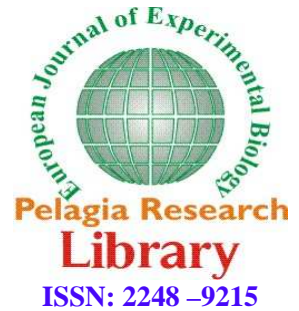




Pelagia Research Library

European Journal of Experimental Biology, 2011, 1 (3):79-89



Sources of Date Export Supply and investigating the elasticity's of supply for Date Export in Iran

Safdari Mehdi¹, Motiee Reza²

¹Department of Economics, University of Qom, Iran

²Department of Economics, Babol Branch, Islamic Azad University, Babol, Iran

ABSTRACT

Talk about foreign trade is one of the important topics in economic development country. This article estimates the major determinants of Date export supply in Iran. The theoretical framework is based on this assumption that export prices have a positive impact on volume of exports. This study uses annual time series data (1970-2007) and unit root tests and analyze them using Auto Regressive Distributed Lag (ARDL) model by Pesaran et al. [1]. This co-integration technique accommodates potential structural breaks that could undermine the existence of a long-run relationship between pistachio export supply and its main determinants. Most important problems in Iran about of Date export are including unfavorable packaging, improper grading and nonconformity in quality standards.

Keywords: Date export supply, unit root test, autoregressive distributed lag (ARDL).

INTRODUCTION

Many trade studies have tried to find the reason why some countries are successful exporters. The main issue is "...whether manufactured exports ... are predominantly dependent upon the economic prosperity of [the countries'] trading partners or ... their ability to compete in export markets on the basis of price" [2]. What are the main determinants of a supply function in Date export? The potential answer of this question has important policy implications. Standard models of export supply include explanatory variables such as export prices (relative contribution of improved export profitability), variable home and foreign costs, and productive capacity [3]. In recent empirical literature, however, some researchers [4] have contributed to the empirical modeling and the issue of developing country export supply significantly. Iran's foreign trade is

known by single-product exports and excessive dependence on the exchange earnings resulted of oil exports. Therefore, of long times, extreme fluctuations of incomes resulted from oil exports, population growth and scarcity of oil resources led policymakers and planners to believe that non-oil export development and single-product exports is an inevitable necessity. For this reason, in the third development plan national¹, mutations in non-oil exports was called to core of sustainable development. In addition to the need to develop non-oil exports, usually considered to be growth and development in Iran when crude oil exports and derived incomes from the sale to be recession. Iran's past experience on exchange income fluctuations Iran's it is necessary to carry out policy in field of increase non-oil exports especially exports of agricultural products due to various factors including high dependence these products on internal sources and having abundant natural resources.

Iran is one of the producer and exporter in Date industry accounted for 34.1 percent of world production, cultivation area, export quantity and export value, respectively (FAO, 2003). Around 0.09 percent of non-petroleum export value is realized from Date accounted for about 100 million dollar per year. Dates are major non oil exportable agri-crops in Iran with an outstanding historical background. The country enjoys a reputation for its dates export at global level and has maintained a 1st or 2nd rank in dates export globally. This survey aims at identification and assessment the impacts of effective factors contributing in dates export development, using theoretical principles in export supply with focus on economic analyzing techniques. Moreover, calculating the elasticity of effective factors on dates export supply, specially the elasticity of price and income, role of relative prices, exchange rate, world dates production and the link in dates export have been examined in this analysis. Date is cultivated in Iranian dry regions with low rainfall of nearly 100 mm/year with also extreme geographical climate and temperatures. High salinity level of agricultural water and inadequate irrigation are the main restrictions that farmers are facing [6]. As such areas are not suitable to produce other crops economically; hence Date plantation remains the only opportunity of farmers. Date is one of the major exported produce of the country, so the study of Date export supply, production – export growth and export competitiveness is one of the major areas of research to be covered by the researchers to define the major sources of export changes and to use the appropriate tools in retaining the country competitiveness power in world market. The review of literature shows that exponential trend equation is widely used for the aim of studying growth pattern. [7] computed the growth rate in area, production and productivity of sweet Potato in major growing states, [8] estimated the annual compound growth rates in the exports of principal agricultural commodities from India, [9] studied the compound growth rates of Pulses in India, [10] while assessing the regional variations in agricultural performance in India, estimated the compound growth rates of area, production and yield of pulses, [11] quantified trend and growth rate of area, production and yield of fruit crops in Haryana.

