

## **A Comparison of Public Preferences and Willingness to Pay of Tourists and Residents of Sari for Conservation of Caspian Sea**

*Ahmad Fatahi Ardakani and Elham Fazlollahi Male<sup>1</sup>*

**Received: 19 Aug. 2014**

**Accepted: 15 March. 2015**

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### **Abstract**

The Caspian Sea is not only important for residents of the area, it is also important for many around Iran. The present study compares the willingness to pay (WTP) of residents and tourists for protecting Caspian Sea, located in the city of Sari, using contingent valuation method (CVM). To this purpose 800 questionnaires were collected. 400 of the questionnaires were randomly distributed among residents of Sari and the rests were collected from the tourists coming to Caspian Sea. The results show that the willingness to pay of these two groups with two variables of age and environmental indicators are different. The results indicate that the average of willingness to pay for protection of Caspian Sea are 229870 and 195170 Rials, respectively. It is also found that the conservation values for each household (2.6 people) are estimated 597700 and 507500 Rials per year. According to the results of the study and the willingness of tourists to pay more money than compared with residents of Sari, it can be concluded that the residents have lost their motivation to protect the Caspian Sea and the authorities have to act to protect the sea.

**JEL classification:** Q51, Q57, Q25

**Keywords:** Contingent valuation, Willingness to pay, Caspian sea, Tourists, Sari

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## Selecting Optimal Sustainable Farming with Emphasis on Limited Water Resources (Case Study: Kuzaran County of Kermanshah Province)

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Received: 15 Dec. 2014

Accepted: 25 April. 2015

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### Abstract

One of the most important goals of agricultural managers and planners is optimizing the use of resources and inputs and designing suitable cropping patterns. This study aims at determining the optimal cropping pattern in Kuzaran city of Kermanshah province using conventional linear programming model, the definitive goal programming and fuzzy goal programming, in order to achieve the five objectives of maximizing efficiency of the program, minimizing cash investment costs, minimizing water consumption, minimizing the use of chemical fertilizers and minimizing the use of chemical pesticides with emphasis on the limited water resources in agriculture. For this purpose, a generic model was examined for Kuzaran county using data on crop production costs in Kermanshah Province in 2012-2013 crop year. The results indicated that using fuzzy goal programming model provided better results compared to other models, because it made it possible to achieve all the five goals simultaneously and making the model fuzzy increased its flexibility. In a way that the gross margin in this pattern increased 5 percent more than its current state and cash investment costs, water consumption, use of chemical fertilizers and chemical pesticides decreased 12.27, 5.29, 12.92 and 5 percent in 2013-2014 crop year respectively. Also implementing the proposed cropping pattern in addition to reaching the five goals, prevents wasting 5267160 cubic meters of water with minimal changes to the current pattern of cultivating.

**JEL Classification:** Q1, Q15

**Keywords:** Water resource, Optimal pattern, Agronomy, Fuzzy goal programming, Kuzaran.

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## Evaluating the Potential Effects of Climate Changes on Yield and Value-Added of Agricultural Sector in Hamedan-Bahar Plain

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Received: 26 Dec. 2014

Accepted: 27 April. 2015

### Abstract

In recent decades, increase in greenhouse gases, especially carbon dioxide (CO<sub>2</sub>), has caused the global warming as an undesirable phenomenon. Increase in temperature causes rain-decrease and change in crop yields. On the other, increase carbon dioxide can improve yield of agricultural crops through facilitation in photosynthesis. So assess the final effect of increasing this gas in the environment of agricultural crops production has been a controversial subject among agriculture researchers. With this explanation, in this study, the effects of elevated CO<sub>2</sub> and climatic changes on crop pattern were examined in Hamedan-Bahar plain. For this purpose, initially, the sensitivity of crop yields in Hamedan-Bahar plain against carbon dioxide emissions, temperature and precipitation were estimated by using yield-response regression models and GME method. In the next step, the regional climatic changes were predicted by using LARS-WG model in the years 2020, 2030 and 2040. Also by using regression models, the CO<sub>2</sub> emission was predicted in the mentioned years in the plain. Finally, the conditions of crop pattern were simulated by using of mathematical programming approach and PMP model, and then the effects of CO<sub>2</sub> emission and climate changes on crop pattern were investigated in the several scenarios. The results indicated that the climate changes has negative effects on the cultivation pattern and in the most pessimistic prediction, reduce the amount of the agricultural value added about 53 billion Rials will be followed by 2040 in Hamedan-Bahar plain. But the mentioned lose will be offset with adopting strategy improve the productivity of crops the extent of 0.63 percent.

