

The test of prior and posterior relationships between agricultural growth and pressure on natural resources in Iran

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Abstract

Agriculture and natural resources have a mutual relationship with each other. The purpose of this study was to evaluate prior and posterior relationship between natural resources and agricultural development. We studied the relationship between the consumption of water and agricultural value added per capita income in order to obtain the prior relationship, and assessed the relationship between carbon dioxide emissions and per capita income of the Iran's agricultural sector in order to obtain posterior relationship. To test these relationships, the Kuznets theory is used. Results showed that there was an inverted U relationship between per capita income and water consumption and carbon dioxide emissions. Also, spatial estimation showed that both water consumption and CO₂ emissions in agricultural sector had a direct relationship with the value of these two variables in the neighboring areas. Since the environmental Kuznets curve can be applied to both water consumption and CO₂ emissions in agricultural sector, development and growth of agriculture in the country can lead to controlled CO₂ emissions and water consumption in this sector. Overall, in order to sustain this growth, the continued investment in increasing productivity of energy and water inputs in agricultural sector is recommended.

JEL Classification: Q25, Q5, C21.

Keywords: water consumption, CO₂ Emission, Environmental Kuznets Curve, Spatial Econometric.

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Evaluation of Factors Affecting the Marketability of Medicinal Plants (Case Study: Menthe)

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Abstract

One of the crops that have great importance in the agricultural sector and the economy, especially to increase non-oil export revenues are medicinal plant. Proper market research can be the basis for increasing the production and more value-added of this products. One of the widely used herbs is Menthe which is used in different ways. The purpose of this study is evaluating the marketing mix influencing the choice of a variety of Menthe products. Stata12 software was used in the calculations and research was done with using data from consumers of medicinal plant products in 2014 in Mashhad. Multinomial Logit regression model was estimated. The results indicate that the household consumption experience, having a particular disease, the priority use for medicinal use, brand, properties and efficacy, age, quality and advice in choosing the priority of herb plants variables have a significant effect. Therefore, it is suggested to increase branding and quality, as well as advice exporting herbal plant products relative advantages of these products are used in the country.

JEL Classification: M31, Q13

Keywords: Marketing, Variety, Consumption form, Multinomial Logit, Menthe.

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Importance of Rice producers supporting government policies to food security of urban households in Iran

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Abstract

In order to have reliable access to food supply the government needs to enforce a policy which is a continuous and reliable process that is obtainable to every one. Food security requires not only the food supply, but also refers to the equitable distribution of food and household income. The aim of this study was to evaluate the impact of government support policies for Rice producers on food security of urban households during 1368 to 1389. The amount of government support was estimated by using PSE index. Results of the effect of Rice producers support policies on food security of urban households in the form of an ARDL model indicated that in the short-term and long-term government support policies of Rice will increase household food security.

JEL classification: Q18, B22

Keywords: Supporting government policies, Food security, Rice producers, ARDL

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Law of One Price and Nonlinear Adjustment of Prices for Broiler Market in North West Provinces of Iran

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Abstract

In present study validity of Law of One Price (LOP) was tested in the broiler market using daily retail price from 2006 to 2014 among North West provinces of Iran. Recently, in many empirical studies of economic time series there exist strong evidence that many time series display nonlinear features. Noticing that spatial price relationships are likely to be nonlinear due to transaction costs, so in this study, at first, for being sure that series follow nonlinear behavior, Luukkonen et al. (1988) and BDS nonlinearity tests were used. The results of both tests confirmed the existence of nonlinear behavior in series. So for testing Law of One price (LOP) in broiler markets and for the considered provinces, the proposed approach by Emmanouilides and Fousekis (2012), which is an auxiliary regression for ESTAR model, was used. The results show that these markets are well integrated and LOP holds in all market pairs. For Tehran-West Azerbaijan, Tehran-Ardebil, Tehran-Zanjan, West Azerbaijan-Ardebil, West Azerbaijan-Zanjan strong version of LOP holds and weak version of LOP holds for Tehran- East Azerbaijan and West Azerbaijan-East Azerbaija. So government can stabilize the price of broiler in one key market and rely on commercialization to produce a similar outcome in other markets. This reduces the cost of stabilization of prices in broiler markets considerably.

JEL Classification: C22, L11, Q13

Keywords: Market integration, Law of One price, Nonlinear Behavior of Prices, Broilert

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Effect of Elimination of Energy Subsidies on Croppings pattern; the Use of Positive Mathematical Programming (PMP) (Case Study; Maharlu –Bakhtegan Basin)

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Abstract

Gasoil and electricity are the most important energies consumption in the cropping pattern of the sub agronomical. Based on the governmental decision to remove energy carrier's subsidies, this study focuses on the impact of the removal of fuel and electricity subsidies on the cropping pattern of irrigated lands in the Maharlou-Bakhtegan watershed under six scenarios by using Positive Mathematical Programming and Maximum Entropy methods. The results showed that rising of price of the energy carriers, when other factors are fixed, would decrease the irrigated lands devoted to most of crops including wheat and consequently the gross profit of farmers in entire watershed. While simultaneous rising of crops price as much as increased cost, can be adjusted to increase the area under cultivation and increase gross profit. Because of farmers determined with goal to maximize profit of cropping pattern, in some cases with rising costs, crops with more need to water will replace to crops with less need to water and low profitability and without more withdrawal, gross profit increases. It is recommended to consider the issue of pricing policy in order to protect water resources, crops require less water to be directed to the pattern. It is noteworthy that in all scenarios, the wheat under cultivation land decreased, but still it has the most proportion in the cropping pattern of watershed.