Dass [12] studied coffee exports in India and the aims of this study are including determination of effective factors on coffee exports, measuring growth rate of coffee exports and effective factors on it. The results of this study showed that domestic product has a positive and significant

¹ Pre-revolution economic plans in Iran include: third plan during 1963-1967, fourth plan during 1968-1972, fifth plan during 1973-1977 and economic plans during war and Islamic revolution during 1978 through 1988 and also economic, social and cultural development plans of Islamic republic of Iran including first plan during 1989-1993, second plan during 1994-1998, third plan during 1999-2004 and fourth plan during 2005-2009.

effect on product export but the actual increase in exports and pure national income per capita leads to decreasing volume of coffee exports during (1972-1986) in India. Mookergee [13] have analyzed the relationship between exchange rate, volume of India's export, gross domestic product (GDP) in countries of Organization of Economic Cooperation (OEC) and also world GDP by time series data and using co-integration approach in India. Results showed that volume of India exports is sensitive to real exchange rate and world GDP growth rate. Therefore be inferred that India can take more profit from policies to encourage exports than state that exports should be encouraged by decrease of domestic currency value. Fountas, and Berdin [14] have used the co-integration technique and error correction model in order to studying exchange rate changes impact on Irish exports to Britain. In this study long term relationship in Irish exports was estimated using co-integration technique and used error correction model to determine short term relationship between exchange rate changes and exports. In addition, was used the moving standard deviation index of percent real exchange rate as a measure of exchange rate changes. The results of this study showed that in long term exports is dependent on income importing countries and relative prices significantly. Based on error correction model estimated, exchange rate changes only in short term is led to decreasing Irish exports to Britain. Khalilian and Farhadi [15] have studied effective factors on agricultural exports during 1962-1999 in Iran. The results of this research showed that gross domestic product (GDP), relative export prices and domestic demand have a significant effect on export supply in agricultural products and also exchange rate have not significant effect on export supply in agricultural products which This is one reason that in during study foreign government policies on agricultural exports have been inappropriate.

Noori and Kopae [16] estimated demand and supply functions for pistachio export and results showed that elasticity demand for pistachio export than exchange rate is equal to -0.389 and this represents the negative effect of exchange rate changes on incomes resulted of pistachio export. Narayanan and Reddy [17] studied behavior of net export supply function for dominant agricultural commodities in India. They used time series data during 1960-1986 published by FAO. The results showed that India do import substitution policies instead of export encourage and also states that domestic factors such as production and domestic price have an important effect on export changes. Abdshahi and Torkamani [18] discussed citrus exports in Iran. The aim of this research is investigating effective factors on citrus exports and determining presence or absence instability in export incomes. They used time series data during 1981-1997 and results showed that variables of domestic product and wholesale price index have had respectively positive and negative effect on fresh lemon exports. Variables of export price, domestic product, exchange rate and GNP have a positive and significant effect on orange exports. Here, there is instability in export earnings resulted of fresh lemon, orange and total citrus. Instability of fresh lemon exports is due to export supply and for orange and total citrus export is due to export demand.

The present research explores from macro perspective an alternative way in which the Date export supply in agricultural sector could be explored employing time series data. Following [8], the most important factors export supply are including export prices of goods, wholesale price index, exchange rate, volume of goods domestic product and gross national product. For that purpose, we use the bounds testing (or ARDL) approach to co-integration proposed by Pesaran [1] to test the sources of Date export supply growth using data over the period 1970–2007. The ARDL approach to co-integration has some econometric advantages which are outlined briefly in

the following section. Finally, we apply it taking as a benchmark [8] study in order to sort out whether the results reported there reflect a spurious correlation or a genuine relationship between Date export supply and the variables in question. This contributes to a new methodology in the Date export supply literature. Next section starts with discussing the model and the methodology. Then in Section 3 we describe the empirical results of unit root tests, the F test, ARDL co-integration analysis, Diagnostic and stability tests and Dynamic forecasts for dependent variable and Section 4 summarizes the results and conclusions.

