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ABSTRACTS

Effects of Government Protections in Agricultural Sector on Food Security of Urban Households in Iran

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Government protection policies in agricultural sector, inflation and productivity influence on food security. In this paper, food security of urban household is investigated applying AHFSI (Aggregate Household Food Security Index) to expenditure-income urban households' data during 1983 to 2006. Support volume in agricultural sector is calculated by AMS (Aggregate Measurement of Support) for inputs and price protections separately. Effects of agricultural protections policies on food security arrangement are investigated by vector error correction model (VECM). Result indicated that both of protections in agricultural sector in short-run, and price protection in long-run, have negative effects on urban household food security. Input protection in long-run has positive effect on urban household food security.

JEL Classification: B22, Q18

Keywords: Agricultural protection policies, AHFSI (aggregate household food security index), AMS (aggregate measurement of support), Iran

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**An Investigation of the Effective Factors on Trade Flows
between Iran and EU (the case study: Agricultural Sector)**

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In this research, determinant and effective factors on agricultural trade flows between Iran and EU were studied with emphasis on trade cooperation agreement. For this purpose, export and import static and dynamic gravity models of agricultural products of Iran and EU were estimated applying fixed and random effects models to panel data. Based on the findings of export static gravity model for Iran agricultural products to EU with fixed effects, GDP variables of exporter and importer countries, geographical distance, real exchange rate and mean of tariff rate to Iranian agricultural export met our expectations. Mean of tariff coefficient was found to be 1.78 and showed that agricultural exports can be increased to 17.8% with 10% reduction of tariff based on the trade and cooperation agreement. Besides, the results of individual effects estimation in export gravity model clarified that without considering the other factors, largest rate of Iran agricultural export would be to Germany, UK, Italy, France and Spain. Moreover, the results of import gravity model conspicuously showed that GDP, EU countries GDP, geographical distance, and real exchange rate have significant effects on imports of agricultural products from EU. Individual coefficient effects showed that the maximum agricultural product imports happen to Germany, France, UK and Spain.

JEL Classification: Q17

Keywords: *Gravity model, panel data, bilateral trade, regionalism*

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Measuring Willingness of Farmers to Pay for Groundwater in Ramjerd District: Application of Contingent Valuation Method

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In many plains of Fars province, both free distribution and under pricing of irrigation water have led to inefficient use and misallocation of the scarce water resource. In such situation, water pricing is a policy instrument for improving water efficiency, reducing water demand, management of the irrigation systems and recovering costs. The underlying principle of water pricing is that it should reflect the opportunity cost of water. Thus, from the viewpoint of economic efficiency, water price should relate to the opportunity cost, but from the viewpoint of feasible revenue collection, water price depends highly on farmers' willingness to pay (WTP) for water. In this study, Contingent Valuation Method was used to estimate the willingness of farmers to pay for the groundwater. Required data were obtained from a random sample of 190 farmers in Ramjerd Plain using Stratified Random Sampling. Based on the result obtained through CVM, the overall mean of WTP was 947 Rials/m³ and the WTP of farmers who use groundwater and surface water conjunctively was less than the WTP of farmers who use only groundwater. It was recognized that the crop pattern, area under cultivation of rice, farmers' income, age and land fragmentation to be significant factors influencing farmers' WTP.

JEL Classification: C13, C14, Q25, Q28

Keywords: Water pricing, willingness to pay, contingent valuation method

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Application of Game Theory in Determination of Optimal Groundwater Extraction in Taybad Plain

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Overexploitation of groundwater in Taybad plain in order to increase yield of crops and farmer's net benefit, has resulted in continuous decline of water level, negative balance of groundwater and severe increase of resource deficit, undesirable water quality. These factors reveal the necessity of management of groundwater in this region. So, exploitation of groundwater would occur in optimum amount and besides, farmer's economical profit in region would increase. In this study, in order to manage groundwater resources in Taybad and to game theoretically determine optimum amount of groundwater extraction, at first rainfall during next seven years was predicted for studied plain applying SARIMA model, and then recharge quantity to groundwater were estimated by using predicted rainfall for determining aquifer overexploitation coefficient. In next stage, toward obtaining payoff matrix for two objective groups (farmers and society) in future seven years and estimating Pareto frontier or tradeoff curve, net income of main crops of Taybad plain were forecasted by ARIMA model. Net income and technical coefficient of crops in 2007-8 were calculated applying data of 109 farmers in studied region selected by simple random sampling. Then, optimum amount of groundwater extraction was determined using four conflicts resolution methods including non-symmetric Nash solution, non-symmetric Kalai-Smorodinsky solution, non-symmetric area monotonic solution and non-symmetric equal loss solution. Results indicated that when environment and economic objectives are assigned equal importance, the optimal groundwater withdrawals for 2008 to 2014 will be respectively 133.25, 121.176, 124.382, 135.335, 141.762, 133.480 and 124.355 million cubic meters. Finally, some suggestion has been presented.

JEL Classification: Q25

Keywords: Groundwater resources, Taybad plain, conflict resolution, Pareto frontier, optimal extraction, game theory

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Studying Efficiency of Water Use in Sistan Greenhouses

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One of the main objectives of promoting the development of greenhouses in Iran is increasing production productivity and water use efficiency. Accordingly, in this study the efficiency of water use in Sistan greenhouses was investigated for 2008 using Data Envelopment Analysis (DEA). In addition, determinants of water use efficiency were investigated using Tobit Regression Model (TRM). The results showed that the mean efficiencies of greenhouse units under study in the constant and variable return to scale conditions were 63 and 87 percent, respectively. Also, the mean efficiencies of irrigation water in the constant and variable return to scale conditions were 49 and 71 percent, respectively. Based on the results, in the variable return to scale condition, age, education, experience and water resource had positive and size of land had negative effect on water use efficiency. According to the findings, a suitable irrigation water price policy and extension classes seem to be effective on improvement the operation of units under study.

