



Impact of the Sugar Import Reduction on Iran Economic Value Added (Input- Output Approach)

F. Hayatgheibi¹ – A. Karbasi^{2*}

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Abstract

The present study aimed at understanding interactions and linkages between the sugar sector with other economic sectors, and the influence of sugar import reduction on the economic value added. To achieve the purpose, the Input-Output table of Iran for the year 2006, Leontief inverse matrix and hypothetical extraction method were used. Based on the results, sugar industry has the most forward linkages with “Manufacture of food products and beverages,...”, “husbandry, aviculture,...”, “cultivation, horticulture”, “bakery products” and “restaurants”. This sector has also strong backward linkages with “cultivation, horticulture”, “chemicals and chemical products”, “other services”, “transport and telecommunication” and “financial services, insurance and bank”. Furthermore, either one unit increase in the final demand of sugar or one unit decrease in the sugar import increases the output of whole economic, agricultural and fishing, industry and mining, and services sectors by 2.3060, 0.6019, 1.4331, and 0.2710 unit, respectively. The increasing coefficients of the value added for the above sectors are 0.4308, 0.3700, and 0.1992 unit, respectively.

Keywords: Sugar industry, Input-output, Value added

JEL CLASSIFICATION: L5, L66, C67

1,2- PhD Student and Associate Professor of Agricultural Economics Department, Collage of Agriculture, Ferdowsi University of Mashhad

(*-Corresponding Author Email: : Fateme.hayatgheibi@stu.um.ac.ir)



Determination of the Long-term Optimal Pattern for Nomadic Ranchers under Climate Uncertainty: Case Study of Nomads in Fars Province

M. Bagheri^{1*}- A.K. Esmaili²- M. Zibaei³

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Abstract

This study develops a long run optimal pattern for nomadic ranchers of Fars province under climate uncertainty by simulating dynamic process of livestock and forage productivity as well as employing dynamic stochastic programming. Results indicate that the nomadic representatives do not perform, optimally. Despite their attachments to livestock as an asset, and their life dependency on livestock, they intend to maintain their herd under any circumstance and to have large herds during any year. But results of the long run optimal pattern based on the stochastic dynamic programming model indicate that even in a wet year rangeland forage production is not enough for livestock feeding. Accordingly, nomads must adjust their herds and fit numbers of their livestock with the pasture capacity. Therefore, in the long run partial, adjusting strategies on the number of livestock rather than purchasing additional forage is recommended.

Keywords: Optimal pattern of ranchers, Uncertainty, Stochastic programming model, Nomads, Fars province

JEL classification: CO₂, C61, D81, D24

1 - Assistant Professor, Department of Agriculture, Payame Noor University of Guilan, Iran
(*-Corresponding Author Email: mehrdad.bagheri3@gmail.com)

2,3 - Professors of Agricultural Economics Department, College of Agriculture, Shiraz University



Factor Affecting Choice of Pistachio Supplemental Insurance Options In Rafsanjan

A. Mirzaei^{1*} - M. Zibaei²

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Abstract

Crop insurance is one of the best strategies to tackle farm risks and encourage producers to adopt modern production technologies. In present study, a sample of 224 insured and uninsured Pistachio growers was selected for interview and collected required data using a simple random sampling method. Then a logit multinomial model was used to assess factors affecting the choice of supplemental insurance different options. The results showed that effect of activities background, garden size and number of garden pieces variables are significant and positive on acceptance of insurance. Also, the effect of having additional job and increasing age of Pistachio tree are negative and significant on acceptance of insurance. Finally, the results of distinctions among insurance options showed that increasing types of grown Pistachio, risk aversion and high yield intensify the possibility of third option acceptance in comparison with insurance refusal and other insurance options. But less pistachio growers have chosen third option than other insurance options that the result is caused by unaware of pistachio growers, red tape and false suggestions of insurance experts. Therefore, it is recommended that insurance fund provides essential conditions for developing this type of insurance with adopting proper policies.

Keywords: Supplemental insurance, Pistachio, Rafsanjan, Sure first rule method, Multinomial logit model

1,2- PhD Student and Professor of Agricultural Economics Department, Agriculture College, Shiraz University
(*- Corresponding Author Email: mabbas1369@gmail.com)



Seasonal Forecasting of Agriculture Gross Domestic Production in Iran: Application of Periodic Autoregressive Model

M. Ghahremanzadeh^{1*} - Kh. Alefi²

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Abstract

Agriculture as one of the major economic sectors of Iran, has an important role in Gross Domestic Production by providing about 14% of GDP. This study attempts to forecast the value of the agriculture GDP using Periodic Autoregressive model (PAR), as the new seasonal time series techniques. To address this aim, the quarterly data were collected from March 1988 to July 1989. The collected data was firstly analyzed using periodic unit root test Franses & Paap (2004). The analysis found non-periodic unit root in the seasonal data. Second, periodic seasonal behavior (Boswijk & Franses, 1996) was examined. The results showed that periodic autoregressive model fits agriculture GDP well. This makes an accurate forecast of agriculture GDP possible. Using the estimated model, the future value of quarter agricultural GDP from March 2011 to July 2012 was forecasted. With consideration to the fair fit of this model with agricultural GDP, It is recommended to use periodic autoregressive model for the future studies.

