

# Conducting an Individual-Level Benefit-Cost Analysis: Evaluation of the Family Self-Sufficiency Program Interventions in Opportunity NYC's Work Rewards Demonstration

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OPPORTUNITY NYC | WORK REWARDS

## LEARNING FROM THE WORK REWARDS DEMONSTRATION

Final Results from the  
Family Self-Sufficiency Study  
in New York City

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# Overview

- Benefit-cost analysis of enhanced and regular FSS programs in the Opportunity NYC—Work Rewards demonstration
- Analysis methods
  - Impact estimates from 3 arm randomized control trial
  - Individual-level estimation of benefits and costs
- Evaluated versions of FSS
  - Enhanced model (FSS+incentives) provided cash payments for achieving education and employment milestones
  - Regular model (FSS-only) a traditional FSS program delivered by community based organizations in NYC
  - Control group had access to traditional program, but was not encouraged to participate in it
- Analysis results
  - Starkly different results for working, nonworking subgroups
  - Individual-level benefit-cost analysis is feasible, valuable

# Analysis Methods

- Randomized control trial
  - Assignment in January 2008-January 2009
  - Sample of 1,608 households divided among 3 groups
  - 6 years of follow-up with program, UI, housing, TANF and SNAP data, 42 months with a survey
- Benefit-cost analysis
  - Familiar analysis framework using perspectives of families (participants), government (taxpayers), and general public (society)
  - Valuation of each outcome for each sample member in the 3 groups
  - Estimation of benefits, costs, and net present value as impacts using standard regression models
    - Observed outcomes
    - Extrapolated outcomes
  - Use of statistical tests and subgroup analysis, estimation of confidence bounds

# Evaluated Investments

- Low-participation, light-touch FSS program
  - Limited FSS treatment received by the control group amounts to a weak FSS benchmark against which to measure larger investments
  - Cost of about \$600 per control group member
  - Case management as needed, most employment and training services from community college, FSS escrow disbursements about 25% of what regular program participants received
- Traditional FSS program with community-based delivery
  - Cost of about \$3,600 per program group member.
  - Participation voluntary, not mandatory
  - Need-based case management, employment and training services from CBOs and community college
  - Traditional program with roughly average participation and cost
- Enhanced FSS program
  - Cost of about \$6,700 per program group member
  - Same as traditional program except for rewards payments, which increased participation modestly

# Estimating Individual-Level Benefits and Costs

- Individually measured and monetized outcomes
- Outcomes measured in dollars
  - Earnings, housing subsidy, TANF, SNAP, escrow costs
  - Outcome values converted to base-year dollars
- Outcomes not measured in dollars
  - Fringe benefits: Estimation based on earnings, fringe benefit rate for employees with comparable earnings
  - Tax payments and credits: Individual-level estimates based on earnings, other income, family status, and pertinent tax rules
  - Public assistance administrative costs: Estimation based on housing subsidy, TANF and SNAP receipt, and administrative cost data
  - Operating costs: Estimation based on sample member's length of program participation, service use, and pertinent unit costs (organization used by the sample member)

# Results of the Benefit-Cost Analysis

- Investment in a traditional FSS program (FSS-only)
  - Cost about \$3,000 more than minimal (control) FSS program
  - Earnings plus fringe benefits gain during 6-year follow-up nearly equal to net cost, and there is modest additional gain in years 7-10
  - Small reduction in public assistance, but estimated increases in tax credits and housing subsidy
  - Net value to families, smaller net loss to taxpayers, so small social gain
  - **Nonworking subgroup:** Most of the self-sufficiency improvement and net value are attributable this subgroup. ***The net value of FSS is positive from all perspectives and NPV for society is nearly \$8,000.***
- Enhanced FSS program (FSS+Incentives)
  - Cost of about \$3,700 more than traditional (FSS-only) program
  - No earnings and benefits gain attributable to special incentives
  - Incentives have no net value to families, taxpayers, or society
  - **Nonworking subgroup:** The incentives boost earnings, but not significantly. ***The net value of FSS to families is increased, but the net value to taxpayers is reduced.***

# Results of the Benefit-Cost Analysis

## Ten-Year Results for the FSS-Only Program by Accounting Perspective (in 2016 Dollars), Head of Household Not Working at the Time of Random Assignment