MATERIALS AND METHODS

The model: Exports of goods and services have an important role in the national economies. With the business boom, all countries are trying to carry out appropriate policies that engine of economic growth be making active. Therefore competition increases in business and in this case, countries that have had a clear strategy and the perspective of export products, they have been more successful [19]. According to previous studies in the field of export, the most important factors affecting on the export supply are including the export price of goods desired, wholesale price index, exchange rate, volume of domestic product of goods desired and Gross Domestic Product (GDP). Here, we survey effective factors on Date export supply by linear function and logarithmic – linear. The proposed form of logarithmic – linear function is as follows [8]:

$$X_t^s = APE_{it}^{\alpha_1} PD_{it}^{\alpha_2} DP_{it}^{\alpha_3} GNP_{it}^{\alpha_4} ER_{it}^{\alpha_5} \quad (1)$$

Where:

X_t^s = Volume of Date export supply, PE_{it} = Date export price, PD_{it} = wholesale price index, DP_{it} = Date domestic product, GNP_{it} = Gross Domestic Product, ER_{it} = exchange rate, $\alpha_1 > 0$, $\alpha_2 < 0$, $\alpha_3 > 0$, $\alpha_4 < 0$, $\alpha_5 > 0$.

The liner function form has been given in following equation:

$$X_t^s = A + \alpha_1 PE_{it} + \alpha_2 PD_{it} + \alpha_3 DP_{it} + \alpha_4 GNP_{it} + \alpha_5 ER_{it} \quad (2)$$

In these functions, we assume that export price have a positive effect on volume of export [20]. For review in percent changes of exports than each of the variables, it is measured volume of export elasticity than its variable. Our empirical analysis in Section 3 is based on estimating directly long-run and short-run variants of Eq. (2). All the data in this study are obtained from *Central Bank of Iran (2004)*², *FAO Statistical Report, department of commerce* and the *Islamic Republic of Iran Customs Administration* during the period 1970-2007.

The methodology: The objective of this article is to employ co-integration and error-correction modeling to test the causal relationship between unemployment rate and real national income growth rate by using quarterly data for Malaysia from year 1970 to 2007. We use a relatively new estimation technique, which is the bounds testing approach to co-integration, within an autoregressive distributive lag (ARDL) framework, proposed by Pesaran and others (Pesaran and Pesaran, 1997; Pesaran and Shin, 1999; Pesaran *et al.*, 2001). The main purpose to employ ARDL

² *National Accounts of Iran in 1997 constant prices*

in this study is mainly due to the order of integration is no longer a sensitive issue, it can be applied regardless of whether the regressors are $I(0)$ or $I(1)$, as normally the nature of national income is non stationary. In addition, the bound test stressed good small sample properties in comparison to standard co-integration analysis and without the pre conditions for stationary. The following autoregressive distributed lag, ARDL model will be estimated in order to test the co-integration date export supply. Recent advances in econometric literature dictate that the long run relation in Eq. (2) should incorporate the short-run dynamic adjustment process. It is possible to achieve this aim by expressing Eq. (2) in an error correction model as suggested by Engle and Granger [21]. Then, the equation becomes as follows:

$$\begin{aligned} \Delta X_{t,j}^s = & b_0 + \sum_{i=1}^{m1} b_{1i,j} \Delta X_{t-i,j}^s + \sum_{i=0}^{m2} b_{2i,j} \Delta PE_{t-i,j} + \sum_{i=0}^{m3} b_{3i,j} \Delta PD_{t-i,j} \\ & + \sum_{i=0}^{m4} b_{4i,j} \Delta DP_{t-i,j} + \sum_{i=0}^{m5} b_{5i,j} \Delta GNP_{t-i,j} + \sum_{i=0}^{m6} b_{6i,j} \Delta ER_{t-i,j} + \gamma \varepsilon_{t-1} + \mu_t \end{aligned} \quad (3)$$