Keywords: Agriculture Gross Domestic Production, Forecasting, Periodic autoregressive model, Periodic unit root test

1,2- Associate Professor and PhD Student of Agricultural Economics Department, Agriculture College, University of Tabriz

(*- Corresponding Author Email: Ghaheranzadeh@Tabrizu.ac.ir)



Application of Bounded Data Envelopment Analysis to Evaluate Efficiency of Broiler Firms (Case study: South Khorasan Province)

H. Balali^{1*} - J. Esfahani²

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Abstract

Analyzing efficiency in each economic sector to adopt policies for optimal use of production factors and avoid wasting resources is important. In this study, in order to have a more comprehensive evaluation of the performance of each unit, efficiency of broiler firms was measured using bounded data envelopment analysis which determines position of each unit relative to efficient and inefficient frontiers. Considering the number of inputs and outputs of broiler firms to ensure reliability of data analysis envelopment, the required data were randomly selected from 30 active broiler firms in South Khorasan province. and their efficiency was analyzed using GAMS and SPSS17 software. The results of the study showed that the average efficiency of broiler firms based on input oriented method was 0/833 and more than 56 percent of the boiler firms were below the average of efficiency. Average efficiency of broiler firms in optimistic and pessimistic approaches based on output-oriented method were 1/225 and 0/861, respectively. The results of interval efficiency showed that 50 percent of the broiler firms were between efficient and inefficient frontier. The results confirm that as an increase in efficiency, production can be increased without using more resources. It is therefore suggested that identifying inefficient broiler firms, investigating the causes of the inefficiencies and modeling of efficient broiler firms, can be an effective step toward increasing efficiency.

Keywords: Efficient and inefficient frontier, Broiler Firms, Bounded data envelopment analyze, South Khorasan Province

1 - Assistance Professor of Agriculture Economics, Bu-ali Sina University
(* - Corresponding Author Email: h-balali@basu.ac.ir)

2 - PhD Student of Rural Development, Bu-ali Sina University and Lecture, Department of Agriculture, Payam Noor University



Study of Mechanisms for Development and Strengthening of Water User Cooperatives (Case Study of Aras River Basin): Application of AHP Method

R. Maghabl¹ – K. Naderi Mahdei^{2*} -F. Paknia³ - M. Nasiri⁴

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Abstract

Water user cooperatives were formed due to consideration to people's empowerment and participation in water investment and management. The purpose of this study was to investigate the mechanisms of development and strengthening of water user cooperatives in the Aras River Basin. The study population consisted of the management board members of the water user cooperatives in the Aras Basin in the year 2012. Respondents were selected by purposeful stratified sampling method. Having the data collected by interviews and questionnaires, the Analytic Hierarchy Process (through the software Expert Choice 11) was used to prioritize mechanisms for the development and strengthening of water user cooperatives. Based on the final weights, criterias including supportive strategies, education - extension, policy, communications and legal mechanisms, were prioritized, respectively. The results of the sensitivity analysis showed that sub-criterias including reallocation of credit to change the traditional irrigation to drip and sprinkler irrigation, holding extension and educational courses purposed at promoting farmers' knowledge about their responsibilities for the formation and management of water user cooperatives collaborated with the department of Jihad Agricultural Organization (JKO), the department of Cooperatives and Regional Water Organization; credit and investment provision to improve the processing and package industries, modeling appropriate cropping systems based on the area capacity were the most influential sub-criterias in developing and strengthening water user cooperatives.

Keywords: Mechanism, Development, Water User Cooperative, Analytic Hierarchy Process

1, 2,4- PhD Student, Assistant Professor and MSc Student, Department of Agricultural Extension and Education, Faculty of Agriculture, University of Bu-Ali Sina, Hamadan, Iran, Respectively

(*- Corresponding Author Email: K.nadery@yahoo.com)

3- Expert of Organism Water, Azarbajejan Sharghi Zone



A Study of the Preferences of People in Tabriz County on the Consumption of Herbal Medicine

O. Javanbakht¹ - S. Esmaili^{2*}

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Abstract

Considering the clarification of negative effects of chemical medicine on human beings, tendency to use herbal medicine has been increasing. Herbal medicines provide an important alternative to health the conventional medicines. The combination therapy, using both herbal medicine and conventional medicine, caused the herbal medicine to become more important than ever before. The present study examines the individual preferences for different herbal medicines. The data was obtained from questionnaires filled in by respondents selected through random sampling from citizens of Tabriz city in the year 2011. A Logit model was estimated. The results showed that a direct relationship between individuals' awareness about therapeutic effects of herbal medicines and their consumption exists. Furthermore, women's tendency to consume herbal medicines was more than men. In addition, the people around the ages of 45 to 50 years showed fewer tendencies to consume herbal medicines whereas the consumption increases after the age 50. In conclusion, raising people awareness about therapeutic effects of herbal medicines not only improve the general health of consumers but raise consumers' economic power due to less cost of herbal medicine to the chemical medicine.

