Volume 3, Number 10, Summer 2014

The Effect of Monetary and Non Monetary Shocks on Inflation and Output in Dynamic Stochastic General Equilibrium Model in Open Economy Condition: Case Study of Iran Economy

Jafari Samimi, A.[1], Tehranchian, A.M.[2], Ebrahimi, E.[3], Balounejad Nouri, R.[4*]

Abstract

The aim of this paper is evaliuation effect of monetary and non monetary shocks in Iran economy through New Keynesian Dynamic Stochastic General Equilibrium Modelling in Open Economy condition. For this purpose, parameters of the model are calibrated (1352-1390). In this Model, respect to Iran economy traits, Oil income has been including in separate sector. Also, for more coincidence of model with real word and respect to importance and role of stickiness in affect of output from nominal variable, price stickiness has been including in model and response of economic variable investigated when monetary, oil income and technology shocks was occurred. The results from investigate of impulse response functions shows that in Iran, preliminary effect of monetary, government expenditure and oil income shocks on non oil output and inflation is positive but the effect of technology shock on inflation is negative and on output is positive. Monetary and fiscal discipline, reduction connection between oil revenue and monetary base are recommendation policy of this paper.

Keywords: Dynamic Stochastic General Equilibrium, New Open Economy Macroeconomic, Nominal Stickiness

JEL Classification: C63, E63, Q43, E32

1. Professor of Economics Mazandaran University **Email:** Jafarisa@umz.ac.ir
2. Assistan Professor Economics Mazandaran University **Email:** a.tehranchian@umz.ac.ir
3. Faculty member of the Institute for Monetary and Banking **Email:** ilnazebrahimi@yahoo.com
4. Ph. D student Economics Mazandaran University **Email:** Roozbeh_noury@yahoo.com

Volume 3, Number 10, Summer 2014

An Investigation of the Relationship between Growth and Pollution in the Framework of a Generalized Endogenous Growth Model: A Calibrated Model for Iranian Economy

Harati, J.[1*], Eslamloueyan. K.[2], Sharzei, G. A.[3], Amini, T.[4]

Abstract

The main objective of this article is calibration of an augmented endogenous growth model for Iranian economy. For this purpose, clean technology diffusion assumption is added to augmenting the endogenous growth model to open economy. Optimal control theory used to analytically solving the model and the necessary conditions to place the economy on the sustainable growth path is derived. On this basis, the development sustainability condition is pollution does not increase along with economic growth. In order to empirically test of the model, it has been calibrated with using data and parameter values corresponding to the Iranian economy. The effects of relative risk aversion coefficient, environmental consciousness preferences of producers, environmental consciousness preferences of consumers and clean technology diffusion has been investigated on the growth rate of key variables on the steady state. The results show that the relationship between economic growth and pollution on the steady state growth, and hence sustainable development status, can vary depending on the coefficient of relative risk aversion. So that for small values of relative risk aversion coefficient, along with economic growth the pollution increase and for larger values of that parameter, pollution will decrease along with economic growth. The sensitivity analysis shows that the environmental consciousness preferences of producers and environmental consciousness preferences of consumers have the most positive impact on the stock of pollution. Moreover, the parameter of clean technology diffusion has a significant impact on emissions of pollutants and pollution intensity in Iranian economy. This result is important from the standpoint of policy and planning to achieve sustainable development.

