Determinants of Rural Food Security in Iran: A VEC Model

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Abstract

This paper investigates the effect of fuel subsidy, income and area under wheat production on rural food security. Wheat is the most important crop in Iran cultivated on 38 % of arable land. Wheat products contribute with more than 1400 Cal per capita per day to Iranian dietary energy intake. Since the revolution of 1979, self-sufficiency in wheat production has been the major strategic Iranian agricultural policy. Although total arable land has decreased slightly, productivity and the area under wheat production have increased in the last two decades. We used the Aggregate Household Food Security Index (AHFSI) to measure rural food security using time series data of food consumption for the period of 1988 to 2009. A Vector Error Correction (VEC) model with one lag and two cointegrating equations is employed to estimate food security effects of income, fuel subsidy and area under wheat production. Area under irrigated and rainfed wheat is considered separately. Results showed that in the short run, income and area under irrigated wheat has a positive effect on rural food security. However, fuel subsidy and area under rainfed wheat has no significant effect. In the long run, area under irrigated wheat, rainfed wheat and income has a positive effect on rural food security. Fuel subsidy shows a miniscule negative effect. We conclude that in the short run fuel subsidy as an input subsidy is not in favour of producers (rural people) and in the long run has even a negative effect on food security. Despite concerns about economic efficiency of self-sufficiency policy in wheat production, it has contributed to enhancing rural food security. We suggest a comprehensive and simultaneous policy that includes transition from rainfed to irrigated wheat cultivation, reforming the current fuel subsidy regime and increasing rural income.

Keywords: Iran, food security, vector error correction model, wheat

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