

Analysis of intersectoral differences and environmentally development process in Iran

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Abstract

Although the economic growth and development of societies have brought them dramatic improvements in various fields, but these achievements were at the expense of a growing environmental degradation. Investigating different national and international reports on the growth and development indicators of Iran reveals a growing trend, but at the expense of an accelerating environmental degradation. Given the importance of the environmental development process, this study investigated the environmental Kuznets curve (EKC) hypothesis considering intersectoral differences between the economic sectors of agriculture, industry and services in Iran during 1988-2012 and using panel mean group (PMG) approach to estimate the Co2 emission function. Results confirmed the existence of the EKC in long run period, though in the short run the structural differences between sectors played an effective roll on the environmental development process and on the existence of the EKC in Iran. Finally, due to the mentioned structural differences, some policy recommendations appropriate to each sector's special features were recommended.

JEL Classification: Q44, C23

Keywords: Environmental Development, Intersectoral Differences, Kuznets Curve, Pooled Mean Group (PMG), Iran

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The Effect spillovers of technology on Growth of Green GDP of Selected in Developing Countries in Asia

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Abstract

The spillovers of technology have been considered to Developing Countries in decades. because, these spillovers lead to increase knowledge and create competitive advantages and economic integration. the importance spillovers of technology in this study ,by dominating model of Romer convey the effect spillovers of technology through two channels of imports with knowledge and inflows of foreign direct investment on green manufacturing of developing countries by using spatial economic methods in Asia during the period of 1995_2012. In this study, green production was calculated by taking the depreciation of natural resources. According to the results, the impact of expenses of research and development and spillovers of technology through the import channel with knowledge is positive and significant. But, the effect of human capital index and spillovers of technology through the channel of inflow of foreign direct investment is negative.

JEL Classification : O11, O33 ,O32 ,J24

Key words: spillovers of technology, Human Capital, Research and Development Expenses, Green GDP.

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Downscaled Analysis of Nature of Climate Changes and Determining the Climatic Scenarios of Agricultural Sector in Hamedan-Bahar Plain

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Abstract

The agricultural sector, as a biophysical-physical system, is heavily dependent on climatic conditions and climate is one of the main factors in determining the location, resources and productivity of agriculture. Hence, prediction of climate changes and evaluation of adaptive strategies to these changes will be effective in reducing damage. Atmospheric general circulation models are the perfect tools to long-term prediction of climatic parameters. But the main weakness of these models is their low spatial and temporal resolution that to overcome this problem, it is necessary in the process of downscaling, spatial and temporal scale model output is reduced. According to this approach, in this study, Downscaled analysis of climate change and determining the regional climatic scenarios in Hamedan-Bahar plain and also comparing them with national scenarios, with a blend of Positive Mathematical Programming model, yield-response regression model and LARS-WG model, were investigated. The results indicated that along with the increase in temperature at a rate of 0.54° C and decrease in rainfall at a rate of 3.4% in Hamedan-Bahar plain, value added of agricultural sector by 2020, will be reduced by 35 billion riyals. But if the average climatic conditions of Iran would be generalized to the plain, value added of agricultural sector by 2020, will increase by 21 billion riyals in the region. These results reveal the need for downscaling of climate forecasts and existence of mismatch between regional studies and national climatic scenarios.

JEL Classification: C02, C30, C46, C63, Q54.

Keywords: Climate changes, downscaling, cropping pattern, agricultural value-added, Hamedan-Bahar plain.

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Optimal Exploitation of Groundwater Resources with Emphasis on Increasing the Welfare of Farmers

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Abstract

The groundwater resources in Hamedan-Bahar plain are threatened by uncontrolled exploitation and overmining. So the underground water levels are depleted. The aim of this study is to analyze the welfare of farmers affected by excessive exploitation of these resources. Information collected in the field, through interviews and questionnaires completed by farmers in 2015. For this purpose, the estimation welfare function, measured the effect of reducing the groundwater level on the welfare of farmers. In this study, the effects of land adjacent to the welfare of farmers, estimated through spatial econometric approach. The correlation coefficient of the estimate showed that the use of spatial regression superior to the classical regression model. The results show that the annual welfare loss per meter groundwater level is for each farmer in wheat and potato 18754300 and 35672800 Rials, respectively. Thus, the losses to farmers, 5632235 Rials, and in the study area is 52 billion rials. Thus, decreased 2.6 percent of the per capita income of farmers. Therefore, considerable reduction in welfare and a continuation of this situation in the long term lead to reduced water availability and reducing the welfare of farmers. Therefore Recommended investment by governments at least reduced welfare, preservation and groundwater recharge. Also be customized to farmers who participate in watershed management projects designed by the government.