Keywords: Growth, Pollution, Environmental Consciousness, Clean Technology Diffusion, Calibration, IRAN

JEL Classification: F18, C36, O44, Q53, R11

1. Assistant Professor, University of Bojnord **Email:** j.herati@ub.ac.ir
2. Associate Professor, Shiraz University **Email:** keslamlo@rose.shirazu.ac.ir
3 Associate Professor, University of Tehran, **Email:** ghsharzei@yahoo.com
4. Faculty Member, University of Bojnord, **Email:** t.amini@ub.ac.ir

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Determinants of carbon dioxide emissions by urban households: Heckman Two-Stage Approach

Mohammadzadeh, P.[1*], Akram Akbari[2]

Abstract

Growth in urban populations causes extension of economic activity and increases energy consumption that lead to increases in the types of greenhouse gas emissions (especially CO_2). Thus, Carbon dioxide emissions may create significant social harm because of global warming and risks of climate change. In this paper, we attempt to quantify the carbon dioxide emissions associated with home heating, and household electricity usage and transportation (annual consumption of gasoline by households who own cars) in different cities across the country by using pooling data and Heckman two stage approach. For this purpose, we have used the data of cost-income for 14000 urban households in the year 1388.

The results of estimation equations related to home heating, household electricity usage and transportation indicate that income has a positive and significant effect on consumption of three types of energy. Also, there are positive association between CO_2 emissions and income, Household Size and Age of Household Head.

Keywords: CO_2 Emission, Energy Consumption, Transportation, Heckman Two-Stage

JEL Classification: Q56, R4, C25

1. Associate Professor in Economics, University of Tabriz **Email:** pmohamadzadeh@yahoo.com

2. MSc in Economics, University of Tabriz **Email:** akramakbari98@yahoo.com

Volume 3, Number 10, Summer 2014

The Effects of Internal R&D and Technology Import on the Export of Food and Drink Materials in Iran

Behzad Salmani[1*], Hassan Abdi[2]

Abstract

With regard to the significance and high proportion of food and the drink materials' export in industrials' export basket and their impact on balanced economic growth in Iran, it is essential that effective factors on the export of such products be investigated. The main purpose of this study is to investigate the effects of technology import and internal R&D on the export of food and drink materials industries in Iran, using a panel data over the period 2000-2007. The empirical results show that R&D, technology import, human capital, manufacturing product and real exchange rate have positive and significant effects on the export of food and drink materials. In addition, the domestic demand of manufacturing goods and price index of export goods have negative and significant impact on the export of these products.

Keywords: R&D, Technology Import, Export of Food and Drink Industry, Panel Data

JEL Classification: F14, O32, Q18

1. Associate Professor, Department of Economics, University of Tabriz **Email:** behsalmani@gmail.com

2. Ph.D. Student, Department of Economics, University of Tabriz **Email:** hassanabdi77@yahoo.com

Applied Economics Studies, Iran (AESI) 5

Volume 3, Number 10, Summer 2014

Oil Price Volatility and Sustainable Economic Growth: a Case Study of Iran and Japan

Mehregan, N.[1*], Salmani, U.[2]

Abstract

The achievement to the sustainable economic growth with stabilize volatility is the main objectives of economic policy makers in various countries. Because of continuously oil prices change, which interpreted as shock, the importance of this issue is more prominent in countries associated with international oil markets. Beneficiaries and incur losses countries from future oil price shocks are quite randomly, due to the random nature of the most of them. While, the economy of both importing and oil exporting countries will be admittedly hurt by crude oil price volatility. In present study, oil price volatility is modeling with ARCH family models and so the effect of oil price volatility on Sustainable Economic Growth in Iran and Japan economic is investigated using Markov Switching models.

Results of modeling of the volatility show that the role of oil price shocks in development of price volatility is asymmetric. Also the base of Markov Switching models, the hurt of oil price volatility on economic growth of Iran is more than Japan by three regimes. As oil price volatility is one of the causes of low economic growth and, The existence of the oil price volatility, achieve to the sustainable economic growth for the economy of Iran is very difficult. The oil prices volatility, against, just prevents the Japanese economy to achieves the high economic growth. So that the existence of the oil price volatility, the Japanese economy is able to promote sustainable economic growth to the average economic growth state and probability of switching of its status to status of lower economic growth is very low.