**JEL Classification:** C02, C22, C46, Q54

**Keywords:** CO<sub>2</sub>, Climate changes, Agricultural value added, Hamedan-Bahar plain

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## The Potential of Reducing Prices of Wheat and Maize Products by Exploiting Economies of Scale: A Case Study of Fars Province

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**Received: 30 Oct. 2015**

**Accepted: 05 April. 2015**

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### **Abstract**

There is a general belief among agricultural expertise and planners that smallness of the farms causes inefficiency, and increases cost of production in production units. In fact, they assume that production technology of agricultural products is characterized by increasing returns to scale which can be exploited to reduce prices. The main object of this study is testing this hypothesis for two major agricultural crops in Fars province, namely; wheat and maize crops. To this end, a dual approach using the cost function is utilized to specify this structural characteristic in three distinct traditional, commercial, and mixed farms, applying production data of the crop years 1388-87. The Generalized Leontief, Normalized Quadratic and Translog functional forms were examined to specify the most appropriate form for representing the production technology of these two products. Results indicate that the Translog functional form most appropriately represents production technology of the selected crops in the Fars province. The calculated scale economies parameter for these two crops in the three different farms revealed the presence of increasing returns to scale in their production technologies. Consequently, there is a good potential for reducing the unit cost of production, and thus, prices of these two crops by increasing the size of the farms above their present average farm size. In addition, the magnitude of the scale economies parameter in the wheat crop is larger than that of the maize implying, that wheat farms have more potential of exploiting economies of scale to reduce the cost of producing this product.

**JEL Classification:** C01, C32, C51, D22, O13

**Keywords:** Price, Economies of scale, Wheat, Corn, Fars province

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## **Evaluation of The Efficiency of The Agricultural Bank Branches by Using Data Envelopment Analysis and The Determination of a Consolidated Index: The Case Study in Mazandaran Province**

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**Received: 22 Nov. 2015**

**Accepted: 29 April. 2015**

### **Abstract**

Banking is one of the most complex industries in the world and has a major contributor to a country's wealth. Thus, with increasing foreign and alternative channel entrants in the banking industry, there is a significant need for improving branch performance in order to remain competitive. In this thesis, a two-stage approach is employed to measure performance evaluation of 25 agriculture bank branches of Mazandaran province based on: resources production, consumerism allocation, and profitability dimensions in 2014. The resources production approach shows that how each branch can use the possessions and labors (as inputs) to collect deposits (as outputs). The consumerism allocation approach indicates that how each branch is success in lending loans (as outputs) used collected deposits (as inputs) from customers. The profitability approach is used to assess the ability of a branch to convert its expenses (as inputs) into revenues (as outputs). To determine the inputs and outputs parameters, the researcher is used the experience of experts in banks as well as studying applied researches in this field. In the first stage, after finding the relative efficiencies of each branch under above approaches, inefficient branches and corresponding target units has been determined. In the second stage, the three efficiency scores are aggregated into a single scalar value for the purpose of overall ranking. In the general case, this stage offers a defendable ranking process for whatever study is being undertaken and this enables branch managers to clearly identify the strengths and weaknesses in their operations. Based on obtained results, the Sari branch has been ranked in the first place and the Chalous branch has been ranked in the last place.