Where Δ represents change, m_i is the number of lags, γ is the speed of adjustment parameter and ε_{t-1} is the one period lagged error correction term, which is estimated from the residuals of Eq. (2). The [21] method requires all variables in Eq. (2) are integrated of order one, $I(1)$ and the error term is integrated order of zero, $I(0)$ for establishing a co-integration relationship. If some variables in Eq. (2) are non-stationary we may use a new co-integration method proposed by Pesaran [1]. This approach is also known as Auto Regressive Distributed Lag (ARDL) that combines Engle and Granger [21] two steps into one by replacing ε_{t-1} in Eq. (3) with its equivalent from Eq. (2). ε_{t-1} is substituted by linear combination of the lagged variables as in Eq. (4).

$$\begin{aligned} \Delta X_{t,j}^s = & c_0 + \sum_{i=1}^{n1} c_{1i,j} \Delta X_{t-i,j}^s + \sum_{i=0}^{n2} c_{2i,j} \Delta PE_{t-i,j} + \sum_{i=0}^{n3} c_{3i,j} \Delta PD_{t-i,j} + \sum_{i=0}^{n4} c_{4i,j} \Delta DP_{t-i,j} + \sum_{i=0}^{n5} c_{5i,j} \Delta GNP_{t-i,j} \\ & + \sum_{i=0}^{n6} c_{6i,j} \Delta ER_{t-i,j} + c_7 X_{t-1,j}^s + c_8 PE_{t-1,j} + c_9 PD_{t-1,j} + c_{10} DP_{t-1,j} + c_{11} GNP_{t-1,j} + c_{12} ER_{t-1,j} + \gamma \varepsilon_{t-1} + \mu_t \end{aligned} \quad (4)$$

Furthermore, the ARDL method avoids the larger number of specification to be made in the standard co-integration test. These include decisions regarding the number of endogenous and exogenous variables (if any) to be included, the treatment of deterministic elements, as well as the optimal number of lags to be specified. The empirical results of are generally very sensitive to the method and various alternative choices available in the estimation procedure (Pesaran and Smith, 1998). With the ARDL, it is possible that different variables have different optimal lags, which is impossible with the standard co-integration test. Most importantly, the model could be used with limited sample data (30 observations to 80 observations) in which the set of critical values were developed originally by Narayan (2004) by using GAUSS.

The bound testing procedure is based on F-statistics and is the first step of the ARDL co-integration method. Accordingly, a joint significance test that implies no co-integration under the null hypothesis, ($H_0: c_4=c_5=c_6=0$), against the alternative hypothesis, (H_1 : at least one c_4 to $c_6 \neq 0$) should be performed for Eq. (4). The F test used for this procedure has a non-standard distribution. Thus, Pesaran et al. [1] computed two sets of asymptotic critical values for testing co-integration for a given significance level with and without a time trend. One set assumes that

all variables are $I(0)$ and the other set assumes they are all $I(1)$. If the computed F-statistic exceeds the upper bound critical value, then the null hypothesis of no co-integration can be rejected. Conversely, if the F-statistic falls below the lower bound critical value, the null hypothesis cannot be rejected. Lastly, if the F-statistic falls between these two sets of critical values, the result is inconclusive. The short-run effects between the dependent and independent variables are inferred by the size of coefficients of the differenced variables in Eq. (4). The long-run effect is measured by the estimates of lagged explanatory variables that are normalized on estimate of c_4 . Once a long-run relationship has been established, Eq. (4) is estimated using an appropriate lag selection criterion. At the second step of the ARDL co-integration procedure, it is also possible to obtain the ARDL representation of the Error Correction Model (ECM). To estimate the speed with which the dependent variable adjusts to independent variables within the bounds testing approach, following Pesaran et al. [1] the lagged level variables in Eq. (4) are replaced by EC_{t-1} as in Eq. (5):

