish that there is policy variation after controlling for state and year

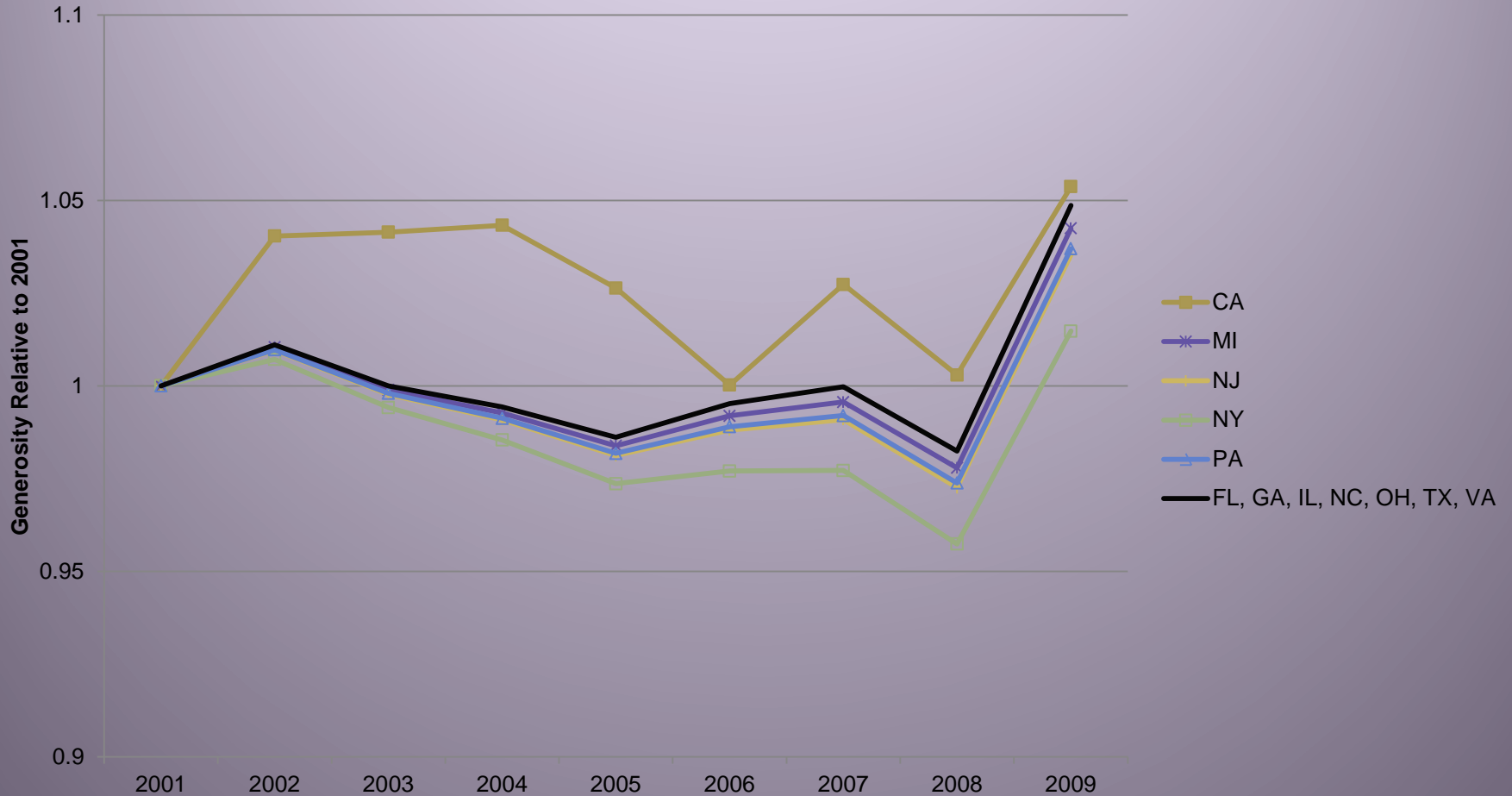
**Figure 3. Average Real Combined Potential Cash and Food Benefits Relative to 2001
Fixed Simulated National Sample
Twelve Largest States**



**Figure 4. Average Real Potential TANF Benefits
Relative to 2001**
Fixed Simulated National Sample
Twelve Largest States



**Figure 5. Average Real Potential SSI Benefits
Relative to 2001
Fixed Simulated National Sample
Twelve Largest States**



**Figure 6. Average Real Potential EITC Benefits
Relative to 2001
Fixed Simulated National Sample
Twelve Largest States**



**Figure 7. Average Real Potential Food Benefits
Relative to 2001
Fixed Simulated National Sample
Twelve Largest States**



Results: Impact of Potential Benefits on LFS

	OLS-LFS	IV-LFS	IV-LFS
Imputed Real Potential Benefits Cash & Food (000s)	0.007** (0.001)	-0.011* (0.005)	
Real Imputed Potential Cash Benefits (000s)			-0.011* (0.005)
Real Imputed Potential Food Benefits (000s)			-0.012 (0.011)
Family Medicaid Eligibility	0.078** (0.015)	0.100 (0.073)	0.102 (0.070)

All regressions include individual controls, unemployment, state and year fixed effects.

Magnitude of Estimated Impacts

- Moving from the 10th percentile state (KY) to the 90th percentile state (VT) raises predicted imputed *potential* benefits by about \$1500
- Additional \$1500 in potential cash & food benefits reduces LFS by 1.7 p.p. (on a base of 33 percent)
- Results insignificant for Medicaid and often wrong-signed
- No statistically significant differences between cash and food programs

Additional Analyses

- Results similar when examining participation (rather than potential benefits) using two-sample IV approach
- Results differ from using a “naïve” approach of considering programs one at a time
- We find effects of the safety net on sub-components of food insecurity scale, including those related to anxiety and to food deprivation
- No effect of safety net on food insecurity for low-income married families

Conclusion

- Safety net does reduce food insecurity
- Without expansions in the safety net during the Great Recession, the rate of LFS would have risen by 7.3 percentage points rather than the 6.9 percentage point increase actually observed.
- Either cash or food effective in promoting food security
- Important to consider multiple interacting programs