International Academic Institute for Science and Technology

International Academic Journal of Business Management
Vol. 3, No. 1, 2016, pp. 107-117.

ISSN 2454-2768

International Academic Journal of Business Management

www.iaiest.com

Testing the Marshall Lerner Condition Bilateral Trade Balance between Iran and China

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Abstract

This research investigates the Marshall-Lerner condition in bilateral trade balance between Iran and China and effective factors on the trade balance. Given that Marshall Condition states if total elasticity absolute of import and export values is more than 1 compared to exchange rate, trade balance will improve with Devaluation of the currency (increase the exchange rate). In this study, Marshall-Lerner condition is assessed in bilateral trade balance between Iran and China by using a suitable pattern and ARDL model. The actual nominal rate, gross domestic product and consumer price index of both countries are considered as independent variables and trade balance as dependent variable and time period is based on studied annual time series data since 1992 to 2013. The results from assessing Marshall-Lerner condition by time series model confirms the establishment of Marshal Lerner condition between Iran and China in long- and short- term.

Keywords: trade balance, Marshal Lerner condition, exchange rate, GDP ،CPI

Introduction:

International monetary system and currency theories have been largely changed over the time. In this transition the gold standard monetary system, the inter-war monetary system, Brett on Woods's monetary system and floating-rate monetary system each in some point are raised and how to influence the value of money on trade balance of countries has been studied by economists in these systems. In the meantime, after the collapse of the Brett on Woods system in 1973 and the establishment of floating exchange rate regime, evaluating the effects of revaluation on the trade balance was renewed in developing and developed countries. Traditionally, many economists and politicians believe that the devaluation of domestic currency provide better competitive conditions to compete with other countries. They believed

that a devolution in domestic currency of a country makes goods cheaper than competitors and makes special advantage by increasing exports and decreasing imports (improving trade balance) for the country. In other words, devolution in domestic currency improves the situation of trade balance. This stream is considered as a policymaking instruction to improve the situation of trade balance.

Trade balance is one of the most important economic issues and plays an important role on economic development. The importance of trade balance of the country is because of important information provided on international status and relations of a country with other countries. Economic policy maker tries to equilibrate trade balance and considers exploring ways for improving the trade balance deficit. According to economic theories, one of the economic policy tools for eliminating the trade balance deficit is the devaluation of national currency. At first, trade balance situation becomes worse with the depreciation of national currency but will be improved in the long-term.

The devaluation policy, aimed to improve the situation of trade balance or indemnify the payments balance deficit, is applied by increasing imports and reducing exports. Applied studies show that implementing devaluation policy entails various effects on payments balance of developing countries. The effect of devaluation on trade balance is depends on the establishment of Marshall-Lerner condition and financial and monetary policies performed at this policy implementing time.

Basically, the actual exchange rate is determinant for both domestic and foreign economic situations of each country. Improving this rate will improve domestic economic situation of the country and international competition and difference in the actual rate will end up with worsening competitive power of country.

Theoretical basis of research:

Trade balance

Trade balance is the monetary value difference of a country in export and import during a certain period. Export is the sale of domestic product to an agent out of the country. Import is unlike the purchase of product produced in another country by an agent within the country.

There are different views about trade balance. Keynes income Method concentrates on inside and outside income as determinants of the trade balance. Increasing inside income increase imports will be increased and trade balance reduced and by increasing income exports will be increased and thus the trade balance improved. monetary approach takes foreign and domestic money supply into account as factors affecting on trade balance. Increasing domestic money supply causes that domestic residents spend a percentage of Increasing monetary assets for import expenditure in order to balance their portfolios that increases export and decrease trade balance. Increasing domestic money supply causes that domestic residents spend a percentage of Increasing monetary assets for domestic and import expenditure in order to balance their portfolios that increases export and decrease trade balance. Increasing the money supply in outside causes foreign residents spend a part of their increase in money supply on the imports that causes to increase the country's exports.

In elasticity approach, the exchange rate is emphasized as the most important factor of determining trade balance. Devaluation reduces export price and increases import price both in terms of foreign money. So it increases exports and decreases imports and improve trade balance. Alfred Marshall Lerner stated improved trade balance condition by devaluation of the national currency as following that trade balance show a natural reaction against devaluation when sum of the absolute values of elasticityies are greater than one.If the sum of elasticity is less than one, it is possible trade balance to react abnormally. This issue was demonstrated by Lerner and became known as Marshall-Lerner condition in economic literature (Rahimi, Taheri-Nia, 2004).