JEL Classification: C02, C15

Keywords: Energy careers subsidy, Positive Mathematical Programming, Maximum Entropy, Cropping Pattern

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Weather-Based Crop Insurance (WBCI) Premium for Rainfed Wheat in Miyaneh County: D-Vine Copula Approach Application

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Abstract

Risk is an unavoidable but manageable element in agriculture. Agricultural insurance is an effective scheme in risk management. Nevertheless, traditional insurance schemes have problems, such as high transaction costs, challenge of asymmetric information, i.e. adverse selection and moral hazard. Therefore, in this research paper weather-based crop insurance (WBCI) is presented for rainfed wheat in Miyaneh county which is an efficient tool in risk management, and does not have current insurance's problem. In this regards, we collected the data of yield of "Sardari rainfed wheat variety" and "weather variables" during 1987-2013, respectively, from "Iran Agricultural Organization" and "Iran Meteorological Organization". In recent years, the "Vine copula functions" have been very successful in measuring of dependence structure and expression of joint distribution functions in different fields. Consequently, in this study, dependent structure between weather indices and product performance with utilization of Vine copula functions was measured, and in the end, premium amounts and indemnity function were calculated. The D-Vine model was used to compute insurance premium for rainfed wheat and description of joint distribution. We calculated insurance premium in four levels of coverage (50, 80, 90 and 100 percent) that its amount in 80 percent coverage level is 578827 Rials. The computing premium in WBCI is less than current insurance premium, which is reasonable. Moreover, the result of indemnity function indicates that "relativity humidity variable" has most dependence with Miyaneh rainfed wheat yield. Its "trigger value" and "stop-loss", respectively, are 51.83 and 23.07 percent.

JEL Classification: G22, J65, N55, O13, Q10

Keywords: Weather-Based Crop Insurance, Systemic Risk, Vine Copula, Rainfed Wheat, Miyaneh

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Investigating the Behavioral Patterns Regarding the Adoption of HACCP System in Food Industry: Khorasan Razavi Province

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Abstract

Given the importance of health factor in production and processing, this study investigates the behavioral patterns in food industry in relation to the adoption of Hazard Analysis Critical Control Points using multinomial logit model. The data is collected through 80 questionnaires, using stratified random sampling, administered at food industries production units of Khorasan Razavi. The results of multinomial logit indicated the significant and positive impact of management experience and use of innovation and also significant negative impact of technical constraints of production and knowledge on the possibility of placing the units in the group of full adoption of HACCP system (certification and implementation of this system) in comparison with the basic group (not adoption of HACCP system). The results also demonstrated the significant positive impact of the manager's education and innovation and significant negative impact of technical constraints of production knowledge index on the possibility of placing the unit in the group of relative adoption system (The formulation of the project and documents stage or implementing HACCP system) in comparison with the basic group. Findings suggest the following items to the planners: support of small-sized production units, holding promotion courses, setting top managers as example, introducing the benefits of placing HACCP system and adoption of consistent and flexible rules with regard to the situation of production units.

JEL Classification: I12, I15.

Keywords: Food Safety, Khorasan Razavi, Constraints, Multinomial Logit

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Factors affecting groups of damage in agricultural insurance "case study of beekeeping Iran."

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Abstract

Customers are an important financial resources for agricultural insurance. Therefore, identification of customer and predict their damage levels (Because factor profitability of insurance) is very important. the present study is to separate the beekeeping units (as part of the agricultural insurance customers) based on damage level and specify factors affecting each sector by order logit model, a model for predicting the level of damage to new customers. In this context, information about beekeeping units with an average of less than 13 kg in 1389-90 crop was collected, were divided into 3 groups: low-damage, average damage, full damage. order logit model Results showed that the manager's job, higher education, experience, participate in training courses, the number of the hive covered with insulation, prepared for the queen of queen production centers, cleaning after apiaries beekeeper overwintering and adequate reaction at the time of pollen shortage have significant negative effect on increasing level of damage. Nosema disease has positive and significant effect on increasing levels of damage. Also apiaries in Isfahan province compared to other provinces have less damage. Therefore offers the classification of beekeeping mentioned factors are considered.

Classification JEL: G32, H32, C25, C87

Keywords: classification customers, damage, agricultural insurance, order logit model, beekeeping

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