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ABSTRACTS

Revenue Insurance, a Policy Tool for Reducing Production Risk and Price
Fluctuation in Broiler Production Sector

H. Salami, M. Ghahramanzadeh, S. S. Hosseini, and S. Yazdani*

Revenue insurance with covering production and price risk is a new tool for reducing the risk of producers' income and smoothing price fluctuations. In this context, the objective of the present study is to analyze the possibility of developing revenue insurance for broiler producing farms using monthly data on output and input prices in Tehran province. To this end, the actuarial fair premiums are estimated for broiler revenue insurance policy under two different scenarios: a) based on the current terms of the production insurance policy and b) based on classifying poultry farms into different risky groups with different risk coverage. Results indicate that the calculated risk premium for the revenue insurance is comparable with that of the production insurance which only covers the production risk. Therefore, this new insurance policy which covers both production and price risks has the potential to be considered as a more comprehensive policy tool for covering risk in the poultry sector in Iran.

JEL Classification: Q14

Keywords: revenue insurance, actuarial risk premium, broiler farms, Iran

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**Measuring Farmers' Willingness to Pay for Frost Protection
When There Is Alternate Bearing: a Case Study of Pistachio in
Rafsanjan**

M. Abdolahi-Ezzatabadi*

In this study, pistachio producers' willingness to pay for frost protection when there is alternate bearing was investigated. Using survey method, data of 2005 to 2007 were collected from a sample of 204 farmers in Rafsanjan city, Kerman province. Descriptive statistics were used for data analyzing and clustering primary information. Regression estimation was applied to measuring the effects of different factors on coefficient of variation of yield. Also, utility functions were used for calculating willingness to pay. Results indicated that frost increases pistachio yield variability and production risk but, because of alternate bearing, it has no effect on mean yield in long run. Results also showed that because of alternate bearing and no increase in pistachio long run yield, there is not enough willingness to pay for frost protection. In these situations, applying insurance plan that reduces income fluctuations as a result of frost and alternate bearing is suggested.

JEL Classification: Q12

Keywords: Pistachio, willingness to pay, alternate bearing, frost protection, Rafsanjan

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Determination of Agricultural Development in Khorasan Razavi Townships

M. R. Kohansal and H. Rafiei Darani*

The main objective of this study is to determine agricultural development in Khorasan Razavi townships. For this, we used Numerical Taxonomy with 10 indexes for grade of townships with respect to different agricultural development indexes. The data of this study were obtained from Khorasan Razavi database covering 2003-2007. The results suggested that Chenaran, Fariman and Sabzevar have more priority and Kalat, Neyshabur and Gonabad have the less priority than other studied townships. Finally, various recommendations were offered regarding township potential in agricultural development.

JEL Classification: O10, Q10, O21

Keywords: Development level, agriculture, numerical taxonomy, Khorasan Razavi

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**Effects of Trade Liberalization on Key Variables of
Agricultural Sector in Iran: Computable General Equilibrium**

A. Zoghipour and M. Zibaei*

Major changes in economic field and international trade and their impact on economic situation of countries, especially LCDs, sheds light on the importance of the linkage between countries development process and international economy forces and factors. Computable general equilibrium (CGE) models have become a standard tool of empirical economic analysis and were extensively used to assess the impact of trade liberalization. In this study, the effects of import tariff reduction as a trade liberalization index on key economic variables were investigated using CGE. Needed data were obtained from the social accounting matrix of 2001 in which parameters of model were calibrated accordingly. Results of simulation showed that the import tariff reductions of agricultural sector, causes employment, capital stock, production and export of agricultural sector to reduce, however, import tariff reductions of non-agricultural sectors and all sectors causes production to reduce and employment and export to increase.

JEL Classification: C68, E2, F13

Keywords: Liberalization, tariff, computable general equilibrium, agricultural sector

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Evaluation of Iranian Government Protection Policy in Wheat Market

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Governments often intervene in agricultural markets to form income protection, optimal allocation of resource and equal income distribution. Evaluating optimal combination of policy instruments on Iranian wheat market, including consumers' subsidy scheme, guaranteed price, input subsidy and insurance are the main objectives in this paper. We applied the Minimization of the Net Social Loss Function method to the data of 2005 as the base year in this study. The results show that the Average Transfer Efficiency Index is about 87 percent for current policies. Applying producer's protection policy has the less deadweight loss in comparison with applying cheap food policy or applying cheap food policy and producer's protection policy simultaneous. Also, the results show that applying the producer's protection policy significantly reduces the government's expenditures and increases the Taxpayers' welfare.