So, trade balance is the result of net exports of a country and positive value indicates more export and the so-called trade surpluses and negative value represents more imports or trade deficit. Increasing export is

directly connected to the increasing demand for currency of exporting country, and more trade surpluses more money of exporting country is strengthened.

Marshall-Lerner condition

Marshall-Lerner elasticity approach provides a constant analysis from the effect of national currency devaluation on trade balance. According to Marshall-Lerner condition, exchange market is sustainable when the absolute sum of demand elasticity in import and demand elasticity in export is greater than one. elasticity approach was first introduced by Baker and Bik 1 (1906, 1920) as a measure to study changes in the exchange rate on the balance of payments, then this analysis was introduced by Alfred Marshall (1923) and Alba Lerner (1944) and then was prepared by Robinson 2 (1944) and Fertys Machlap 3 (1947) and Metzel 4 (1947). (Hassani, Akhundzadeh, Babazadeh & Islami 2014).

Devaluation has two direct effects on the trade balance: one of them reduces deficit while the others worse deficit than the former.In other words, when a country's currency devaluates, we will have two effects:

Price Effects: by devaluating the currency, exported goods become cheaper in terms of foreign currency (our goods cheaper for foreigners) and imported goods become more expensive in terms of national currency. So Price Effect cause to worsen the current account of the country.

Quantity Effect: by our products becoming cheaper for foreigners, export demand increases and by imported goods becoming more expensive, import volume become less and as a result quantity effect improves the current account.

Finally, net effect of national currency devaluation is dependent on which of price or quantity effect is dominant. this issue is studied by Marshall-Lerner relation which is as follows:

$$[\eta_X + \eta_M] > 1$$

where $\eta_X$is export elasticity to exchange rate andη_M is import elasticity to the exchange rate. if sum of export and import elasticities to exchange rate is greater than one, Marshall-Lerner relation will be established and currency devaluation improves the balance of payments; Otherwise, national currency devaluation worsens the balance of payments deficit. In fact, if sum of elasticities is greater than one, the effect of increasing exports and decreasing imports on balance of paymentsis greater than the effect of price so it improves trade balance. in this case Marshall-Lerner condition is established and we are faced with a successful devaluation (Dezhpasand, Goudarzi, 2009).

HarvayMamo et. al. (2014) evaluated verification of Marshall-Lerner condition on trade balance in Malaysia and the United States. Results show that there is a negligible relation between the real exchange rate and trade balance and it means it does not endorse Marshall-Lerner condition in Malaysia.

Kapvral et. al. (2014), evaluate Marshall-Lerner condition at Kenya using monthly data for 1996 to 2011. The results show that there is a significant relationship between the balance of payments, the real exchange rate and relative revenue, so, Marshall-Lerner condition is confirmed in the Kenyan economy.

Crohn Kan. (2014) evaluate Marshall-Lerner condition in bilateral trade between Malaysia and trading partners including China, Europe, Japan, Singapore and the United States and analyzes transactions, devaluation, the real exchange rate and their impact on trade balance. Results indicate that Marshall-Lerner condition is confirmed in all five mentioned countries.

BahmaniOskouei et al. (2012) studied bilateral trade in the United States and South Korea and 96 export industries and 29 imported industries in United States. The results indicate that the exchange rate have significantly short-term effects on many export and import industries and in long term, only 16 export industries and 7 import industries are affected by fluctuations (some positive, some negative) and small businesses are more affected.

Singh (2012) in evaluating processing trade, exchange rates and the bilateral trade balance in China concluded that the real value of Yuan will have a negative impact on both processing imports and exports and interaction of the yuan in the processing trade balance of China, and thus trade balance of China will be generally limited.

BahmaniOskouei&Hajili (2011) evaluated the impact of exchange-rate uncertainty on trade in goods between the United States and Sweden by collecting trade data and import and export of 87 industries between the United States and Sweden. The results show that exchange rate volatility has significant short-term effects on trade flows between the two countries, nearly two-thirds of these Industries.However, the short-term of another third are changed to long-term effects. Moreover, generally, reduction in real value of the krona against the dollar has beneficial effects on trade balance between the two countries.

Hassani&Akhoondzadeh (2014) has examined bilateral trade balance between Iran and Turkey on uncertainty Exchange Rate using a uniformly transmission automatic Returning (STAR) During 1987 to 2010 due to the critical relationship between trade balance and foreign exchange policies.