$$\begin{aligned} \Delta X^s_{t,j} = & \alpha_0 + \sum_{i=1}^{k1} \alpha_{1i,j} \Delta X^s_{t-i,j} + \sum_{i=0}^{k2} \alpha_{2i,j} \Delta PE_{t-i,j} + \sum_{i=0}^{k3} \alpha_{3i,j} \Delta PD_{t-i,j} + \sum_{i=0}^{k4} \alpha_{4i,j} \Delta DP_{t-i,j} \\ & + \sum_{i=0}^{k5} \alpha_{5i,j} \Delta GNP_{t-i,j} + \sum_{i=0}^{k6} \alpha_{6i,j} \Delta ER_{t-i,j} + \lambda EC_{t-1,j} + \mu_t \end{aligned} \quad (5)$$

A negative and statistically significant estimation of λ not only represents the speed of adjustment but also provides an alternative means of supporting co-integration between the variables.

RESULTS AND DISCUSSION

Unit Root Tests: The review stationary or non stationary for time series is one of the major topics in time series analysis and generally when a time series is stationary that during time Mean, variance, covariance and correlation coefficient remain constant. One of the methods for determining stationary is Unit root test by Augmented Dickey – Fuller (ADF). Since the testing of the unit roots of a series is a precondition to the existence of co-integration relationship, originally, the Augmented Dickey-Fuller [21] (ADF) test was widely used to test for stationary. This test is based on following equation:

$$\Delta Y_t = \alpha + \beta t + m Y_{t-1} + \sum_{i=1}^m \alpha_i \Delta Y_{t-i} + \varepsilon_t \quad (6)$$

Where Δ is operator difference first order and ε_t is error pure impaired.

$$\begin{cases} H_0 : m = 0 \\ H_1 : m < 0 \end{cases} \quad (7)$$

Zero hypotheses are that time series variable has unit root. In fact, this test is the assumption having unit root (non stationary) or having no unit root (stationary). Basically, this test determines whether the estimations of m are equal to zero or not. Fuller [22] has provided cumulative distribution of the ADF statistics by showing that if the calculated-ratio (value) of the coefficient is less than critical value from Fuller table, then Y is said to be stationary. However,

this test is not reliable for small sample data set due to its size and power properties [24, 25]. For small sample data set, these tests seem to over reject the null hypotheses when it is true and accept it when it is false. The results of ADF test is displayed in Table 1.

Table 1: Results of unit root by ADF test

Variables	Level	1 st Differences	integrated of order
X ^s	-1.25	-4.54*	I(1)
PE	-2.93	-7.48*	I(0)
PD	-1.04	-4.12*	I(1)
DP	-1.12	-6.17*	I(1)
GNP	-1.23	-4.79*	I(1)
ER	-3.03	-7.35*	I(0)

Note: * denote statistical significance at 1%

The results reported in Table 1 show that null hypothesis of ADF unit root is accepted in case of X^s, PD, DP and GNP variables but rejected in first difference at 1% level of significance. This unit root test indicate that X^s, PD, DP and GNP variables considered in the present study are difference stationary I (1) while PE and ER variables are level stationary I(0) as per ADF test. On the basis of this test, it has been inferred that X^s, PD, DP and GNP variables are integrated of order one I (1), while PE and ER variables are integrated of order zero I (0). The results of the ADF test indicate that some series under investigation are non-stationary in level and with one difference it show strong evidence against the unit root hypothesis in some of the variables under investigation. The computed break dates correspond closely with the expected dates associated in 1997. Under these circumstance and especially when we are faced with mix results, applying the ARDL model is the efficient way of the determining the long-run relationship among the variable under investigation. Therefore, we will apply this methodology in the section 3.3.