	Families		Taxpayers		Society	
	Point Est	90% Confidence Interval	Point Est	90% Confidence Interval	Point Est	90% Confidence Interval
Household earnings	8,320	-2,766 to 19,406	0	--	8,320	-2,766 to 19,406
Fringe benefits	244	-81 to 568	0	--	244	-81 to 568
Tax payments	-1,539	--	2,114	-1,246 to 5,475	575	-2,785 to 3,935
Tax credits	769	-1,053 to 2,590	-769	-2,590 to 1,053	0	--
TANF/SNA payments	-2,185	-5,035 to 665	2,185	-665 to 5,035	0	--
Food stamps (SNAP)	-1,190	-3,437 to 1,056	1,190	-1,056 to 3,437	0	--
Housing subsidy	204	-5,750 to 6,158	-204	-6,158 to 5,750	0	--
Public assistance admin	0	--	402	-443 to 1,247	402	-443 to 1,247
FSS escrow	610	65 to 1,155	-610	-1,155 to -65	0	--
Operating costs	0	--	-2,595	-3,064 to -2,127	2,595	-3,064 to -2,127

# Results of the Benefit-Cost Analysis

**Table 6.7**  
**Estimated Net Value (in 2016 Dollars)**

Statistic	FSS-Only vs. Control			FSS+Incentives vs. Control		
	Program Group	Budget	Social	Program Group	Budget	Social
<b><u>Core sample</u></b>						
6-year point estimate	5,269	-4,559	710	1,408	-3,303	-1,895
P-value	0.149	0.063	0.857	0.703	0.182	0.634
90% confidence bounds	-733 to 11,272	-8,587 to -532	-5,774 to 7,194	-4,656 to 7,473	-7,372 to 766	-8,446 to 4,656
75% confidence bounds	1,071 to 9,468	-7,376 to -1,743	-3,825 to 5,245	-2,833 to 5,650	-6,149 to -458	-6,476 to 2,686
10-year point estimate	6,621	-4,570	2,051	-773	-1,780	-2,553
P-value	0.259	0.280	0.752	0.896	0.677	0.697
90% confidence bounds	-3,019 to 16,261	-11,529 to 2,389	-8,623 to 12,725	-10,512 to 8,965	-8,810 to 5,250	-13,337 to 8,230
75% confidence bounds	-121 to 13,363	-9,436 to 297	-5,414 to 9,516	-7,584 to 6,038	-6,697 to 3,137	-10,095 to 4,988
20% decay rate	6,168	-4,631	1,536	1,118	-2,300	-1,182
OLS based on last 4 qtrs.	5,171	-8,415	-3,244	-5,944	-5,355	-11,299
OLS based on all 6 yrs.	6,538	-3,290	3,248	-1,430	417	-1,014
<b><u>Nonworking subgroup</u></b>						
6-year point estimate	5,167	-787	4,380	8,647	-2,445	6,202
P-value	0.278	0.815	0.371	0.069	0.467	0.204
90% confidence bounds	-2,669 to 13,003	-6,329 to 4,754	-3,666 to 12,425	825 to 16,469	-7,977 to 3,087	-1,830 to 14,233
75% confidence bounds	-313 to 10,647	-4,663 to 3,088	-1,247 to 10,007	3,177 to 14,117	-6,314 to 1,424	585 to 11,819
10-year point estimate	6,192	1,712	7,904	9,650	-364	9,286
P-value	0.428	0.772	0.332	0.217	0.951	0.254
90% confidence bounds	-6,663 to 19,047	-7,992 to 11,416	-5,489 to 21,296	-3,183 to 22,482	-10,051 to 9,323	-4,083 to 22,655
75% confidence bounds	-2,799 to 15,182	-5,075 to 8,498	-1,463 to 17,270	675 to 18,624	-7,138 to 6,411	-64 to 18,636
20% decay rate	6,241	492	6,733	11,921	-1,437	10,484
OLS based on last 4 qtrs.	8,380	3,158	11,538	4,423	-360	4,063
OLS based on all 6 yrs.	6,044	2,160	8,204	7,890	1,668	9,558