Given the uncertainty of the exchange rate index, real exchange rate (RLS of Iran vs Turkish Liras) is calculated as selective variable through General Automatic Returning Conditional Heterogeneous distribution (GARCH).The results show that trade balance between Iran and Turkey is in accordance with a sample and non-linear order. The real exchange rate has a significant and positive relationship with trade balance on both regimes, which means Marshall-Lerner condition is maintained.

Turki et. al. (2011) studied the dynamics of trade balance between Iran and its ten trading partners relative to changes in exchange rates index due to the financial crisis. In this paper relations are studied in the form of self-explanatory, with abroad lag (ARDL) and error correction model (ECM) using time series data for 1981_2009, on Iran and its ten trading partner.Moreover, effect of the financial crisis index on the trade balance is assessed by using instant response functions. The results show that the process of weakening the real exchange rate impact on trade balance is confirmed only for bilateral trade balance between Iran with China and Italy and according to the financial crisis index, is rejected for the other surveyed countries.It should be noted that all coefficients according to CUSUM and CUSUMQ tests are stable.

Souri&Tashkini (2011) evaluated factors affecting on the bilateral trade of Iran with regional blocks and analyzed statistical data and estimate the empirical model and statistical data analysis implies that the largest trading partner of Iran have been EU countries, so that the highest share of export and import of Iran have taken place with EU countries in 2009.The results from empirical model show that the economical size, per capita income and distance are the most important variables affecting on mutual trade of Iran with trading partners. Furthermore, the explanatory power of the model to describe the interaction of Iran trade with Europe EU countries is much higher.Also, test hypotheses in mutual trade of Iran with trading partners of regional blocks show that: 1- first hypothesis on positive relationship between mutual trade and economic size is confirmed; 2- The second hypothesis on a positive relationship between mutual trade and per capita income is confirmed; 3. The third hypothesis that there is a positive relationship between the mutual trade and foreign direct investment flows cannot be confirmed;- The fourth hypothesis that there is an inverse relationship between the mutual trade and distance is approved. Accordingly, it is proposed that trade flows of Iran will lead towards countries and regional blocks that have larger economic dimensions and higher per capita income.Greater economical scale of trading partners will lead to the arrival of goods at a lower cost price to inside because of its comparative advantage in producing goods.On the other hand, higher per capita income of trading partners is considered as the presence of high potential markets in recruiting locally-produced goods. It is worth noting that beside the cases mentioned, geographic proximity and distance components should be considered as an important factor in increasing trade costs.In other words, optimizing trade flow of country requires an objective function that involve all three mentioned components and lead to a reduction in trading costs.

Dezhpasand&Goudarzi. (2009), has studied the effect of devaluation on payments balance in Iran. The results show that Marshal Lerner condition by time-series model does not confirm short-term and long-

term establishments of Marshall-Lerner condition in Iran. Moreover, the study of Marshall-Lerner condition using integrative data does not approve the establishment of Marshall-Lerner condition in Iran.
Najarzadeh et al. (2009), on the effect of the exchange relation and real exchange rate on deficit of foreign trade of the Iranian economy have concluded that there is a long-term equilibrium relationship between the foreign sector deficit with exchange relation, and so that the exchange relation with a coefficient of -86.18 affect the trade balance. Also, it is confirmed that there is a meaningful long-term relationship between the real exchange rate and trade balance during the period under review, so that the devaluation in Iran economy by a coefficient of 33/1 could improve trade balance during the studied period.moreover, in order to achieve short-term relationships and determine the adjustment coefficient speed of foreign trade sector deficit variable, the vector error correction model was used that according to the results high coefficient of adjustment speed of this variable for its any lack of balance and deviation at long-term equilibrium level in the first period, indicates that any imbalance in equation deficit of foreign trade sector will be resolved quickly.

Research methodology

we will analyze and test hypotheses by using information used in this study related to the dependent and independent variables statistics such as bilateral trade balance between Iran and China and exchange rate, consumer prices index (CPI), as well as gross domestic product (GDP) and using the Eviewssoftware.Methods used to review the existing hypothesis is Marshall_Lerner condition. the Period in question for this study is from 1994 to 2013 and the annual data is used for processing data needed for research.After collecting and processing data needed for research, trade balance model is developed and short and long term trade balance equations is estimated by using a ARDL model and Marshall-Lerner condition will be checked and short and long term effects of exchange policy on the trade balance of Iran and China is tested and analyzed.Data collection tool in this study has been library method and the data and information have been extracted by referring the official statistical sources including global data banks, the central bank, Customs and Ministry of Commerce and the Ministry of Economy and so on.
After collecting data for the study, Dickey-Fuller test is performed to test the durability of data and after determining the durability degree of research variables, we will use regression model with Distributed Lag (ARDL) within the Eviews software. ARDL method is used to evaluate the long-term relationship between the variables.

