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The Impact of Uncertainties in Imports and Exports on the Causality among Iranian Imports, Exports, and Economic Growth

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ABSTRACT

Background: The causality test has become very popular in the recent years and many economic investigations have employed the causality relationship between the economic variables. Objective: This paper is organized in two sections to investigate the causality among imports, exports and economic growth; one does not regard the uncertainties of the variables, the other does. Method: Data is of the time series type during 1971 to 2010 and the autoregressive distributed lag model(ARDL) is used. Results: The results of model estimation without regarding uncertainties showed that in the short run, imports and exports have significant and positive impacts son economic growth and there is two-way causality between imports and economic growth, as well as exports and economic growth. On the other hand, there is one-way causality from imports to exports while the reverse does not hold. In the long run, exports have a positive and significant impact on economic growth. Moreover, there is two-way causality among imports, exports, and economic growth. Conclusions: The results of model estimation by regarding uncertainties revealed that imports and exports have positive and significant impacts on economic growth in the short run. In the long run, exports have a positive impact and imports have a negative impact on economic growth. Furthermore, the results of the causality test among the variables in the long and short run revealed two-way causality among imports, exports, and economic growth.

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INTRODUCTION

One shared feature among developing countries is their reliance on the income produced by selling raw materials which, regardless of their low added values, are strongly influenced by price uncertainties in global markets. In fact, prices are imposed on them as outside factors without these countries are able to have remarkable influences on them. Another feature of developing countries is that their imported goods are not varied, which makes them unable to be flexible enough to compensate for the losses resulting from price uncertainties of one or more imported goods. Moreover, the lack of ability to pursue marketing as well as centralized export destinations, often restricted to regional markets, reveal the influences of price uncertainties on the economy of these countries. Thus, the foreign exchange brought into the country by these exports bears uncertainties which affect imports as well, leaving them uncertain too.

As a developing country, Iran gains its major part of foreign exchange by exporting oil and oil products. Therefore, the incomes and expenditures of the country are often uncertain and affected by sudden and rapid changes in world prices, which makes the country's income uncertain. Given these features and paradoxical economic theories provided by economists, it is vital that the eventual impact of imports and exports uncertainties on economic growth be investigated. This paper evaluates the impact of imports and exports uncertainties on the causality among imports, exports, and economic growth of Iran during 1971 to 2010 suing the autoregressive distributed lag model(ARDL). It is organized into 6 sections including the introduction, theoretical framework, model specification, model analysis, findings, and conclusion.

The Impact of Imports and Exports Uncertainties on Economic Growth:

Like other economic variables, the incomes produced through trades do not have single trends, which is costly for the economy. Uncertainty is nothing other than these fluctuations and varied behaviors of variables.

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Since no solid definition is provided for uncertainty, this paper attempts to provide a proper definition by comparing the facts related to the issue.

The first economist to define uncertainty was Coppock. He believed that since the objective of economic activities is to exploit transformed resources in order to fulfill demands, not all changes can be considered unwanted and undesirable. Therefore, we have to distinguish between useful and problematic fluctuations. He argued that uncertainty should not be thought of as deviation from a fixed path; rather, it is referred to as abnormal deviations from the trend- line values. This implies that an accurate definition of uncertainty requires sound judgment of such terms as wasteful, excessive, and normal, which are used by scholars in their discussions of uncertainty. A majority of the methods adopted in defining uncertainty have focused on experiencing the trends of incomes and deviations from the trends. According to these methods, the only requirement is to identify normal incomes, which define the trend. On this basis, uncertainty in business involves "deviation from trends".

The Impacts of Imports and Exports Uncertainties on the Economy:

Export income uncertainties and resulting import uncertainties is one of the fundamental problems of developing countries, especially those that export raw materials. Since these countries are much dependent on incomes of exporting raw materials, any kind of fluctuation can bear considerable impacts on the economy of these countries. Therefore, it is essential that the sources of these uncertainties be investigated.