JEL Classification: Q25, C01, C02

Keywords: *water use efficiency, Sistan, greenhouses, data envelopment analysis*

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The Impacts of Establishing Flower Auctions on Marketing Factor Benefits in Iran: a Case Study on Cut-rose Flower in Esfahan

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Although Iran has many advantages in producing flowers, the traditional markets of cut flower suffer from a lot of challenges and insufficiencies such as price season fluctuation, fault in market information, inefficiency in marketing network and finally, disequilibrium of supply and demand and high loss of flowers. This study compares the two market structures that are traditional and auction markets. Herein, cut-rose flower and Esfahan province were selected as the product and the study area respectively. Study sample was contained the various marketing factors including producer, middleman, wholesaler and retailer whose information were collected during the periods of 2008-2009. Also, information related to flower auction market due to lack of this market within the country were simulated based on global market experiences and adjusting these conditions with the current domestic market. Finally, rose-flower prices in this market were estimated based on the rules of game theories in Dutch auction markets. Economic and marketing criteria were used for comparing the traditional and auction markets for rose flower. The most important of these criteria are marketing margin and efficiency. The results revealed that by switching cut rose traditional market to an auction design, total gain margin of marketing factors significantly increase and marketing criteria improve. Such criteria are expected to exhibit further gains by designing auction markets for various types of flowers in different places of the country. In this context, we recommend investing on auction market not only for cut-rose but also for all cut-flowers to be encouraged by the government agency and private sectors. Thus, Iran will be able to improve its commercial situation in the global market of flower and ornamental plants.

JEL Classification: D44, D61

Keywords: auction, gain margin, marketing, rose, Iran

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Price transmission model for Iranian egg market

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Price transmission is one of the factors that affect producers, marketing orders and consumers' welfare. Asymmetric price transmission creates profit for marketing orders by increasing marketing margin. In this study, a model has developed for investigating price transmission in Iranian egg market. Price transmission tests are investigated on base of error correction model by using weekly of egg and its inputs prices during 2001-05. The results of estimating econometrics model show that price transmission is symmetric in long run but is asymmetric in short run. In this study, elasticities of price transmission from farm price to retail price and from input prices to the retail price in short run and long run were estimated too. Estimated elasticities show that increasing farm price and input prices transmit to retail price sooner than decreasing farm price and input prices. For the reason of asymmetric price transmission in egg market, consumers pay most expensive price from final price, and marketing agents gain profit. The results of this study show that government's policy have not been successful in decreasing the price fluctuations in Iranian egg market.

JEL Classification: M31, Q13

Keywords: asymmetric price transmission, egg, error correction model

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Studying Globalization Impact on Export Demand and Supply of Saffron

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In this study, globalization impacts on saffron export supply and demand were studied. For this purpose, simultaneous equations model of export supply and demand and time series data for 1982-2005 was used. The index of Integration of International Trade (IIT) as globalization index was used. The results showed that saffron export supply and demand are elastic with respect to export prices. Also, the impacts of globalization are positive and significant on both demand and supply, indicating the positive effects of increasing trade relations with countries and of removing trade barriers on saffron export supply and demand of Iran. Therefore, proper price and production policies for export of this product will be inevitable.

JEL Classification: Q17, Q21

Keywords: *globalization, export demand and supply, Saffron, Iran*

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Price asymmetry of tomato, onion and potato in Fars province

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The aim of this study was to investigate price asymmetry transmission in both wholesale and retail for onion, potato and tomato in Fars province. For this purpose, equation price asymmetry based on monthly retail and wholesale prices in October 1998 till September 2007 was employed. Results of estimating equation for price asymmetry potato product indicated significant relationship between two levels of retail and wholesale markets. The results also revealed a negative asymmetry in the price of tomato retail and wholesale level is negative asymmetry that expresses in a way of prices respond more to rising wholesale prices than falling prices. On the other hand, results for onion indicated significant relationship response for the producer-retail price relationship. The intercepts of the equations for the three products are positive and significant, which express marketing margins at two levels of retail and wholesale. Therefore, increasing consumer price and broker profit due to marketing margins should be noticed in the pricing policies.

JEL Classification: Q11, Q13, Q38

Keywords: *price asymmetry, wholesaler, retailer, Fars*

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Market Structure and Price Transmission in Maize World Market

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In spite of the annually growth of maize domestic production by 12.6 percent during the last three decades, maize import has been increased due to an increasing demand. This situation shows the high importance of recognizing the maize world market. Considering the issue, this study aims at investigation of maize world market structure and the price transmission pattern between world and domestic market. Structure of maize world market was investigated using concentration indices for period of 1990-2005. In most of the period, the USA accounted for more than 50 percent of world market. Although over the period concentration in world market has been decreased slightly, maize world market was found closed monopolistic. Causality test showed a one-way causality from world market toward domestic market. Findings of price transmission also revealed a symmetric price transmission in long run while it was found asymmetric in short run in such a manner that price increase transmission from world market is larger than price decrease. Transmission of maize world price to domestic market may result in increased production costs in bird breeding industry as well as increment of household expenditures.

JEL Classification: Q11, E30, D40

Keywords: market structure, price transmission, maize

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