Keywords: Oil Price Volatility, Iran, Japan, Sustainable Economic Growth

JEL Classification: C22, E32, Q41, O57

1. Associate Professor of Economics, Bu-Ali Sina University **Email:** mehregannader@yahoo.com

2. Ph.D. Student in Economics, Tarbiat Modares University **Email:** unes.salmani@gmail.com

Volume 3, Number 10, Summer 2014

Energy consumption, Electricity consumption and Human Development in Iran: A Bounds Test Approach

Fotros, M. H.[1], Torkamani, E.[2*]

Abstract

Studies on the relationship between energy consumption and economic growth have mostly used per capita gross domestic product or GDP to measure economic growth. Such an approach cannot explain the increase in economic development and human development. This paper uses ARDL method and Bound tests to examine the relationship between per capita energy consumption, per capita electricity consumption and human development as a proxy of human well-being for period 1971 to 2011 in Iran. Results indicate that per capita consumption of energy in the short-term and in the long-term have a negative impact on the human development index. Per capita electricity consumption has a significant positive impact on human development in the short-term and in the long-term. Results also show that in the long-term, the impact of per capita electricity consumption is about two times the impact of energy consumption. Results of causality tests show a two-way causality relationship between energy consumption and human development and, a two-way causality relationship between electricity consumption and human development in the long-term.

Keywords: Energy consumption, Electricity consumption, Human Development Index, Bounds test

JEL Classification: O13, O15, C52

1. Professor of Economics, Bu-Ali Sina University **Email:** fotros@basu.ac.ir

2. M.A. in Economics, Bu-Ali Sina University **Email:** esmaeltorkamani@yahoo.com

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Structural decomposition analysis of Iran emission: Input – Output Approaches

Sadeghi, Z.[1*], Horry, H. R[2], Mohamdmirzaye, A.[3]

Abstract

In this paper is tried to analyze emission decomposition of CO_2 to three effects include Leontief Structure (ΔC_{str}), Final Demand Effect (ΔC_{fdm}) and Emission Intensity Effect (ΔC_{int}) by using of structural decomposition analysis (SDA). Then, we compare three such SDA methods analytically and empirically through decomposing changes in Iran's CO_2 emissions. SDA's method is consisted of Lasppeyres and Divisa family. this paper is used of 1986-1991 and 2001-2006 tables for estimating *SDA* methods. this study is also used RAS method for gaining inside-sector exchanges matrix, to assimilate 2001-2006 tables. The results show that three above effects in-group participate increasing emission (in both comparison of 1986-1991 and 2001-2006). Whereas the sub-categories results for three methods (MRCI, LMDI-I and LMDI-II) are close to each other in 1986-1991. But above results are not true for 2001-2006.

Keywords: Structural Decomposition Analysis, Index Decomposition Analysis, Energy Consumption, Input- Output Analysis

JEL Classification: C67, P28, Q43, Q54, Q56, R15

1. Assistant Professor in Economics Department of Shahid Bahonar University **Email:** abed_sadeghi@yahoo.com
2. Assistant Professor in Economics Department of Shahid Bahonar University **Email:** horryhr@yahoo.com
3. MS.c of economics, Shahid Bahonar University **Email:** a.mohamdmizaye@yahoo.com

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The intergenerational analysis of urban household expenditure by using the Pseudo panel

Raghfar, H.[1*], Babapour, M.[2]

Abstract

In this paper, the behavior of households' consumption expenditures is investigated in the life cycle model as one of the determinant factors of welfare. For this purpose, consumption expenditures were decomposed into age, cohort and time effects by using Deaton (1997) model. The main focus of this model is to explain the intergenerational behavior of consumption. Survey of long-term consumption expenditure through comparison of different generations represents valuable information about quality of individual and household's life during time.

This objective is fulfilled by constructing pseudo panel that combines twenty nine years of cross-sectional Household Expenditures and Income Surveys from 1984 to 2012. The pseudo panel is constructed with cohorts which are limited to those born between 1926 and 1980. Furthermore, unemployment rate will be reviewed as one of the factors that affect people's expenditures. High unemployment rate and vague perspective of labor market among youth and new generations makes this review much more important.