Model estimation

As mentioned in the previous section, using annual time series data over the period (from 2002 to 2012), a modified type of Wi-Moon et al., 2014 pattern will be estimated, the Marshall-Lerner condition at bilateral trade balance between Iran and China will be reviewed.
First, consider the following pattern:

$$(TD_t) = f(RER_t, Y_{it}, Y_{jt})$$

It should be noted that all variables in this study has turn as the natural logarithm.

$$LTB_t=\beta_0+\beta_1 LE_t+ \beta_2 LGDPchina_t +\beta_3 LGDPiran_t+\beta_4 LCPIchina_t +\beta_5 LCPIiran_t +\varepsilon$$

Where:
LTB: is logarithm of trade balance between Iran and China, as the actual export ratio of Iran on real import of Iran from China;
LE: is logarithm of the Rial nominal exchange rate and currency of trading partner (China, yuan) that is the central variable of the present applied research;
$LGDP_{china:}$ is logarithm of Chinese GDP in the years of 2002-2012. This variable represents the economic size and productivity of an economy. On the other hand, it is one of the factors affecting on bilateral trade flows (Karimi, 2007);
$LGDP_{iran}$: is logarithm of Iran gross domestic product for the period of 2002-2011.

$LCPI_{iran}$: is logarithm of the consumer price index in Iran and Also t represents the time and ε the error. It is worth noting that since nominal bilateral exchange rates between Iran and China (yuan) is used in the estimation of model, two variables of (CPI)Iran and China is added to the study.

Economic Designing and Modeling by using conventional time series, is generally based on durability hypothesis is time series variables. Each time series can be considered as the product of a random process, but a random process which is discussed in time series is a durability random process. In general, a random process is durable when its average and variance to be constant during the time and covariance value, between the two periods of time, is only related to the distance or lag between the two periods and is not related to real-time calculation of covariance.

1.5 durability of variables tests

As said before, validation of using common econometric methods in empirical studies is based on the durability assumption of variables in the model. On the other hand, most time series are non-durable in macroeconomic.Therefore, before using time series data, it is necessary to ensure about durability or non-durability of variables. Dickey-Fuller generalized test is used to prove the durability or non-durability variables in the model.

2.5. unit root test

Before estimating the model by convergence test, data are examined in terms of being durable. because if in estimating econometric equations non-durability data be used, because of its non-constant mean and variance and covariance during the time, therefore t and F statistics are not valid and the estimated model will be biased and unreliable.

Unit root test is one of common tests in this field that determines the integration degree of variables. Dickey-Fuller Statistics (DF) and Augmented Dickey Fuller (ADF) is used to determine the integration degree of variables (Noferesti, M., 2007).

To determine the optimal lag, maximum value of selective criteria must first be found and then comment about whether the variable is durable or not, according to statistics (ADF) relating to that value, so that if the absolute value of statistic (ADF) is greater than absolute value of the critical value (usually studied at 5% level), the examined variable is then durable and otherwise is non-durable (Bidram, Rasoul, 2002).

Table 4-1) the results from Dickey-Fuller generalized durability test of variables

The variable	Dickey-Fuller Generalized test	ADF critical value at a confidence level of 95%	difference Rank	Integration degree
$LCPI_{china}^{**}$	-3.610010	-3.690814	0	**I(0)**
$LCPI_{iran}^{**}$	-3.435754	-3.658446	0	**I(0)**
$LGDP_{china}^{**}$	-4.124781	-3.710482	0	**I(0)**
$LGDP_{iran}^{*}$	- 4.758852	-1.958088	0	**I(0)**
$^{**}LTD$	-5.318923	-3.020686	1	**I(1)**
LE^{**}	-3.306866	-3.020686	1	**I(1)**

Source: Calculations of research

* Without width of the origin and process

** with width of the origin and without process

By reviewing tables (4-1), it is observed that variables of logarithm of GDP for Iran and China, logarithm of consumer price index for Iran and China are durable and trade balance variables and logarithm of the exchange rate are durable in the first rank difference.