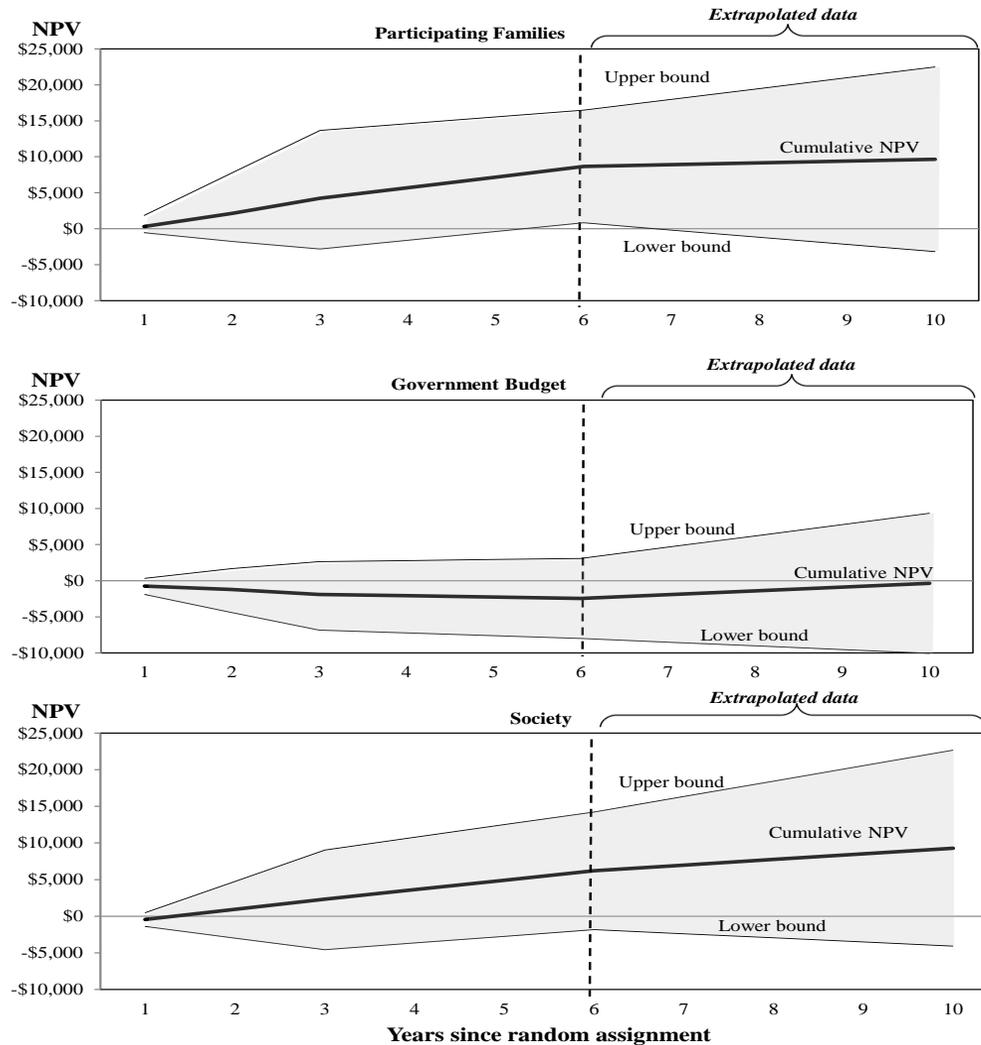
NOTES: Estimates reflect discounting and adjustment for inflation. Estimates were regression-adjusted using ordinary least squares (OLS), controlling for pre-random assignment characteristics of sample members.

Rounding may cause slight discrepancies in calculating sums and differences.

# Results of the Benefit-Cost Analysis

**Figure 6.2**

**Ten-Year Cumulative Net Present Values (NPVs): FSS+Incentives, Head of Household Not Working at the Time of Random Assignment**



NOTE: The shaded area represents the 90 percent confidence interval.

## Results of the Benefit-Cost Analysis

Based on a rigorous analysis in a single site (albeit an important one), here are the public investment conclusions:

- **Investing to turn 'minimal' FSS programs into 'typical' programs.** We can expect an increase in participation across all families and self-sufficiency impacts that easily justify the investment for nonworking families. But the investment in working families will not work out well.
- **Enhancing FSS programs using incentive payments.** We can expect modestly increased participation and earnings from nonworking families only, but not enough to justify the investment. Incentive payments have zero net value for working families.
- **FSS needs to experiment with other program changes.** Neither the traditional program model nor the incentives appear to be good investments for working families. Need ideas are needed to help increase the self-sufficiency of families whose heads are already working.

# Results of the Benefit-Cost Analysis

Thoughts on the benefit-cost analysis:

- **Value to an evaluation of FSS.** FSS has multiple costs and impacts, making a systematic economic assessment especially useful. FSS policymakers will find the results of an analysis helpful in developing an overall self-sufficiency narrative.
- **Follow-up and extrapolation.** Six years of follow-up is not enough in FSS. FSS is a 5-year program that can be extended to 7 years, and post-program evidence is critical. Individualized extrapolation arguably pulls together the best evidence in the absence of longer follow-up..
- **Individual-level benefit and cost estimation is feasible and valuable for programs like FSS.** There are additional data requirements, but they are manageable. Some types of programs are harder to evaluate in this way.