Assessing the Role of Auto Consumption in Rural Households’ Food Security in Developing Countries: Evidence from Mexico

Miriam Juárez-Torres,
Banco de México
mjuarez@banxico.org.mx

Assessing the Role of Auto Consumption in Rural Households’ Food Security in Developing Countries: Evidence from Mexico

Miriam Juarez-Torres¹

¹General Directorate of Economic Research at Banco de Mexico, Banco de Mexico, 06059, Mexico City.

Introduction
- Auto-consumption is a frequent practice in developing countries. In 2013, about 20% of the rural Mexican households performed food auto-consumption derived from farming activities (mainly grains, eggs, milk, poultry and swine).
- For some categories of food, auto-consumption provides an important share of nutrients, specially for the poorest households. For this reason, rural households that perform auto-consumption show lower levels of nutrition deficits during price shocks.
- The objective of this paper is to assess the role of auto-consumption in households’ food security

The Avian Flu Outbreak and the Auto-consumption
- We exploit the exogenous variation in nutrient consumption from the avian flu outbreak on late June, 2012 that affected egg production in five states in Central Mexico.
- This disease is characterized by its rapid spread through major areas which generates important economic losses because its control requires slaughtering the birds. Thus, because of fear of contagion, households located in the affected areas would avoid auto-consumption to deal with the increments of egg prices.
- In particular, states in the southeast closed their frontiers to poultry and eggs.

The Model
- We estimate the reduced form effects of the avian flu outbreak on the nutrient intake given restrictions for rural households to perform egg auto-consumption in infected states.

\[ Y_{it} = \alpha + t_t + \gamma D_S + \mu D_S A_{it} + \chi \beta + \varepsilon_{ist} \]

Where \( Y_{it} \) is the nutrient (either energy or protein) intake of household in period t; \( t_t \) is a time dummy for the quarter of the observation; \( D_{it} \) is the interaction of 2 dummies that identifies households in non-infected states that perform egg auto-consumption; \( \chi \beta \) is a set of socioeconomic characteristics.

- As a control group, we use the households located in non-affected areas that effectively can perform egg auto-consumption as a strategy to deal with price increases at the local level.

Data and analytical issues
- We use data from the 2012 and 2013 National Surveys of Household Expenditure from the National Institute of Statistics and Geography (INEGI)
- We selected households from 2 states of the central Mexico and 2 from southeast region.
- We employed information at the household level for the consumption of 192 food and beverages items and we calculate their nutritional content for two periods: before the avian flu outbreak (2012) and after before (2013).

Results
Table 1 shows that households that perform auto-consumption in non-infected states increase their energy and protein intake in comparison to households in infected areas that no can perform auto-consumption.

| Source: Own estimations using ENGASTO data. |

Conclusions
- Auto-consumption if a important strategy for rural households to meet their dietary requirements in presence of price shocks.