There are three major theories regarding the impact of imports and exports uncertainties on economic growth and each is proved by theoreticians through various reasons.

The first group holds that imports and exports uncertainties bear sever impacts on the domestic economies of developing countries; however, these consequences depend on the degree of openness of the economy and their trading statuses. The major reason provided by this group is that imports and exports uncertainties may create problems for the producers of exported goods and importers. Producers choose the scales of their products and embark on establishing manufacturing factories based on their attitudes toward the capacities of domestic and foreign markets. Now, since following establishing a factory, it is not possible to change production scales in the short run, any kind of uncertainty brings about losses I import and export markets in terms of providing raw materials and machinery required by manufacturers. Moreover, uncertainties created by exports and, as a result, imports, can reversely affect the wealth of consumers by affecting their incomes.

On the macroeconomic scale, uncertainties in exports incomes and, as a result, uncertainties in imports negatively affect macroeconomic variables by affecting the government's incomes. Since in developing countries, the government plays a crucial role in the economic plans of the country, any kind of uncertainty in government incomes creates problems for the future plans of the government. Uncertain exports reduce the government's incomes in two ways. First, uncertainties in exporting goods which are monopolized by the government (e.g. oil) directly affect the government's incomes. Second, uncertainties in the exports of other goods affect imports and taxation incomes. This is especially important in developing countries, which lack powerful taxation systems. In these countries, major parts of the government's taxation incomes come from indirect taxes levied on trading, which is due to easy and less costly collection of imports and exports taxes. Moreover, the incomes of other economic sectors can change with exports incomes. For instance, the incomes of goods and services imports may be coordinated with the development of the exports sector, which makes the total value of imports changes with exports incomes. Therefore, uncertainties in exports incomes can create uncertainties in total government incomes and if we add uncertainties to instability, development planning will experience greater problems since under uncertain conditions less growth can be achieved.

Uncertainties in tax incomes lead to inflation pressures. When incomes are above the trend line, this creates domestic inflation by increasing government incomes and, consequently, total demands, especially when short-term elasticity of supply for domestic and imported products is low. This will lead to increased payments due to the pressures exerted by labor unions. When export incomes are below the trend line, the government experiences budget deficit since it cannot quickly reduce its expenses and imports and tries to compensate for it by borrowing or issuing money, which leads to inflation.

Also, the uncertainties created by imports and exports incomes have reverse effects on investment. Expectation fluctuations of demands due to changes in exports and imports incomes cause cyclical alternations in exploiting capacities and inflation pressures and business estimation procedures make investors take caution in making decisions for investment projects and chose ones with lower risks and, consequently, lower productivity. This reduces investments in the society, which in turn reduces economic growth. Imports and exports uncertainties have their most effects on imports capacities. In developing countries, most domestic industries are dependent on imported capital and mediatory goods. Imports are sources of providing machinery, equipment, and other necessities for investment and what determines imports capacities is imports and exports incomes.

The second group holds that imports and exports uncertainties can be of positive consequences, mostly through the impact of imports and exports uncertainties on the domestic affairs of the countries. Unlike the first

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group, this group believes that under uncertain conditions, investors are attracted to risky and uncertain projects since uncertain export and import conditions raise the return rate of capital. Moreover, when exports and imports incomes are great, high profit may create optimistic atmospheres leading to increased investment and compensating for lack of investment in low income periods. Furthermore, those parts of the society experiencing income uncertainties may have greater cautious savings than those with certain incomes. This increased the eventual trend toward saving and greater levels of resources are ready for investment. They also believe that developing countries respond to exports and imports uncertainties by reducing consumer imports and maintaining capital and mediatory ones at previous levels. If this procedure lasts for more than one cycle, it contributes to economic growth through changing consumption patterns and increasing savings and investment rates.

For the second group, uncertainties in exports and imports do not have significant influences on the economic growth of developing countries. This is mainly due to the fact that these countries can well predict the fluctuations resulting from imports and exports uncertainties, thus they adopt proper policies toward these uncertainties.