Results indicate that consumption expenditures of the younger cohorts relative to their predecessors at the same age increased, but the increasing rate is decreasing. The age effects results indicate that expenditures rise until age 50 and after that are relatively flat until age 60 and then declining gently. The year effects show that life cycle expenditure is consistent with economic changes during different years in Iran. The results of unemployment rate show that between age 25 and 37 the unemployment rate is falling, and after that it is nearly constant. The results of cohort effects also suggest that in similar ages, there is no significant differences in the unemployment rate of those born between 1926 and 1970 but the cohort effects are rising for cohorts born after 1971.

Keywords: Life Cycle Model, Age Effect, Cohort Effect, Time Effect, Urban Households Expenditures, Pseudo-Panel Data

JEL Classifications: C23, E20, E21, D91, J11

1. Associate Professor, Department of Economics, Alzahra University **Email:** raghhg@alzahra.ac.ir

2. M.A. Department of Economics, Alzahra University **Email:** babapour.mitra@yahoo.com

Volume 3, Number 10, Summer 2014

Effects of Energy Price Liberalization Policies on Water & Soil Resources in Agriculture sector , Using Mathematical Programming Approach

Balali, H.[1*], Mantashloo, M.[2]

Abstract

Subsidies have been paid on agriculture inputs with the aim of supporting producers in order to develop agricultural products as the vital needs of consumers and as a result increase social well-being. But the low cost of energy as an important production input in agriculture sector which draws certain government supports, has undesired effects on different parts of society including agriculture. Among the undesired consequences of this policy are low energy efficiency, environment destruction threat and therefore an influence on sustainable agriculture factors, high internal consumption compared with international standards, and the high cost of energy subsidies imposed on public budget. To investigate the effects of energy price liberalization policies on the environmental factors of sustainable agriculture, this study uses partial equilibrium (PE) with mathematical programming approach and analyzes the effects of different energy cost scenarios on these indicators. The results of running the model in GAMS 22.9 software showed that decreasing energy subsides had positive influence on the improvement of environmental indicators, consumed water, and N and K fertilizers per hectare.

Keyword: Energy Prices, Environmental indicators, Water & Soil Resources, partial equilibrium, mathematical programming

JEL Classifications: Q42, Q56

1. Assistant Professor of Economic of Agriculture, Bu-Ali Sina University **Email:** h-balali@basu.ac.ir

2. Ms.c student of Rural Development, Bu-Ali Sina University **Email:** m.mantashloo@yahoo.com

Applied Economics Studies, Iran (AESI) 10

Volume 3, Number 10, Summer 2014

The Effects of Exchange Rate Fluctuations on the Exports Patterns of Iran

Kazeruni, A.[1], HassanNezhade Daneshmand, E.[2*], Maniei, O. [3]

Abstract

Since the collapse of Bretton Woods system and emergence of floating exchange rate regime, the world economy has been exposed to a higher uncertainty associated with greater foreign exchange rate fluctuations and volatility which could disturb world trade flow. Among different sectors of Iranian economy, the non-oil exports of Iran seem to react more to these fluctuations. The impact of exchange rate shocks on Iranian exports as an aggregate have been evaluated by previous studies. As a case study, the main objective of this study has been to investigate the effects of exchange rate shocks on the exports of different sectors of Iranian economy over 2002-2011 using a nonlinear Markov-Switching model. The empirical results suggest that the exchange rate shocks have changed the pattern of overall exports as well as export shares of the various segments of Iranian economy. The main conclusion reveals that the sectorial exports have responded differently to the exchange rate shocks. Moreover, despite positive effects of the exchange rate volatility on the exports of 5 sectors under study by the world financial crisis, the lack of attention to the non-oil exports by the policy makers has led to vulnerability of these sectors to the volatility.