3.5 Data analysis and the results estimation

When the sample size is small, the use of OLS will not provide estimates without bias to estimate the long-term relationship because of ignoring the short-term dynamic reactions between variables. therefore, to reduce bias, as much as possible take a model that consider a large number of lags for variables which is known as Auto-Regressive or ARDL. Hence, we choose ARDL method among Co-integration methods in this study. The advantage of this method is that:

• This method is applicable regardless of the degree of summing variables.

• Using this method on a small sample size due to consider the short-term dynamics between the variables, has a high performance.

• With this method the economic analysis can be done in both short and long term.

4.5 ARDL model specification

In this method, we co-integrate between presented variables as following:

For the model presented, initially by using dynamic equation estimation results and value with Lag of a dependent variable that its results are provided in table (4_2), the following equation is calculated. We specified the model with a lag:

0.21614-1.15869=4.9395

Computational statistics is equal to (-4.9395). Because this figure in form of absolute, is greater than critical value presented by Bannered, Doula dou and MasterCard (4.46), so the null hypothesis the lack of long-term relationship even in confidence level of 5% is rejected and short-term relation will be existed. The model coefficient table is as following:

Table 2-4) the results from dynamic equation (dependent variable (LTB))

statistic [probe]	Coefficient	Variable
1.3621[.200]	.21614	LTB(-1)
6.2796[.000]	4.0832	LE
-1.3795[.124]	-1.9130	LGDPC
.049831[.961]	.49109	LCPIC
2.0886[.061]	18.0488	LCPIC(-1)
-2.4237[.034]	-19.6153	LGDPI
-2.3291[.040]	-17.6836	LGDPI(-1)
.24824[.809]	.85442	LCPII
2.8072[.017]	11.5516	LCPII(-1)
-6.3747[.000]	-932.4138	C
-	.95979	R-Squared
-	.92690	R-Bar-Squared
-1.2011[.093]	-	Durbin's h-statistic
29.1766[.000]	-	F-stat.

Source: research findings

5.5 co-integration evaluation

The camera- Watson statistic is used in order to investigate the lack of co-integration in the model. This statistic is equal to 1.20 based on the findings from Table 2-4.

This statistic is equal to 1.20based on the findings from table 4-2. If these statistics to be in the range of 1.5 to 2.5, H0 i.e. the lack of correlation between residuals is accepted, otherwise H0 is rejected i.e. it can be accepted that there is correlation between residuals. According to statistics obtained it can be said that in the defined model the correlation between residuals is accepted.

Table 4-3) diagnostic test of the model

Coefficient of LM statistic	Goal	Test
1.9738[.063]*	Review autocorrelation of error terms	**LM**
.62575[.429]	correct specification of	**RAMSEY RESET**
1.0977[.124]	Review Normal distribution of the error terms	**NORMALITY**
1.2255[.268]	Review Heterosced asticity of error terms	**WHITE**

Source: research findings

• The numbers in [] are at the significant level of 5 percent.

After estimating the dynamic model, the long-term relationship was estimated and the results of which is proposed in the table (4-4). The long-term results show that along with trade balance, real exchange rate increases in the long term.

Table 4-4) Results from long-term relationship (the dependent variable LTB))

Statistic [probe]	Coefficient	Variable
5.9992[.000]	3.3575	LE
-.78732[.246]	-1.5730	LGDPC
4.2890[.001]	15.2448	LCPIC
-2.7810[.018]	-30.6700	LGDPI
5.4580[.000]	8.7960	LCPII
-5.9828[.000]	-766.6997	C

Source: research findings

• The numbers in [ ] are at the significant level of 5 percent.

Then, in the next step, error correction equation was estimated. Coefficient of error term shows that, per period, what percentage of dependent variable imbalance is adjusted towards long-term relationship. Based on the results, coefficient of ECM (-1) equal to -0.78 is obtained which indicates that per period short-term trade balance imbalances of 0.78 is adjusted towards long-term balance. Results from ECM model are shown in the table (4-5).

Table 4- 5) the results of the error correction equation (the dependent variable LTB))

T statistic[probe]	Coefficients	Variable
6.2796[.000]	4.0832	**DLE**
-1.3795[.124]	-1.9130	**DLGDPC**
.049831[.961]	.49109	**DLCPIC**
-2.4237[.034]	-19.6153	**DLGDPI**
.24824[.808]	.85442	**DLCPII**
-6.3747[.000]	-932.4138	**DC**
4.9395[.000]	-.78838	**ECM(-1)**

ecm = TB -3.3575*LE + 1.5730*LGDPC -15.2448*LCPIC +30.6700*LGDPI – 8.

