



## The Effect of Oil Export Fluctuations on Agricultural Growth in Iran

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Received: 3-1-2010

Accepted: 22-11-2011

### Abstract

Oil export revenues have a major share in both Iranian government incomes and Gross domestic product (GDP). With regard to the importance of agricultural sector in economic growth, rural development and rural welfare improvement, this sector indubitably influenced by temporary and unexpected shocks in oil export. Therefore we employed Feder(1982) and Auto-Regressive Distributed Lag (ARDL) models to investigate the effects of oil export instability on agricultural growth in Iran during 1972-2007 period. The results show that there is a long run relationship and co integration between agricultural value added and other variables in specified model. Also, accompanied by other variables the effects of oil exports fluctuations as a new variable is negative and significant.

**Keywords:** Agriculture, Oil export fluctuations, Co integration, ARDL Model

JEL Classification: C<sub>22</sub>, Q<sub>1</sub>, O<sub>13</sub>

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## An Application of Positive Mathematical Programming Model to Analyze the Effects of Alternative Policies to Water Pricing in Mashhad Plain

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Received: 27-9-2010

Accepted: 11-12-2011

### Abstract

Management of water resources in Iran is faced with growing demand for water resources, a considerable increase in the costs of supplying additional water and uncontrolled exploitation of underground waters. Economists suggest water pricing to improve water use efficiency; however, government tends to reject that advice due to political risk, economic and cultural concerns. We used a positive mathematical programming (PMP) model at farm level, to analyze the different effects caused by the implementation of water pricing and alternative policies on irrigated agriculture in the Mashhad plain (Khorasan Razavi Province). Three policy options including water pricing, water complementary input factor taxes, and output taxes were examined. The effects of alternative policies are strongly dependent on group of farmers and that would create widespread effects on farm income, water savings and cropping pattern. Water pricing and output tax policies are better suited and effective than water complementary input factor taxation but both input factor tax and output tax policy at certain rates can be alternatives to water pricing policy.

**Keywords:** Water, Positive Mathematical Programming, Mashhad plain, Alternative policy

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## Effective Factors on Probability of Willingness to Pay for Agricultural Extension Services by Beet Farmers (Case study : Mashhad Township)

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Received: 11-12-2011

Accepted: 7-9-2010

### Abstract

The purpose of this study is investigating factors affect on probability of Willingness to pay sugar beet farmers for taking of agricultural extension services. logit model was used for cross sectional data in 2009 between 150 sugar beet farmers that were selected by random sampling in the city of Mashhad. In addition, tobit model was used to analyse factors affecting on Willingness to pay beet farmers for taking of agricultural extension services. Results of both model showed that age, experience in sugar beet cultivation and household size have negative and significant effect and education, cultivated area, yield, farm ownership, net revenue of sugar beet, need to extension services and concurrence of extension services have positive and significant effect on probability of Willingness to pay for agricultural extension services. comparing aggregate elasticity among different variables in tobit model showed that need to extension services has the maximum effect in increasing and farmer s age has the maximum effect in decreasing Willingness to pay for taking of agricultural extention services respectively. According to results, implementation of semiprivate extension between great farmers, Forming associations and cooperatives for yeomen to pay extension costs as a group, Making diversity in the type and method of offering extension service based on age, experience and education suggested.

**Keywords:** Tobit model, logit model, Extension services, Sugar beet, Mashhad

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## The Economic Study of Farmers' Behavior on Animal Manure Use at Farm Level of Esfarayen

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Received: 13-12-2010

Accepted: 9-11-2011

### Abstract

Unbalance using of chemical fertilizers cause decline the soil quality and fertility, environmental pollution and specially soil and water resources pollution. The use of animal manure is a replacement to chemical fertilizers. Therefore, recognizing of demographic, technical-extensional and agronomic affect on farmer's decision making process to use of animal manure will have important role in policy making and planning system in this field. This paper used Tobit model and a cross sectional data of 80 farmer of North Khorasan province in 2009 to study of farmers' behavior to use animal manure. Result showed that distance between ranching and farm and Leguminous cultivation have negative effect and existence of educated person in family, farmers' education and knowledge of long run risks of chemical fertilizers have positive effect on use of animal manure. With regard to results, transferring of subsidies from chemical to organic fertilizers, education and information transferring about long run risks of chemical fertilizers to farmers and targeting of educated persons of families in extensional train related to animal manure to conduct of farmers to sustainable agriculture and conservation of environment suggested.

**Keywords:** Tobit model, Esfarayen, Trajet training, Animal manure, chemical fertilizer

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## Effect Crop Insurance on Farm Income and Optimum Cultivation Pattern in Orzooieh Region Baft Province

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Received: 13-12-2010

Accepted: 11-12-2011

### Abstract

Agriculture activity is obvious type of unsafely and risky activities that this part had dealt with lack of trust about amount of production and price as unpleasant atmosphere phenomena, calamities, kind of plant diseases and change in prices. Insurance is one of important cases for decreasing risk in agriculture. The main of this research is consideration crop insurance's affect on optimum cultivation pattern and gross profit for farmers. So changing in region optimum cultivation pattern was checked by management model which comes along Hazel risk that is based on Motad method in different cases. The data was collected by randomization path and filling 360 survey directly in ۲۰۰۹ and also referencing to Organization Agricultural, Agricultural Bank, Agricultural Insurance and Regional Water Corporation for 2002-2008. results of this survey showed that using insurance could increase productions and gross profit in this area.