Given all these facts, it is vital to determine the eventual impact of imports and exports uncertainties on Iranian economic growth.

2. Methodology:

Model Specification:

The study seeks to investigate the impact of imports and exports uncertainties on Iranian economic growth during 1971 to 2010. Do this end, we will have this model:

$$Y = f(X, M, H_Y, H_X, H_M) \tag{1}$$

Where, Y is the per capita economic growth (The natural log of actual GDP relative to population).
X :Is the natural log of actual exports.
M: Is the natural log of actual imports
H_Y : Economic growth uncertainty
H_X : Exports uncertainty
H_M : Imports uncertainty

In addition to the estimation of the above equation, the causality among the variables is also tested.

Model Analysis:

Autoregressive Distributed Lag Model(ARDL):

Applying traditional econometric methods in experimental studies relies on the assumption of the stability of variables. However, research indicates that this assumption does not hold for a majority of time series and that most variables are not stable. This might lead to false regressions and destroy the confidence about the estimated coefficients. Therefore, according to the co-integration theory of modern econometrics, it is vital to use estimation methods which take stability and co-integration into account.

Typically, a dynamic model is one with variable pauses as presented in equation 2:

$$Y_t = aX_t + bX_{t-1} + cY_{t-1} + u_t \tag{2}$$

In order to reduce the bias created by the estimation of model coefficients in small samples, it is better to use a model which considers many pauses for variables, like equation 3:

$$\phi(L,P)Y_t = \sum_{i=1}^{k} b_i(L,q_i)X_{it} + c'w_t + u_t \tag{3}$$

In the above equation, Y_t is the dependent variable and X_{it} is the independent variable. L is the pause operator and W_t is a vector of S*1 which represents the predetermined variables including intercept, virtual variables, time trend, and other endogenous variables. P is the number of pauses for the dependent variable and q is the one for independent variables.

The above model is an autoregressive distributed lag model (ARDL), with:

$$\phi(L,P) = 1 - \phi_1 L - \phi_2 L^2 - .... - \phi_p L^p \tag{4}$$

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$$b_i(L,q_i) = b_{i0} + b_{i1}L + ... + b_{iq}L^q \qquad \text{i= 1, 2, …., k} \tag{5}$$

The number of optimal pauses for each explanatory variable can be determined through either one of these rules: AIC, SBC, HQC, or R bar squared. Generally, in samples smaller than 100, the SBC is used so that the smallest degree of freedom is lost. It economizes on setting pauses, leading to a greater degree of freedom. In order to calculate the long term coefficients of the model, the same dynamic model is used:

$$\theta_i = \frac{\hat{b}_i(L,q_i)}{1-\hat{\phi}(L,p)} = \frac{\hat{b}_{i0} + \hat{b}_{i1} + ... + \hat{b}_{iq}}{1-\hat{\phi}_1 - \hat{\phi}_2 - ... - \hat{\phi}_p}, i = 1,2,...,k \tag{6}$$

Through equation 6, the t statistic for the long-term coefficient can be calculated as well. Ender (1993) demonstrates that these types of t statistic are slightly normally distributed and that t test has good power in terms of usual critical quantities. Therefore, using θ_i, it is possible to perform valid tests on the presence of a long term relationship. In autoregressive distributed lag model (ARDL), the following 2-phase method can be used to estimate the long-term relationship. In the first phase, the long-term relationship between the variables is investigated. At this stage, there are two options to make sure the estimated relationship is not false:
The first method tests the following hypothesis after estimating the dynamic autoregressive distributed lag model (ARDL):

$$H_0 : \sum_{i=1}^{p} \phi_i - 1 \geq 0$$

$$H_a : \sum_{i=1}^{p} \phi_i - 1 \prec 0 \tag{7}$$

The null hypothesis indicates the lack of long-term relationship or co-integration. In order to perform the test developed by Banerjee and *et al* (1993), 1 is distracted from the sum of coefficients with pauses of the dependent variable, and the result is divided by the sum of SDs of the variables, resulting in the t statistic.

$$t = \frac{\sum_{i=1}^{p} \hat{\phi}_i - 1}{\sum_{i=1}^{p} S_{\hat{\phi}_i}} \tag{8}$$

If the absolute value of the t statistic is greater than the one for critical values at %95 confidence level, proposed by Banerjee *et al*, the null hypothesis is rejected and the long-term relationship is proved.