Keywords: Herbal Medicine, Logit Model, Consumer Preferences, Tabriz

1 , 2- Assistant Professor and MSc Student of Agricultural Economics Department, Faculty of Agriculture, Urmia University

(*-Corresponding Author Email: esmaili.samira91@yahoo.com)



Diagnosing Management of Agricultural Research and Technology Development under the Agricultural Innovation Framework

A. Sharifzadeh^{1*} - Gh. Abdollahzadeh² – M. Sharifi³

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Abstract

This study aimed at identifying and analyzing issues and challenges on the agricultural research and technology development under the national innovation framework. The survey consisted of two groups: agricultural researchers of Agriculture-Research and Education Organization and all faculty members of public agricultural faculties of Ministry of Scientific, Research and Technology. Using Cochran sampling formula and multi-stage sampling method, 188 researchers and 205 faculty members were selected in order to fill in the survey questionnaire. Using the SPSS, collected data analyzed based on explanatory factor analysis. Totally, factor analysis of three sets of issues and challenges on the agricultural research and technology development under the national innovation framework led to extract 13 factors, including agricultural structure and policy, infrastructure and resources of agricultural development, supportive services for agricultural development (level of agricultural development), investment and capacity building in research and technology, management of research and technology development, research and technology productivity, research culture, networks for research and technology development (level of national innovation system), agricultural research policy, impacts and effectiveness of agricultural research and technology development, integrated management of research and technology, institutional development for agricultural research and technology and systematic synergy of agricultural research and higher education (level of agricultural innovation system). Totally, these three sets of factors explained 64%, 75% and 73% of the total variances. Finally, using conceptual clustering for the extracted factors, a conceptual model of issues and challenges of agricultural research and technology development under the national innovation framework was presented.

Keywords: Agricultural Innovation framework, Agricultural Technology, Research Management, Conceptual Clustering

1,2 - Assistant Professors, Department of Agricultural Extension and Education, Faculty of Agricultural Management, Gorgan University of Agricultural Sciences and Natural Resources

(*- Corresponding Author Email: sharifsharifzadeh@gmail.com)

3- PhD Graduated, Agricultural Extension and Education, Faculty of Agricultural Economic and Development, University of Tehran



Application of Fuzzy Programming with Interval Approach to Determine the Optimal Cropping Pattern of Esfarayen County

M. Bahrami Nasab¹- A. Dourandish^{2*} - M.R. Kohansal³

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Abstract

Determining of the optimal growing pattern in accordance with resource availability, risk factors and the uncertainty of agriculture sector contributes the farmers, managers and economic planners in selecting types of products and the level of cultivation. Fuzzy programming model with interval programming approach was used in this study to determine the optimal cultivation pattern in Esfarayen county, given uncertain circumstances. The required data were collected via a questionnaire and interviews with 128 farmers of the region selected through simple random sampling in 2013. Using different levels of Alpha cut in the model, it is possible for all parameter-related fuzzy data to be included in the optimization process, fractionally. The results of assessing models under optimistic and pessimistic conditions given various Alpha cuts indicate that increasing uncertainty and risk or expansion of fluctuations periphery due to smaller Alpha cuts raises the systematic benefit under optimistic conditions, while it decreases the benefit under conservative conditions. Forage maize, Red beans and wheat in almost all case scenarios found economical and optimum crops for cultivation. In order to improve the farmers' income along with optimal use of production resources, encouraging and supportive policies introduced by either Agriculture- Jihad Organization of Northern Khorasan or the office of Jihad-Agriculture management in Esfarayen county is recommended.

Keywords: Cropping Pattern, Fuzzy Programming, Interval Approach, Uncertainty, α -cut

1, 2, 3- MSc Student, Assistant Professor and Professor of Agricultural Economics Department, Faculty of Agriculture, Ferdowsi University of Mashhad, Respectively
(*- Corresponding Author Email: dourandish@um.ac.ir)



Computing Cost of Agricultural Bilateral Trade and Exploring the Effective Factors for Iran's Bilateral Trade with Developed and developing countries

M. Jalerajab¹- R. Moghaddasi^{2*}

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Abstract

This study concerns with calculation of Iran's agricultural bilateral trade costs and major influential factors in Iran's Bilateral Trade with Developed and Developing countries. The main findings revealed that over the period 1995-2010 weighted average of agricultural trade cost with developing partners has declined by 44, and with developed partners has increased by 22 percent. This reduction, however, was greater for UAE and Brazil from developing countries and for Switzerland and Austria from developed countries. Based on the estimated regression, agricultural bilateral trade costs is positively related to distance, bilateral tariff rate and lag of agricultural bilateral trade costs, while island and adjacency variables have an opposite effect on Iran's agricultural bilateral trade costs. Considering the results, it is suggested that agricultural products should be destined based on trade costs, in order to increase the comparative power of export products.

Keywords: Bilateral trade costs, Agricultural products, Panel data

1,2- PhD Student and Associate Professor Agricultural Economics Department, College of Agriculture, Tehran Science and Research Branch, Islamic Azad University, Tehran. Iran
(* - Corresponding Author Email: Moghaddasireza@yahoo.com)