**Keywords** : Insurance, Cultivation pattern, Gross profit

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## Estimating the Preservation Value of *Lilium ledebourii* Using Single Bounded Dichotomous Choice Contingent Valuation Method

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Received: 14-12-2010

Accepted: 13-12-2011

### Abstract

Researches of preservation valuation of natural resources and environment were done in order to create necessary awareness for making optimal decisions in the field of the ways of economic management of these resources and helping to establish sustainable regional development strategy. In this study, preservation value of *Lilium ledebourii* estimated using single bounded dichotomous choice contingent valuation method. Required data were obtained through face to face survey and gathered from 177 respondents. Results showed that respondent's willingness to pay is equal to 6540.33 Rials annually using linear functional form and 9675.22 Rials annually for logarithmic functional form. Also, comparing confidence intervals of estimated willingness to pays showed that the estimated WTP using linear model is more precise. Present study can provide proper framework for precise estimation of preservation value through applying different functional forms and precise estimation of WTP, so the estimated WTP shows the importance of preservation of distinct plant varieties. It's proposed that economic researchers to calculate the level of the significance of WTP in addition to using several functional forms in contingent valuation method. Also, it is proposed to policymakers that it is necessary to pay attention to society's participation in preserving environment in addition to annual government budget.

**Keywords:** Contingent Valuation, Logit Model, Willingness to Pay, *Lilium ledebourii*

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## Measurement of the Four Dimensions of Rural Tourism, by SWOT Technique Case Study: Target Tourism Rural of Chahar Mahal and Bakhtiari Province

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Received: 29-1-2011

Accepted: 3-11-2011

### Abstract

In the current decade the third world's countries are using of development rural tourism approach to improve indexes of development. In Iran due to multiplicity of rural area using of this strategy is important. Analysis the condition of host area for achieving positive tourism impacts is necessary. In this paper, the challenges and opportunities on developing rural tourism is distinguished by SWOT analysis. The statistical community included of eighteen experts and officials associated with the development of rural tourism area. All of element's SOWT is evaluated by Likert rang. Results show that the score of restriction is 55.69 (include weakness and threat) and the score of advantage is 55.31(include opportunity and strength), therefore restrictions is over the advantages. Although the emerging of other tourism destinations is more important threat, but it causes to decrease vulnerability of the virgin nature and beautiful landscape as more important of developing tourism destination strength.

**Keywords:** Rural tourism, SWOT Technique, Chaharmahal & Bakhtiari

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## Study of Rural Household Cooperative Contracts in Production of Agricultural Crops for Firoozabad plain

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Received: 7-3-2011

Accepted: 10-12-2011

### Abstract

A quantitative framework of combination of liner programming and cooperative game theory was used in this study to analyze and model cooperative contracts in production based on rural households' resources cooperation in Firoozabad plain. Revenues and costs in cooperation game theory have important rule to get agreement. Transaction cost function was used in cooperative costs accounting for moral hazard, contract costs and supervision of performance. Gross margin and individual cultivation plan for each case was calculated assuming that farmers who are individually cultivating can cooperate in various types. Results showed that farmers' benefit increased as a result of cooperation. Furthermore, farmers' benefit is expected to go up due to increase in the number of cooperative groups.

**Keywords:** Cooperative game, Linear programming, Firoozabad plain, Game theory, Transaction cost

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## Investigation of Effect of Exchange Rate Volatility on IRAN's Pistachio Export

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Received:

Accepted:

### Abstract

Exchange rate volatility is one of the effective and AMBIGUOUS factors in agricultural products export. Regarding the importance of agricultural trade, to avoid single-product economy, the main aim of this study is to investigate the impact of exchange rate volatility on the pistachio export of Iran during 1338-1386. For this purpose, exchange rate volatility index was estimated using Generalized Auto-Regressive Conditional Heteroskedasticity (GARCH), firstly. Then, the impact of exchange rate volatility on the value of pistachio export was examined through Johansen's and Juselius's cointegration method and Vector Error Correction Model (VECM). Results indicate that exchange rate volatility has a negative impact on the value of pistachio export. Also, investigation of other model's variables showed that weighted average income of pistachio importer countries, exchange rate and domestic producer price of pistachio have negative effect on export value of pistachio.