The second method, proposed by Pesaran and Shin (1996), tests the long-term relationship among the variables through the calculation of the F statistic to test the significance of pauses in the error correction form.

Error Correction Model(ECM):

Granger (1988) states that if there is co-integration between two variables, Granger causality holds between the two, at least in one direction. However, although the co-integration test can identify Granger causality between variables, it cannot determine the direction of causality. Angel and Granger (1987) state that if two variables, X_t and Y_t, are co-integrated, there always exists a vector error correction model between them.

Therefore, it is possible to use a vector error correction model to investigate the Granger causality between variables. The error correction model states that the changes on the dependent variable are functions of the long-term balance deviation and changes in other explanatory variables. The model, which relates the long-term and short-term relationships of the two variables, is represented as:

$$\Delta Y_t = \alpha + \sum_{i=1}^{m} B_i \Delta Y_{t-1} + \sum_{i=1}^{n} \gamma_i \Delta X_{t-1} + \lambda \varepsilon_{t-i} + V_t - K\lambda < 0 \tag{9}$$

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The error correction component ($\lambda\varepsilon_{t-i}$) opens up an additional way to investigate Granger causality, one which has been overlooked in the Granger and Sims causality test. If the variables, for instance reliability, are first degree and co-integrated, using an autoregressive distributed lag model (ARDL) on the first difference of the variables instead of using a vector error correction to test Granger causality, increases the variance of regression equation by eliminating the error correction component ($X_{t-1} - BY_{t-1}$), leading to a skewed parent statistic 2.This leads to false judgments about the direction of causality. In addition to discovering the direction of causality between variables, the vector error correction model enables us to distinguish between long-term and short-term Granger causality. Insignificant λ may indicate that long-term Granger causality does not hold between explanatory variables relative to dependent variables or that the dependent variable is a weak endogenous variable. The insignificance of the sum of pauses of each explanatory variable might indicate that in the short run, there is not Granger causality between any of the explanatory variables to the dependent variable. The insignificance of the sum of pauses for each explanatory variable together with λ might indicate that in the long run, Granger causality does not hold between each explanatory variable and the dependent variable.

Hodrik-Prescott Filter:

Normally, in experimental studies, and unpredicted value of time series variables is considered as uncertainty. For instance, in Mishkin (1998), Cover (1992), Karras (1996), and Kandil (2000), the results of the equation of money supply growth rate (M_2) are used as monetary shocks. In fact in these studies, the growth rate of money volume is decomposed into expected shocks of certain values and unexpected shocks of certain values and the regression results of money volume growth rate as unexpected foreign exchange shocks are used to investigate the asymmetrical effects of shocks. This method has defects, though. Using the regression consequence method might be associated with measurement error of variable uncertainties. Therefore, it is important to use good estimation methods and good specification equation and according to econometrics literature, the bias of equation specification leads to inaccurate estimations and the resulting consequences of estimation will not be correct. Therefore, the calculation error of consequences leads to incorrect results in the equation of investigating uncertainties.

On way to determine the uncertainty of variables is to use the time trend of time series variables so that by regressing the variable on time and comparing the actual values with the uncertainty trends of the variable. Practically, to consider the conditions and determining the uncertainty of variables, the multivariate filtering method can be used. One of the most common ways is to use the famous Hodrik-Prescott filtering time trend (1998). Since it separates the sequences of the cycles from the time series variables and approaches the time series variable to the real value, this method is highly important and commonly applied. This method is briefly discussed here on account of being adopted in this study. The underlying philosophy of using this method is that it can help permanent and temporary components through separate shocks. For a time series variable filter, the clear difference between a temporary shock and a permanent one is that the latter exerts permanent influences on the real variable while the former has permanent impacts on it. Nevertheless, the permanence of temporary shocks makes distinguishing between temporary and permanent shocks complicated.