The F test: Firstly, an Ordinary Least Square (OLS) regression is estimated for the first differences part of equation and then tested for joint significance of the parameters of the lagged level variables. In order to test the presence of long-run relationship between X^s, PD, DP, PE, ER and GNP, Eq. 5 is estimated. A general to specific modeling approach guided by the short data span and Schwarz's Bayesian Criterion (SBC) respectively to select a maximum lag order of 2 for the conditional ARDL-VECM is preferred because of annually frequency. The joint null hypothesis of the coefficients being equal to zero means no long-run relationship has been tested with F-statistics. The presence of co-integration between the variables is accepted if F-statistics reject the null at 95 per cent critical bound values generated by Narayan [26] for small sample.

Table 2: Bound Test for Co-integration

Dependent Variable (Intercept and no trend)	SBC Lag	F-Statistic	Probability	Outcome
F _{X^s} (X ^s PD, DP, PE, ER, GNP)	1	6.0123*	0.002	Co-integration
F _{PD} (PD X ^s , DP, PE, ER, GNP)	1	1.3252	0.113	No Co-integration
F _{DP} (DP X ^s , PD, PE, ER, GNP)	1	1.1350	0.201	No Co-integration
F _{PE} (PE X ^s , PD, DP, ER, GNP)	1	0.5421	0.214	No Co-integration
F _{ER} (ER X ^s , PD, DP, PE, GNP)	1	0.1278	0.187	No Co-integration
F _{GNP} (GNP X ^s , PD, DP, PE, ER)	1	1.0245	0.165	No Co-integration

* Significant at 1 per cent level.

The calculated F statistic presented for Date export supply as dependent variable in Table 2 is 6.0123 and is higher than the upper bound at 1% level of significance. Thus, null hypothesis of no co-integration is rejected, implying that there exists a long-run relationship among the variables X^s , PD , DP , PE , ER and GNP , when the regression is normalized on logarithm of agricultural value added (X^s). It may, however, be noted that null hypothesis of no co-integration is accepted at 95 per cent critical value when regression is normalized on variables other than X^s . This implies that there exists only one long-run co-integrating relationship.

ARDL co-integration analysis for Date export supply: The empirical result based on ARDL tests repeated showed that significant break for variables of under investigation are consistent with 1980 war year. Therefore, at this stage we include one dummy variable in order to take into account the structural break in the system. The estimated coefficients of the long-run relationship and Error Correction Model (ECM) are displayed in Table 3.

Table 3: Estimated Long-run and ECM Coefficients using ARDL (1,0,0,0,0) Model

Estimated long-run coefficients			Estimated ECM coefficients (X^s as dependent variable)		
Regressor	Coefficient	t-Ratio(prob)	Regressor	Coefficient	t-Ratio(prob)
PD	-0.21	-4.36[001]	DPD	-0.22	-4.04[001]
DP	0.37	2.54[012]	DDP	0.32	2.98[011]
PE	0.22	4.15[046]	DPE	0.19	4.32[012]
ER	0.18	5.28[001]	DER	0.17	5.35[010]
GNP	0.02	7.35[024]	DGNP	0.01	7.54[021]
C	4.46	0.34[016]	DC	4.23	0.87[001]
DU1980	-0.12	-5.87[040]	DDU1980	-0.11	-5.98[001]
			ECM(-1)	-0.412	-2.08[022]

Note: The order of optimum lags is based on the specified ARDL model.

Empirical results in Table 3 show that a one percent increase in exchange rate leads to 0.18 percent increase in Date export supply. Our empirical finding shows negative relationship and meaningful between structural break of 1997 with Date export supply. Alternatively, GDP have not an important effect on Date export supply. In addition, the coefficient of PE in this model is not statistically significant and Date domestic product has an important effect on Date export supply. As we see in Table 3, ECM version of this model show that the error correction coefficient which determined speed of adjustment, had expected and significant negative sign. Bannerjee *et al.* [27] holds that a highly significant error correction term is further proof of the existence of a stable long-term relationship. The results indicated that deviation from the long-term in inequality was corrected by approximately 41.2 percent over the following year or each year. This means that the adjustment takes place relatively quickly, i.e. the speed of adjustment is relatively high.