JEL Classification: I38

Keywords: *Wheat, cheap food policy, guarantee price, average transfer efficiency, deadweight loss*

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Dynamic Optimization of Sunflower Transportation in Iran

S. Moghiseh, G.R. Paykani and I. Saleh *

Transportation plays an important role in excessive costs and the price of final goods. For this reason, constructing an economic transportation model enables us to optimize various activities in transportation systems for agriculture products. This brings lower costs for consumers of products. The main objective of this study is to construct a dynamic linear programming transportation model in order to minimize the transportation costs of sunflower shipped from various supply regions to several pressing oil factories. There are 40 production centers as supply origins, and 7 factories as demanding centers for sunflower seeds in Iran. This study used the monthly data in 2004 based on the capacities of origin supplies, warehouse (and related monthly stock available in previous period and the amount of transferred shipment to next period), monthly consumption of demanding centers and related transportation costs. LINGO computer package was applied to solve the transportation model. Based on the comparison of optimal solutions of the model and the actual transformation costs, the transformation cost reductions for sunflower seeds was 436 million Rials that is 11.8 percent of the total transportation costs over the year.

JEL Classification: C61

Keywords: Dynamic linear programming, optimization, transportation, sunflower, agricultural sector, Iran

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Determinants of Weeds Management Methods in Wheat Farms of Khorasan Razavi Province

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This paper tried to examine economical, social and technical determinants of applying different methods of weeds management applying multiple correspondence analysis (MCA) and Logit models to data of 180 wheat producers in Khorasan Razavi province in 2008. Results showed that farmer's annual income has positive and significant effect on possibility of using chemical, mechanical control and crop rotation for weeds management. Rather, farmer's experience in wheat cultivation, farm ownership, wheat cultivation area and percentage of weed losses to wheat have positive and significant effect and perennial weeds has negative and significant effect on use of chemical method of weed control. Number of agricultural family labor, weeds control in vegetative growth stage, percentage of weeds losses and awareness index of resistance to herbicide have positive and significant effect and farmer's age and number of wheat farms pieces have negative and significant effect on using of mechanical method for weeds management. Also, wheat cultivation experience, farm ownership and wheat cultivation area have positive and significant effects on crop rotation for weeds control. Regarding the results, policymakers should assist farmers to use weeds management methods in form of local knowledge especially integrated weeds management (IWM) and to increase their knowledge about weeds management.

JEL Classification: C2, C25, C4, C5, D21, Q1

Keywords: Logit model, multiple correspondence analyses, local knowledge, Wheat, weed control

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**Investment Projects Appraisal under Risk Conditions: Evidences
from Poultry Production Project in Tehran Province**

G. H. Kiani*

In the normal investment appraisal methodology, recognizing that the project's key variables are not certain, sensitivity and scenario analysis tests are used to appraise only a few possible scenarios. But risk analysis in investment appraisal approach presents probability distribution of all possible outcomes in addition to their expected returns and thus gives investor complete risk/return information of the investment project. In this study, the methodology of risk analysis in investment appraisal is explained based on Monte Carlo simulation technique and is applied to a poultry production project in Tehran province. Poultry meat, soybean and corn prices are project's key risky variables. Results show that the mean of project's net present value (NPV) is 125.84 million Rials with a 95% confidence interval around the mean value of -232 to 524 million Rials. The probability of generating a positive NPV is about 74.04%. Also coefficient of variation of NPV and expected loss ratio are 1.53 and 0.16 respectively and cost of uncertainty is -28.25 million Rials.

JEL Classification: O22, D81

Keywords: Investment appraisal, Risk analysis, Monte Carlo simulation, poultry production, Tehran province

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Investigating Impact of Export Insurance Subsidy on Agricultural Export

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Regarding importance of factors affecting export supply in policies, the impacts of various variables such as export insurance on Iranian agricultural exports were examined in this study. The ARDL and ECM models were used to investigate the long-run and short-run relations between agricultural export and other variables. Data used in this study were obtained from the Iranian statistical yearbooks during 1983-2003. Results indicated that export insurance has a positive and significant impact on export both in short-run and long-run. Based on the results, subsidized facilities in export insurance programs are suggested in order to promote agricultural export.

JEL Classification: C5, F13, Q17

Keywords: Agricultural production export, Export insurance subsidy, ARDL, Iran

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Identification of Agricultural Trade Flows in Iran

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This research investigates trade flows of agricultural sector in Iran over the period 1976-2004. The long run relationships among agricultural import and export volume with their determinants are estimated using a new co-integration test which is called "Bounds Test "procedure. The results indicate that there is an equilibrium relationship between agricultural import and export and their determinants in the long run.

Agricultural import and export demand functions are estimated using ARDL approach. The estimated long run income, price and exchange rate elasticities are respectively 0.21 , -0.95 and -0.14 in import demand function and 1.15, -0.92 and -0.11 in export demand function.

With regards to Marshall – Lerner condition, since sum of price elasticities in agricultural import and export demand functions is larger than unit therefore depreciation could improve the trade balance in agricultural sector.

JEL Classification: *Q17*

Keywords: *import, demand, export, bounds test, agriculture trade flow*

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