The Hodrik-Prescott filter minimizing the square sum of deviations of the time series variable, X_t, from its trend, t. In fact, the values of the Hodrik-Prescott are ones which minimize the below equation:

$$j = \sum_{t=1}^{t} (X_t - t_{x-1})^2 + \alpha \sum_{t=2}^{t} [(t_{x:1+1}, t_{x:1}) - (t_{x:1+1} - t_{x:1-1})]^2 \quad (10)$$

Where, the number of observations of parameter α is the harmonic factor which determines the smoothness of the trend. Its value for annual trend is 100 and for seasonal data, it is 1600. This parameter eliminates cycles with frequencies of less than 8 years. This filter is two-way and solves the problem of phase changes in the cycle.

Here, the stability test is performed since if a variable is I(2), the values of the calculated F and other statistics cannot be trusted.

1. The results of the stability test demonstrated that the variables (economic growth rate, imports and exports) are all I(1) types. Thus, we continue with model estimation.

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Results:

The Influence of Imports and Exports on Economic Growth (Model without Uncertainties Considered):

Prior to achieving a long-term balanced relation, the existence of such relation should be proved; following that, the long-term relation is calculated and the long-term influence of the variables on economic growth is investigated. To this end, the value of ARDL (1, 1, 1) is selected as the optimal pause, using the SBC and the Microfit 4. The results of short-term estimation and long-term relation existence test are demonstrated in table 1.

Table 1: Results of short-term model estimation.

Variable	Coefficient	Calculate Statistic	Critical Value at %5
Y(-1)	0.279	2.541	0.021
X	0.276	3.939	0.000
M	0.256	3.323	0.002
C	0.385	0.3532	0.598
T	0.001	0.684	0.498
$\overline{R}^2 = 0.94$	D.W=2.32	F=111.922[0.000]	$R^2 = 0.95$

Source: Findings

As demonstrated by table 1, imports have significant and positive influences on imports. Therefore, a factor which affects economic growth is imports since imports bring foreign exchange into the country and boost economic growth through increasing production. Also, in the short run, imports increase economic growth. This can be explained by the fact that in developing countries economic growth is triggered in early stages through increasing imports, especially of raw materials and machinery.

Now, we investigate the long- term relationship using the Banerjee, Dolado, and Master standard:

$$t = \frac{0.279 - 1}{0.109} = -6.614$$

The value of statistic in the Banerjee *et al* table is -3/28 at 95% confidence level. Since the calculated statistic is smaller than the value of the table statistic, the long-term relationship among the variables is proved. Given the proved long-term relationship, the results of long-term estimation are demonstrated in table 2.

Table 2: Long-term model estimation results.

Variable	Coefficient	Calculated Statistic	Critical Value at 5%
X	0.664	2.003	0.054
M	0.294	1.238	0.225
C	1.866	0.653	0.518
T	0.009	0.969	0.339

Source: Findings

According to table 2, exports have significant and positive influences on economic growth. In other words, if exports grow for one unit, economic growth rises for 0.66%. As we know, exports are considered as one of the factors which always positively influence economic growth. The variable, imports is not statistically significant in the long run, which cannot be considered here. In order to be able to trust the results of the long-term relations between the variable, the classic hypothesis is investigated. The results showed that serial autocorrelation does not exist. The correct equation is specified. Residual terms are normally distributed and have the same variances. Therefore, the estimated equation is ok and the results can be trusted. Following the estimation of long-term coefficients, the error correction term, which is the long-term achievement model, is used as the explanatory variable in the ECM. The fact that this coefficient is -0.20 indicates that in each cycle, 20 percent of the error of reaching from short term to long term is balanced.