JEL: F31, Q17

**Keywords:** Pistachio, Generalized Auto-Regressive Conditional Heteroskedasticity (GARCH), Vector Error Correction Model (VECM), Exchange Rate Volatility, Johansen Co-integration

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## Hybrid Modeling Approach for Prediction of Agricultural Products Prices

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Received: 18-4-2011

Accepted: 10-12-2011

### Abstract

Autoregressive integrated moving average (ARIMA) has been one of the widely used linear models in time series forecasting during the past three decades. Recent studies revealed the superiority of Artificial Neural Network (ANN) over traditional linear models in forecasting. But neither ARIMA nor ANNs can be adequate in modeling and forecasting time series since the first model cannot deal with nonlinear relationships and the latter one is not able to handle both linear and nonlinear patterns simultaneously. Hence by combining ARIMA with ANN and designing the hybrid model, data relationship can be modeled more accurately. In this research, a hybrid of ARIMA and ANN models is designed and its prediction performance is compared with those of competing models. Forecasting performance is examined using common criteria such as MSE, RMSE and MAD. Also the significance of any difference between these measures is tested through application of Granger and Newbold statistic. Forecasting results for world wheat price data indicates that combined model significantly improves accuracy achieved by separate models.

**Keywords:** ARIMA, Hybrid Models, Time Series Forecasting, Artificial Neural Networks

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## Forecasting of Agricultural Crops Import in Iran Artificial Neural Network and Econometric Models Application

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Received: 18-4-2011

Accepted: 23-10-2011

### Abstract

In the present study, agricultural sector import was forecasted by using the econometric and the ANN methods. Import data from 1971 to 2004 and 2004-2009 was used for forecasting, network training and testing forecast accuracy, respectively. The results shown that Feed-forward neural network has much less error and better performance than the ARIMA and the VAR methods. On the basis of the obtained results, import would be increased, in 2010-2013 while the increase in import will not be significant in 2014, it will increase again in 2015. Therefore fundamental efforts should be done to increase production potential and to achieve self-sufficiency, by essential triggering policies.

**Keywords:** Iran , Forecasting, Neural Network, Agricultural Crops, Import

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## An Investigation of Effective Factors on Participation of Farmers (Hedge ratio) in Tomato Futures Market

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Received: 24-04-2011

Accepted: 03-12-2011

### Abstract

One of the major risks in the agricultural sector is the price fluctuations risk of agricultural products. Futures markets for agricultural products as one of the policies and executive approach have a significant impact on reducing price fluctuations of agricultural products. So in this study, In this study the factors affecting farmers to participate (Hedge ratio) in the future market for product sale by using cross-sectional data from 90 tomato farming Mashhad in 2009- 2010 with using of Ordinary Least Square (OLS) model estimated were analyzed. This study result shows that the firstly Hedge ratio of this product to sample between -1.25 to 5.63 variables and secondly the optimum Hedge ratio of 0.03 is. In addition to results Ordinary Least Square model show that the age farmers and farmer debt, the statistically significant and positive effect on the having farmers participate (Hedge ratio) in the futures market and cultivation area, how to sell product and coefficient price changes in cash market variables to have statistically significant and negative effect on the participation (Hedge ratio) in the futures market are farmers. The results of suggested were considered. According to the results, increase awareness of all age groups farmers, through the expansion educational and extension classes and motivate small-scale farmers (target groups) to use this market suggested.

**Keywords:** Futures Market, Cash Market, Mashhad, Tomato, Hedge Ratio

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## Analyzing the Qualitative Factors Affecting the Price of Barberry

### Case Study: South Khorasan Province

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Received: 31-7-2011

Accepted: 10-12-2011

#### Abstract

Barberry is one of the most important products of South Khorasan Province. The objective of this study is analyzing the qualitative factors affecting the price of barberry in this province. Survey data from 100 questionnaires using simple random sampling of households in the city of Birjand, 1389 has been completed, was extracted. Results of the estimating Hedonic Price Model show that puff and a pretty color of barberry and also consumers' knowledge about barberry properties have positive and significant impact on the price of barberry but the impact of brand and package on the price of barberry are not statistically significant. Thus we suggest to aware producers about consumers' taste and utility and aware consumers about the properties of the barberry.

**KeyWords:** South Khorasan Province, Barberry, Consumers' taste, Qualitative Factors

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## Investigating of Carps Groups and Salmons Aquaculture Marketing System in Mazandaran Province

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Received: 2-7-2011  
Accepted: 10-11-2011

### Abstract

Aquaculture is one of the productive activities having a major role on the production growth and aquatics consumption. From Traditional agriculture to agribusiness parallelism, agricultural problem from product supply will be added. Because through this process, product supply will be improved; marketing and market-convey system efficiency will have more impact on the product price in marketing and market-convey diverse level. In this study, Marginal Marketing of carps group and Salmons Aqua cultured were examined in the Mazandaran Province through 1387. Needed information prices were gathered via three groups of culturists, wholesalers, aqua- cultured retailers; likewise, statistics and technical data of fish-culture center were collected through cooperation organizations of carp and salmon and also Mazandaran fishery's office. Results showing absolute marketing margin of carps, Silver carp, Gross carp and big-head carp fishes are respectively as 10199, 6078, 12371, 4387 and salmon fish is 12867 Rials for each Kilograms. The average marketing inefficiency rate for carps, Silver carp, Gross carp and big-head carp fishes are respectively as 31.34, 46.62, 25.2, 62.55 percent and 26.36 percent for salmon. Furthermore, Retail price and the value of procured products for sale are the most important factors in formation of Aquacultures marketing margin.

**Keywords:** Marketing margin, Mazandaran, Carps and salmon aquaculture, Relative Margin Model

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