Keywords: Exchange rate Fluctuations, Real exchange rate, Markov-switching model

JEL Classification: F31, D51, O21, F11

1. Professor, Faculty Economics, Management and Commerce , University of Tabriz **Email:** Ar.Kazerooni@gmail.com

2. M.A in Economics, University of Tabriz **Email:** Elnaz.daneshmand@gmail.com

3. Ph.D. Student of Economics, University of Tabriz **Email:** omid.maniei@gmail.com

Applied Economics Studies, Iran (AESI) 11

Volume 3, Number 10, Summer 2014

Investigating the Behavior of Foreign Exchange Market Pressure Index in Iran: Using a Smooth Transition Autoregressive Model (STAR)

Hadian, E.[1*], Oujimehr, S. [2]

Abstract

The main purpose of this paper is to investigate the behavior of the foreign exchange market pressure index (EMP) in the context of the Iranian economy؛ To do so, in first, EMP index has been calculated by employing a Model- Independent approach؛The result of this step shows that EMP index has a nonlinear nature and foreign exchange market is faced a non smooth condition by forces of appreciation and depreciation pressure؛ Such a result makes clear that the exchange market pressure should be analysed in a non-linear model؛ On the basis of this result, then we use the smooth transition autoregressive model (STAR) to investigate the foreign exchange market pressure index behavior؛ The final results indicate that during the depreciation pressure regime, changes in money and inflation have a positive and significant effect on the EMP and during the appreciation pressure regime, inflation has a negative and significant coefficient؛

Keywords: exchange market pressure, STAR model

JEL Classification: F31, E31, F41, C1

1. Associate Professor in Economics ,University of Shiraz **Email:** ehadian@rose.shiraz.ac.ir

2. Ph.D. student in Economics ,University of Shiraz **Email:** Oujimehrs@yahoo.com

Applied Economics Studies, Iran (AESI) 12

Volume 3, Number 10, Summer 2014

Estimation of Monetary Value of Functions and Services in Marakan Protected Area with Choice Experiment Method

Khodaverdizadeh, M.[1*], Khalilian, S.[2], Hayati, B.[3], Pishbahar, E.[4]

Abstract

Knowledge about the importance of the natural environment, particularly the protected areas has increased. But Real understanding of the importance of this critical habitat is low. Due to change in the global approach in management of protected About the functions and services, the purpose of this study is estimation of improve value in functions and services in Marakan Protected Area. Hence, in this study, data was collected through questionnaires completed by 245 households in two provinces of East and West Azerbaijan in 1391. To estimate the value of functions and services in this area was used the conditional logit model and choice experiment method. Results showed that 81% of the Respondents were willing to pay for Improvement the functions and services. The results showed that the variables of the functions and services, education, marital status, presence of children, high environmental trends and price, age have the positive effects and negation effects in selection of Improvement options, Respectively. Willingness to pay for changes from current situation to improve in levels of animal species, plant species, tourism facilities, natural landscape and training facilities Obtained 23080, 13670, 9950, 21180 and 3590 Rials, respectively. Monetary value of Marakan Protected Area was estimated at 64,323 million Rials.Thus to quantitative revealing the importance of functions in areas, people will understand that this protected area have high values.

Keywords: choice experiment, conditional logit, Marakan Protected Area, Willingness to pay

JEL Classification: Q51, Q57

1. Assistant Professor, Department of Agricultural economics, Urmia University **Email:** mo.khodaverdizadeh@urmia.ac.ir
2. Associate Professor, Department of Agricultural economics, Tarbiat Modares University **Email:** khalil-s@modares.ac.ir
3. Associate Professor, Department of Agricultural economics, Tabriz University **Email:** b-hayati@Tabrizu.ac.ir
4. Assistant professor Professor, Department of Agricultural economics, Tabriz University **Email:** pishbahar@yahoo.com