Now, we perform the causality test and determine the direction of causality using error correction causality. To identify the direction of short-term causality, the parent test is performed on the correction equation coefficient. The results indicate that the short-term causality between exports and economic growth is two-way, which is true for imports and economic growth. However, the causality between imports and exports is one-way; there is no causality from exports to imports. Also, the results show that there is long-term two-way causality between exports and economic growth, which is true for imports and economic growth. Also, there is two-way long-term causality between exports and imports.

The Impact of Exports and Imports on Economic Growth (Model with Uncertainties Considered):

Now, the uncertainties of economic growth, exports, and imports are calculated using the Hodrik-Prescott filter. Since the data are annual, the value of parameter α, which determines the smoothness of the trend, is 100.

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Following the calculation of variable uncertainties, the model is estimated The SBC and Microfit 4 select ARDL (2, 1, 2, 2, 1, 2) as the optimal pause. Table 3 demonstrates the results of short-term estimation and those of the long-term relation test.

Table 3: Results of short-term model estimation.

Variable	Coefficient	Calculated Statistic	Critical Value at %5
Y(-1)	1.465	28.243	0.000
X	0.084	15.977	0.000
M	0.228	4.784	0.000
H_Y	-0.996	-867.904	0.000
H_X	-0.086	-16.093	0.000
H_M	-0.228	-4.795	0.000
C	0.047	2.99	0.007
$R^2 = 0.93$ $\overline{R}^2 = 0.92$ D.W=1.87 F=31.53[0.000]			

Source: Finding

According to table 3, exports have positive and significant influences on economic growth. In other words, as exports grow, economic growth grows as well. Given the fact that exports play an important role in the GDP as a factor influencing economic growth, it can also affect production, employment, and investment. In a sense, the incomes of exports can provide good conditions for long-term and short-term planning. The variable of imports was positive and statistically significant. This implies that as imports grow in the short run, economic growth rises. As we know, in order to achieve economic growth, one approach is to import goods in the short run, which can trigger production and economic growth. Uncertainties of economic growth, imports, and exports were all negative and significant. As we know, uncertainty makes the contexts of investment, production, and employment vague, making people unaware of the future of the economy and leading to reduced tendencies to engage in economic activities.

The calculated statistic for the existence of long-term relationship using the Banerjee *et al* standard is -4.796 and given the statistic of the Banerjee *et al* table is -3.28 at 95% confidence level, the long term relationship is proved.

Given the long-term relationships among the variables, they are estimated now. The results are represented in table4.

Table 4: Results of long-term estimation of model.

Variable	Coefficient	Calculated Value	Critical Value at 5%
X	0.698	3.157	0.000
M	-0.435	-2.964	0.021
H_Y	-2.470	-3.931	0.001
H_X	-0.162	-0.232	0.818
H_M	-0.337	-0.850	0.404
C	6.802	2.660	0.034

Source: Findings

According to table 4, in the long run, exports have a positive and significant influence on economic growth. With a 1-unit increase in exports, economic growth rises for 0.70% and this variable exerts the greatest influence on economic growth after uncertainties in economic growth. The influence of long-term imports on economic growth is significant and negative. In other words, in the long run, as imports grow, economic growth falls. Economic growth uncertainties negatively influence economic growth. The imports and exports uncertainties were negative but insignificant.

In order to be able to trust the results of the investigations regarding long-term relations, the classic hypotheses are investigated, which indicates no serial autocorrelation. The correct equation is specified. The residual terms are normally distributed with the same variances. Therefore, the results can be trusted and we can proceed to the next step. Following the estimation of long-term model coefficients, the error correction term, which is the long-term achievement model, can be used as the explanatory variable in the ECM. Since the coefficient is -0.32, in each cycle, 32 percent of the error trend of achieving from long term to short term is balanced.