7960*LCPII + 766.6997*C

Source: research findings

• The numbers in [] are at the significant level of 5 percent.

6. Conclusions and suggestions

Once causal long-term relationship between the variables was confirmed in the equation, it will be possible to estimate the short and long term coefficients of the equation by using ARDL model and based on equation (1).

It should be noted that after estimating the long-term coefficients and proving the existence of a significant relationship between the variables in this equation, it's turn to estimate short-term coefficients and its corresponding ECM. The estimation results from short-term and long-term coefficients of the equation in tables above and the overall proposed results from software can be seen in the Appendix. Also, since all variables in this equation were brought in the logarithmic form, the coefficients obtained represent available elasticity amounts between the independent variables and the dependent variable in each model. In the sense that the coefficients β in the equation represents the percent of change in dependent variable per one percent of change on any of independent variables.Based on what can be seen in the table. Considering to this, the results will be interpreted:

- The results show that there is a positive and statistically meaningful relationship between nominal exchange rate and trade balance to the notion that, in the long term for every one percent of increasing in the nominal exchange rate, trade balance increases around 3.3%. This indicates that Marshall-Lerner condition is established in the long term; i.e. by increasing the exchange rate (devaluation of national currency) in the long term, trade balance will be improved and the ratio of exports to imports will be enhanced.
- The results show that there is a negative and statistically meaningful relationship between logarithm of logarithm of GDP in Iran and trade balance, it means that for every one percent of increasing logarithm of GDP in Iran, trade balance increases around 0.30%, that this result demonstrates an increase in real income (real GDP) increases the purchasing power of citizens within the country than foreign goods; So imports will be increased and leads to reduce the ratio of exports to imports in China; this means that import elasticity are highly relative to the national income.
- The results also show that the real GDP variable in China is statistically meaningless, but because it is initially considered an exogenous variable and its presence in trade balance equation of Iran-China equation has been take just because of the correct specification; Therefore, this being meaningless do not cause any Conflict on the results of this study and only means that during the sample period, GDP of China has not a significant effect on our trade balance.
- As we know, the effect of the general level of domestic and foreign prices on trade balance is unknown to the notion that by an increase in the general level of domestic price, we see the devaluation of national currency then the domestic price will increase in comparison with domestic price level of the contrary country thus exports will be increased and imports will be decreased and this is known as the volume effect of exports in which trade balance will increase. On the other hand, by increasing the general level of domestic prices, the import value will be increased in terms of domestic currency and this is known as volume effect of import leading to a reduction in trade balance. The results show that there is a positive and statistically meaningful relationship between consumer price index of Iran and trade balance to the notion that by one percent increase in the consumer price index, trade balance will be increased 8.7%. On the other

hand, results show that there is a significant positive relationship between consumer price index of China with trade balance of Iran, to the notion that by increasing the price level in China, goods from China become expensive for Iranian importer, thus imports from China is reduced that eventually results in an increase in the trade balance in Iran. The results from this section of study also focus on the establishment of Marshall-Lerner condition.

- R2 statistic value indicates that 99 percent of total tax revenue changes will be explained by other variables in the model. Since the dependent variable in the model has emerged interrupted, a test called camera-h should be used to investigate the lack of correlation. The results from Camera test showed no autocorrelation.

The coefficient of the error correction section with Lag ((ECM (-1)) is negative and significant and approximately 0.78 indicating that if it is shocked and deviated from equilibrium, in each period 0.78 percent of short-term imbalances of real trade balance will be adjusted to achieve long-term balance. According to the F statistic, that shows the overall significance of regression, we see that significance of regression is confirmed by significantly high percent (over 99%).

Proposals based on the results

According to the results, the following suggestions can be made:

Since by increase the national income, its imports from trade partner countries has been increased, so it is better to increase national income in order to strengthen economic infrastructure to produce products substitute for import and domestic goods with relative advantages to this not to destroy as much a country's trade balance.

Since one of the important consequences of trade balance dependence to the exchange rate is to affect the effectiveness of the government's export policies, policymakers should be concerned trade balance reaction to changes in the exchange rate when enforcing their policies.

On the other hand, considering the relatively high sensitivity of our non-oil trade balance to GDP in relative to the exchange rate, it should be noted that decrease in GDP, even if the exchange rate is increased, could significantly effect on the decline of our export goods market;Of this, in situations where the economy, besides dealing with internal problems, is also strongly influenced by economic sanctions from the developed countries, it is certainly strictly required to provide models that can Juice up the country's non-oil exports in the long term.

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