Analyzing the stability of the long-run coefficients together with the short run dynamics, the cumulative sum (CUSUM) and the cumulative sum of squares (CUSUMSQ) are applied. According to Pesaran and Shin [28] the stability of the estimated coefficient of the error correction model should also be empirically investigated. A graphical representation of CUSUM and CUSUMSQ are shown in Fig. 1.

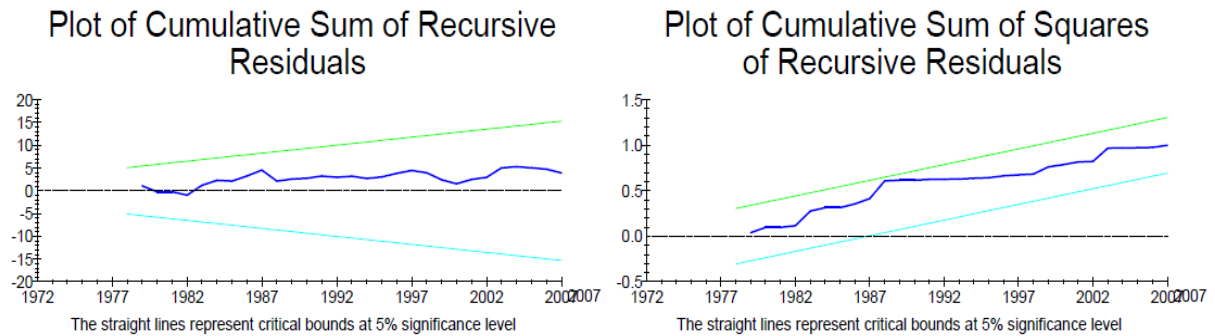


Fig. 1. Plots of CUSUM and CUSUMQ statistics for coefficients stability tests

As it is clear from Fig. 1, the plots of both the CUSUM and the CUSUMSQ are within the boundaries and hence these statistics confirm the stability of the long run coefficients of regresses which affect the inequality in the country. The stability of selected ARDL model specification is evaluated using the cumulative sum (CUSUM) and the cumulative sum of squares (CUSUMSQ) of the recursive residual test for the structural stability (see [29]). The model appears stable and correctly specified given that neither the CUSUM nor the CUSUMSQ test statistics exceed the bounds of the 5 percent level of significance.

CONCLUSION

The results of this paper shows that the factors such as Date export price and exchange rate have a positive and significant effect on Date export supply but Date domestic product and war dummy variable have negative effect. In short term, to elasticity of Date export supply shows that exporters show a good response to export price and with increasing one percent in export price, the value of export increase to 22 percent. The goal of this paper was to test the existence of long run relationship determinants of Date export supply in Iran. This objective was aided by the technique of Pesaran *et al.* [1] approach to co-integration which presents non-spurious estimates. Subsequently, our work provides fresh evidence on the long run relationship between Date export supply and exchange rate and Date domestic product in Iran. The results at relationship between Date export supply and oil shocks confirm the study of Pal [8] but our results are more robust. Exchange rate in Date export supply does have an important effect on Date export supply. Fixed exchange rate or lower exchange rate changes than annual changes in costs of Date domestic product causes to decrease in Date export supply.

So recommended planning principles and specific for Packing and coordination export standards with health standards of each of the target markets be formulated by the government to take advantage of the potential of this opportunity to come forward (Having 50 percent share of global exports Date). Compliance with the export standard in the case of most products has positive and significant impact on their exports. Namely increasing observance international standards in the field of agricultural exports and improving quality, can attract more markets and thus expanded its foreign exchange earnings. To avoid fluctuations in export of products made should be designed a clear export strategy for these products, for access to export-oriented strategy should be developed long-term export policy and in the way achieving the targets

defined in the strategy should be carried a clear and coordinated plan the encompasses all the relevant agencies.