In order to test short-term and long-term causality among the variables, the parent test is conducted on the coefficients of the error correction term. The results indicated that there is two-way causality between exports and economic growth, which is true for imports and economic growth. There is short-term two-way causality between imports and export. Also, the results show that there is two-way causality between exports and

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economic growth, which holds for imports and economic growth as well. Moreover, there is long-term two-way causality between exports and imports.

Discussion & Conclusion:

Imports and exports are factors indicating the extent to which an economy is related to the world economy. A number of economists believe that uncertainties in foreign business contribute to increased investment and economic growth through reducing consumption and growing saving. On the other hand, some believe that foreign trade uncertainties negatively affect investment and, consequently, economic growth. Another group holds that there is no link between uncertainties of foreign exchange incomes and economic growth. Accordingly, this study was conducted to investigate the impact of imports and exports uncertainties on the causality among imports, exports, and economic growth in Iran during 1971-2010 using the autoregressive distributed lag model (ARDL) approach. The model was estimated in two steps; one regarding uncertainties of variables and another without regarding those uncertainties.

The results of model estimation in the absence of variable uncertainties include: 1- In the short run, exports positively affect economic growth; as exports grow, economic growth promotes. 2- Imports also have a positive, significant short-term influence on economic growth. 3- In the long run, exports positively affect economic growth; as exports grow, economic growth promotes. 4- The estimation of the long-term function of imports did not indicate any significant consequences for economic growth; therefore, this variable does not have a significant long-term influence on economic growth. 5- There is short-term causality between imports and exports, as well as one between imports and economic growth. 6- The causality between imports and exports is one-way, from imports to exports. 7- There is long-term, two-way causality between exports and economic growth as well as imports and economic growth. 8- There is two-way causality between imports and exports. In the second section, the model was estimated in the presence of uncertainties. Variable uncertainties were determined using the Hodrik-Prescott filter. The results include: 9- Imports have positive, significant, long-term impacts on economic growth; economic growth increases when exports increase. 10- In the short run, increased imports contribute to economic growth. Generally speaking, developing countries share similar structural features. For instance, production is typically agricultural and traditional. Thus, the transition from the traditional phase toward the industrial phase and proceeding through the processes of economic growth requires economic and social changes through importing capital, mediatory, and technological goods. 11- Economic growth, imports, and exports uncertainties negatively affect economic growth in the short run; they reduce economic growth when these variables grow in terms of uncertainties. In estimating the long-term function: 12- Exports have positive significant effects on economic growth; in other words, if exports grow for one unit, economic growth increases for %70. This variable has the greatest influence on economic growth after economic growth uncertainties. 13- The long-term influence of imports on economic growth is negative and significant. In other words, increased imports reduce economic growth in the long run. This is complicating since one parameter contributing to long-term sustainable economic growth is to select optimal imported combinations which must tend to capital and mediatory goods in the long run. Importing consumptive goods must be reduced and replaced by that of capital goods. 14- Economic growth uncertainties negatively affect economic growth. 15- The scores of uncertainties in imports and exports also were negative however not significant. 16- There is short-term two-way causality between exports and economic growth as well as imports and economic growth. Also, there is short-term two-way causality between imports and exports. 17- There is long-term two-way causality between exports and economic growth as well as exports and economic growth. Also, there is long-term two-way causality between imports and exports.

According to the findings of the study, and given the fact that exports have positive significant influences on economic growth, politicians planners are advised to increased exports by expanding economic infrastructures and encouraging manufacturers to boost their products in terms of both quality and quantity, contributing to greater economic growth. Moreover, since it was found that imports have negative impacts on economic growth in the long run, planners and authorities are advised to consider this effect. Economic growth uncertainties negatively affect economic growth; thus, the planners should know that the less stable the economic conditions, the less thriving the economy is an try to keep the economy stable and prevent from uncertainties. As indicated above, uncertainties in the economy affect all economic factors and variables, including exports and imports. Therefore, planners and authorities are advised to investigate their policies before they are enforced and clearly communicate them to people, manufacturers, importers and exporters so that they can make proper decisions and avoid shocks created by introducing new policies.

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