

Effectiveness of Food Voucher Program (FVP): A Field Experiment Approach in South Korea



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Abstract

The Korean government implements various projects to support low-income households, but it is questioning that such projects effectively improve diet and nutrition of the group. As cash support scheme, a typical assistance scheme in South Korea, does not guarantee recipients to increase their expenditure on food (diverted to other purposes), the need for a food voucher program has been consistently raised by policymakers. A new food assistance program, the Food Voucher Program (FVP), has recently been designed and a pilot program are being conducted during the 4th quarter of 2018. The pilot program is running for 2 months for 2,757 recipients in two regions. This study investigates the changes in food expenditure and basket composition of low-income households participating in a pilot food voucher program and identifies the most effective program design using a unique administration data obtained from the pilot program. We preliminarily found that the pilot FVP has increased food expenditure effectively for low-income households, and the impact was greater for the EBT card recipients compared to paper coupon recipients. Moreover, the quality of food consumption measured by basket composition and variety of food purchased has also improved by the pilot program.

Motivation

[Food Assistance Programs of Korea]

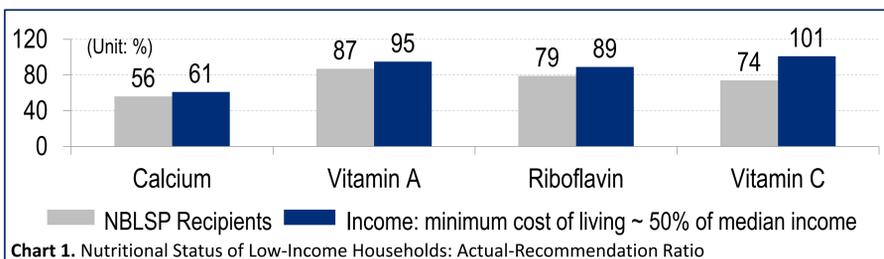
- Through complete survey for central and local governments by sending official documents, budgets for food assistance programs of Korea were calculated.
- A total of \$1,767 million was spent of food assistance programs in 2016. This is just 1.71% of budgets for U.S. food assistance programs. About 80% of them provided cash support through the National Basic Livelihood Security Program (NBLSP), while only 16% supported in-kind and 4% provided price subsidies.

Table 1. Budget for Food Assistance Programs of Korea, 2016

	Budget (US \$)	Ratio (%)	Ratio of Funding Source (%)		
			Central Government	Municipal Government	Local Government
Cash Support	1,422,012,531	80.5	81.0	11.8	7.2
In-kind Support	280,123,462	15.9	5.7	46.6	47.7
Price Support	64,607,059	3.7	86.0	6.5	7.5
Total	1,766,743,052	100.0	69.3	17.1	13.6

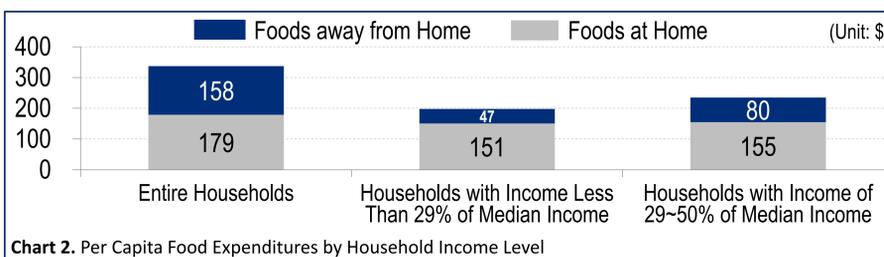
[Nutritional Status of Low-Income Households]

- Calories, calcium, vitamin A, riboflavin, and vitamin C intakes are significantly lower than recommended levels for low-income households especially for the group with income less than 30% of median income.



[Food Expenditure]

- Food expenditure per capita is lower for low-income households by about \$139 especially for households with income less than 29% of median income.
- This difference is even bigger for expenditure on foods away from home.



[Impact of Food Assistance on Expenditures: Treatment Effect Model]

- It is highly likely that considerable amount of food assistance supported in the form of NBLSP is spent to purchase non-food items. Compared to non-recipients of NBLSP, NBLSP recipients spend less money on food by about \$8 per month, while they spend more money on utility, clothing/furniture and education.

$$y_i = \alpha_0 + \alpha_T T_i + Z_i' \theta + \epsilon_i$$

Table 2. Impact of Cash Assistance (NBLSP) on Expenditure for Low-Income Households

	Food	Utility	Clothing/Furniture	Medicare	Edu-cation	Transportation/Phone/Entertainment
Treatment Effect	-0.8442 *	+2.5931 ***	+1.8568 ***	-4.1339 ***	+2.0767 ***	1.6746

Note : *** p < .01, ** p < .05, * p < .1

Data : 2011~15 Korea Welfare Panel Study

Experiment Design, Data and Methods

[Experiment Design]

- Two administrative districts were selected for the pilot FVP through inviting public participation: Chuncheon (urban area) and Wanju (rural area).
- Approximately 800 low-income households were registered for the pilot FVP for each district, and they were randomly divided into four groups by type of support: no support (control group), cash support, in-kind support using paper coupon, and in-kind support using electronic benefit transfer (EBT) card.
- The amount of support per month was decided differently by household size: \$27.3 for 1-person households, \$38.2 for 2-persons households, \$47.3 for 3-persons households, and \$54.5 for more than 4-persons households.
- The pilot FVP was run for two months beginning October 1, 2018. FVP recipients were allowed to purchase only four food categories (grain, fruit, vegetable, and milk) from a limited set of pre-determined supermarkets.
- Dietary education material was provided to the pilot FVP participants.

Table 2. Pilot FVP Participants

	number of participants: # of households (# of individuals)		
	Chuncheon	Wanju	Total
No Support	192 (329)	192 (385)	384 (714)
Cash Support	192 (314)	191 (321)	383 (635)
In-Kind (Paper)	192 (354)	191 (342)	383 (696)
In-Kind (EBT)	191 (333)	191 (379)	382 (712)
Total	767 (1,330)	765 (1,427)	382 (2,757)

[Data and Methods]

- To identify treatment effect of the pilot FVP, food consumption was observed for the month preceding the first month of the pilot FVP. FVP participants were asked to keep a housekeeping book for three consecutive months (one month before the FVP, and two months during the FVP).
- In order to figure out satisfaction with the pilot FVP and its qualitative impacts, three surveys were prepared: baseline survey (Sep., 2018), mid-term evaluation survey (Oct., 2018), and end-line survey (Dec., 2018).
- Data collected from surveys as well as housekeeping book were analyzed based on difference-in-difference framework and using various statistical techniques.



Figure 1. EBT Card Used for the Pilot FVP Figure 2. Paper Coupon Used for the Pilot FVP Figure 3. Dietary Education Material

Preliminary Results and Discussions

Data are being collected, so these results are preliminary!

- The pilot FVP has increased food expenditure of low-income households significantly. For paper coupon recipients who spent \$136.2 before the program increased food consumption by \$25.2 (18%).
- This change is even greater for EBT card recipients. They increased food consumption by \$47.8 (38%).
- Quality of consumption measured by variety and composition is also improved.

Table 3. Change in Food Expenditure: Before and After the Pilot FVP

(Unit: \$)	Before FVP	After FVP	Before-After Difference	Average Amount of Assistance	Rate of Increase
Paper Coupon	136.2	161.3	25.2	30.8	18%
EBT Card	127.1	174.9	47.8	34.1	38%

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