**JEL Classification:** C02, C44, L2.

**Keywords:** Evaluation bank branches, Data envelopment analysis, Mathematical programming

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## **Performance Evaluation of Oilseed Producer Provinces, Crude Oil Extraction Units and Refinery Plants in Edible Vegetable Oil Supply Chain in Iran**

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**Received: 12 Jan. 2015**

**Accepted: 14 March. 2015**

### **Abstract**

In the current study attempted to evaluated performance for oilseed producer provinces, oil crude extraction units and refinery plants in year 2011. Efficiency measured by data envelopment analysis (DEA) models. Then by using various methods based on DEA, efficient units were ranked and were selected one of them as the best method for ranking. Analysis of the results obtained from different ways were showed that anderson-peterson method has lower reliability rather than cross efficiency method. The technical efficiency results showed that there is the potential for increased production in the first and second levels of the supply chain of vegetable oil. Also in the lack of economic efficiency, allocative efficiency has the higher contribution. Profitability reinforcement in the all levels of supply chain and productivity increasment in the oilseed production sector due to lower cost can increase the domestic production attractiveness and decrease dependency of import.

**JEL Classification:** Q12, Q13, Q18 and C60

**Key words:** Efficiency, Data envelopment analysis, Efficient units ranking, Vegetable oil supply chain

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## The Effects of Inflation on Iranian Economic Sectors

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Received: 14 March, 2013

Accepted: 12 April, 2015

### Abstract

Inflation is one of the important economic variables that are considered seriously by economists and policy makers. Different theories have been developed for studying the influence of inflation on production and process of economic growth. This research examines the long-term effects of inflation on various sectors of Iran economy through the structural VAR model using the time series data during the period 1959-2009. The results show that the impact of structural inflation shock on the all economic sectors for a five-year horizon is increasing, but this effect is not uniform (homogenous) across sectors. In long-run, inflation explains over 20 percent of changes of production in service sector. Industry and mining, agriculture, oil and gas sectors were next in the ranking, respectively. These results indicated that Iranian economic sectors' growth have been affected by inflation in long-run.

**JEL classification:** C32, E31, P44, Q10

**Key Words:** inflation, Blanchard and Quah technique, long-run effect, sectors of economy, Iran

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## Considering the Distributional Effect of Government Supportive Policies of Producers of Wheat in Provinces of Iran

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Received: 31 Dec. 2014

Accepted: 30 April. 2015

### Abstract

In Iran, during 1368-90 different supportive policies in order to support agriculture have been adopted by the government. That assessment of them is important for policy implications. This paper according to the strategic importance of wheat in Iranian household consumable goods and the importance of them from viewpoint of policy maker, and in order to assess the distributional effects of government supportive policies to agricultural sector in provinces of Iran during development programs, was done. For this purpose, budget payments, market price support and total support of producers estimate indicators of wheat in the provinces of Iran is used to measure the benefits of implementation of supportive policies that producers of wheat during 1368-90 earned. The results showed that direct effect and total effect of average support of producers of wheat in the first and second development programs in all provinces of Iran was negative, and the portion of market price support in total support of producers of wheat was more than budget payments. the most support of producers of wheat (direct effect) in the third and fourth of development programs was in south of Kerman with amount of 710 and 1000, and in the fifth of development program was in Ilam with amount of 1774 million Rial in per thousand of ton, the most average support of producers of wheat, total effect, in the third to fifth development programs was in Bushehr, Gilan and Ilam with amount of 635,725 and 1860 million Rial in per thousand of ton. Recommend that the amount of support be proportionate with productivity of subsidize inputs in producing of wheat in each provinces.

**JEL Classification:** C88, E64, Q18

**Key Words:** Distributional Effect, Supportive Policies, producers of Wheat, The Provinces of Iran.

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***Agricultural Economics***  
***Journal of Iranian Agricultural Economics Society***

**Vol.9/No.1/2015**

**Publisher:** Iranian Agricultural Economics Society  
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