JEL Classification: Q1, Q2

Keywords : Groundwater, Spatial econometrics, Welfare function Farmers, Wheat, Potato.

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The Role of Industrial Trade Liberalization on Soil Erosion Changes

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Received: 24 April 2016

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Abstract

Economic policies can directly or indirectly create changes in the function of the agricultural system through impact on relative prices of products and production inputs that these changes are particularly important in terms of soil erosion. Trade liberalization policy is including the policies that indirectly affect environmental phenomena, especially soil erosion. In this research, by communicate between industrial and high erosive crops sectors in format of a multi-sector general equilibrium model assessed implications of industry trade liberalization policy on soil erosion. For this purpose, 2011 data was used for simulation of results. The results indicated trade liberalization (reduction of 5% import tariff) policy improves soil erosion (0.33%). As well as implementation of this policy leads to increase in real income of consumers and decrease in the consumer price index (2.08%) and increase total production (0.07%). The results of the sensitivity analysis revealed that the policy-makers in implementing this policy should take into account regional and behavioral differences. Because the results are sensitive to changes in elasticity and implement it may have negative impacts on soil erosion. Despite appropriate economic and environmental implications of trade liberalization policies in industry, it is recommended that the country is divided into different regions and then assessment of positive and negative effects of industrial trade liberalization on soil erosion in each region, in order to avoid increasing soil erosion performs appropriate policy packages in each region.

JEL Classification: D58, Q15, Q18, Q24

Keywords: Trade Liberalization, Multi-Sector General Equilibrium, Sensitive Analysis, Soil Erosion, Iran.

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Generic Dairy Advertising Effects in a Multi-Market Equilibrium

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Abstract

Advertising is the most important approach to encouraging the individual to consume new goods and services or increase old goods and services consumption. Milk and dairy product as the basic product is one of important healthy product that has been always the main concern of governments, especially Iran's government. In this study, generic dairy (processed milk and cheese) advertising effects on fluid milk price and supply and then producer surplus in farm level was assessed. Then, optimal milk generic advertising expenditure for increasing social milk consumption and maximizing fluid milk producer surplus for years of 2009-2014 with Multi-Market Equilibrium model was assessed. Results indicated that generic processed milk advertising impacts on fluid milk supply in farm level are positive and its elasticity fluctuates from 0.00876 to 0.09244. Also, optimal processed milk advertising share from supplied processed milk was 3.78-20.85 percent. That is, processed milk producers should spend 4-21 percent of their sales to generic advertising to maximization producer surplus farm level.

JEL Classification: Q12, M37, I38

Keywords: Demand, Multi-Market Equilibrium, Advertising, Milk, Iran.

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Analyzing Consumer Willingness to Pay for Chicken without Antibiotics in Mashhad

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Abstract

Production of healthy food products is one of the most important goals of sustainable development of agriculture and society health. Awareness about the behavior of consumers is important to ensure about profitability of production of healthy food products. This study is done to investigate the factors affecting consumers' willingness to pay for chicken without antibiotics in Mashhad. Required data is gathered by random sampling and completing questionnaires from 340 households in 2014-2015. Contingent valuation method and estimating ordered logit model are used to identify the factors affecting consumers' willingness to pay. Results showed that about 19 percent of consumers would not to pay additional amount for buying chicken without antibiotics compared with conventional chicken and 6 Percent willing to pay a premium price were less than 5%. While 55% of people were willing to pay 15 percent additional amount and 20% of them were willing to pay 30% additional amount for buying chicken without antibiotics compared with conventional chicken. Among the studied variables, income of household, education, awareness about characteristics of chicken without antibiotics, health care index, amount of chicken consumption, the number of family members and people who are sensitive to a variety of antibiotics in family have had significant positive effect on willingness to pay for chicken without antibiotics. Also price of chicken without antibiotics has had significant negative effect on dependent variable. Age and gender had have no significant effect on willingness to pay. 29% of respondents have believed high price is the most important problem and 27% of them have believed the absence of proper advertising is the most important problem to buy this product. According to the results, advertising in public media to increase consumers' awareness and subsidy payments for production and consumption of this product are suggested.