REFERENCES

- [1] H. M. Pesaran, Y. Shin, J. R. Smith. *Journal of Applied Econometrics.*, **2001**, 16, 289–326.
- [2] A. Abbott, G. de Vita. *Long-run price and income elasticity's of demand for Hong Kong exports: a structural co integrating VAR approach, in Applied Economics*, **2002**, 34.
- [3] M. Goldstein, M. Khan. *The Review of Economics and Statistics*, **1978**, vol. 60.
- [4] V. Muscatelli, A. Stevenson, C. Montagna. *Review of Economics and Statistics*, **1995**, 77(1).
- [5] R. Sedaghat. *Agricultural Economic and Development Journal of APERI*, **2002**, 10 (3): 187–201.
- [6] R. Sedaghat. *An Economic Analysis of Pistachio production, Processing and Trade in Iran. Ph.D. Thesis, Department of Agricultural Economics, University of Agricultural Sciences, Bangalore, India*, **2006**.
- [7] M. S. Jairath. *Agricultural Situation in India*, **1990**, 45(2):131–136.
- [8] S. PAL. *Indian Journal of Agricultural Economics*, **1992**, 47(2): 185–194.
- [9] S. S. Acharya. *Indian Journal of Agricultural Economics*, **1993**, 48(3): 317–333.
- [10] I. J. Singh. K. N. Rai, J. C. Karwasra. *Indian Journal of Agricultural Economics*, **1997**, 52(3): 374–377.
- [11] P. Dahiya, D. P. Malik, I. J. Singh. *The Bihar Journal of Agricultural marketing*, **2001**, 9(2): 170–177.
- [12] S. R. Dass. *Eco Aspect. Of Agr.Econ*, **1991**, 46(2):142-151.
- [13] D. Mookergee. *Export earning instability: price, quantity, supply, demand, Economic Development and cultural Change*, **1997**, 27(1):61-73.
- [14] S. Fountas, D. Berdin. *Applied Economics Letters*, **1998**, 5:301-304.
- [15] S. Khalilian, A. Farhadi. *The investigation effective factors on agricultural export sector. Quarterly journal of agricultural and development economic*, **2002**, 39:84-71.
- [16] K. Noori, Kopae M. *Estimation of supply and demand functions for pistachio export. Articles proceedings in first conference on Iran's agricultural economics in Zabol*, **1996**, 542-553.
- [17] K. Narayanan, V. Reddy. *Indian Journal of Agricultural Economics*, **1992**, 47:48-61.
- [18] A. Abdshahi, J. Torkamani. *Economic investigation of Iran's Citrus exports. Articles proceedings in third conference on Iran's agricultural economics in Mashad*, **2000**, 438-463.
- [19] C. Arnade, V. Vasavada. *Agr. Eco.* **1995**, 46(2):174-186.
- [20] K. Gymah. *Eco. Dev. and cult. Change*, **1991**, 39(4):815-828.
- [21] R. F. Engle, W. J. Granger. *Co-integration and error-correction: Representation, estimation and testing. Econometrica*, **1987**, 55, 251-276.
- [22] D. Dickey, W. A. Fuller. *Journal of the American Statistical Association*, **1979**, 74:427 – 431.
- [23] W. A. Fuller. *Introduction to Statistical Time Series. New York, Wiley*, **1976**.
- [24] D. N. DeJong, J. C. Nankervis, N. E. Savin, C. H. Whiteman. *Integration versus trend stationary in time series. Econometrica*, **1992**, 60:423-433.
- [25] R. Harris, R. Sollis. *Applied Time Series Modeling and Forecasting. New York: Wiley*, **2003**.
- [26] P. K. Narayan, *Applied Economics*, **2005**, 37:1979–1990.

- [27] A. Banerjee, R. L. Lumsdaine, J. H. Stock. *Journal of Business and Economic Statistics*, **1992**, 10:271-287.
- [28] H. Pesaran, Y. Shin. *Autoregressive Distributed Lag Modeling Approach to Co-integration Analysis, Chapter 11*, in: Storm, S., (ed), *Econometric and Economic Theory in the 20th Century: The Ragnar Frisch Centennial Symposium* (Cambridge: Cambridge University Press), **1999**.
- [29] R. I. Brown, J. Durbin, J. M. Evans. *Journal of the Royal Statistical Society*. **1975**, 37:141-192.