JEL Classification:D12, M30, Q13

Keywords: Contingent Valuation, Ordered Logit, Healthy Food Products, Additional Amount

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**Analysis of factors affecting on consumer attitudes about the
use of natural milk in cheese production
with emphasis on Lexicographic**

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Abstract

Many families believe that the use of powdered milk in the production of foam and especially cheese decreases its nutritional valueof and this belief has been led to changes in consumption attitudes of the these families.therefore this study estimated the willingness to pay in order to buy cheese produced from natural milk and determined effective factors on this willingness to pay by completing 201 questionnaires from consumers of cheese in Mazandaran province by using the contingent valuation method and Logit model. The results showed that the consumer who have tendency to quality on average would like to pay 14.94% and concumers who tendency to price on average would like to pay 14.76% more than currently price of cheese for buying cheese produced from natural milk. Also this study showed that more importance to the quality of the cheese compared to the cheese prices from the consumers perspective, education, the monthly demand, price per gram of cheese, household income, buying from farmers, buying the cheese because of being healthy cheese and tend to consume a more cream cheese or white cheese have significant and positive effect and variable number of household members, number of people interested in cheese and Bid variable significantly have had negative effect on the individual willingness to pay. It is proposed that the dairy companies along with existing brands pay attention to Iranian natural cheese brand produced from natural milk. So that if they be able to create this ensure for consumers by using natural cheese brand that cheese has been produced with natural milk, then consumers are willing to pay more compared to the current prices in the cheese market.

JEL Classification: L15 ,L22 ,L66 ,M31

Keywords: Price, Quality, Logit Model, Mazandaran Province

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Price Volatility and Conditional Correlation of Livestock and Poultry Vertical Market Levels in Iran: Applying Constant and Time Varying Conditional Correlation Models

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Abstract

To study price volatility and vertical market integration in the livestock and poultry vertical market levels, the multivariate volatility models, including constant (CCC) and dynamic (DCC and VCC) conditional correlation models were estimated using monthly time series data of broiler feed, chicken, broiler, hay, sheep, calf, beef and mutton prices from April 1997 to March 2014. Estimating the conditional correlation models showed that the constant conditional correlation assumption is a major restriction for the variables under our investigation. Except for retail and wholesale price correlations in poultry market which is constant over time the dynamic conditional correlations are significantly different from the constant conditional correlations, so that the dynamic conditional correlation has experienced strong fluctuations in all cases. The results suggest that in the livestock and poultry markets price information's transmit more from the input level to the retail and wholesale levels than the reverse direction. Moreover, the correlation between the wholesale and retail market levels was larger which means stronger price relations between these two market levels. Estimated volatility models indicate that shocks and news rather than past volatility have greater impact on the current volatility in Iranian livestock and poultry markets. This indicates the necessity of news management in Iran.

JEL Classification: Q11, Q13

Keywords: volatility, time varying conditional correlation, price spillover, vertical market levels, price information flow

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Multiplicative Regression Models Application in Identification of Effective Factors on Integrated Pest Management in Khuzestan Province

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Abstract

The intensive use of pesticides has detrimental effects on the environment. Such challenges show that integrated pest management (IPM) plans should be extended and applied. In this regard, the investigation of effective factors on the number of applied IPM operations by farmers can help to extend IPM. Furthermore, these kinds of studies can be an appropriate guidance for programmers in an administration of sustainable agriculture. For this, in this study, we investigated the effective factors on the number of applied IPM operations in Khuzestan province to reduce pesticides environmental risk. The required data were collected from 180 farmers of Khuzestan province in 2014. According to dependent variable identity, i.e. it is discrete and count data, the multiplicative regression models were used. The dispersion parameters for negative binomial I, II and generalized negative binomial was about zero, while this parameter for generalized Poisson model was -0.429. In addition, the statistics in LR test for negative binomial models and generalized Poisson were zero and 44.71, respectively, that showed our model is under-dispersion. Consequently, the generalized Poisson model was most suitable. With attention to estimated coefficient, farmer's experience, education, knowledge, confronting with pesticides environmental risk and farmer's revenue have positive and significant effects on IPM, while pest severity has negative impacts. The incident rate ratios results showed knowledge level with 1.099 and pest severity with 0.896 were most and least effective factors, respectively. Therefore, poster, visit of farms, which show the effect of chemical poisons, and adoption of persuasive policies to use biologic fight and other IPM operations are necessary.

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

Keywords: Khuzestan province, IPM operations, Count dependent variable, the Multiplicative regression models, IRR.

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