An Econometric Analysis of the
Determinants of Inflation in Jordan

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Abstract

This study aims mainly to study the most important internal and external factors affecting the inflation dynamics in Jordan, and measuring the impact of these factors on the inflation dynamics, has been the introduction of several variables in the estimated model is imported inflation, the national exports, GDP, money supply in its broad sense, credit facilities, workers remittances and external shocks, has been the use of quarterly data during the period from 2000 until the third quarter of 2010.

This study used the applied methods of measuring the economic relations of long- and short-term, using the concept of Co integration and Error Correction Model and analysis of Variance Decomposition and Impulse Response Function, and after the application of these statistical tests on all variables of the study using statistical analysis (E-Views) show that all variables are stationary at the first deference, including four long-term relationships.

The results of the regression error correction has shown that the dynamics inflation in the short term are affected by a significant positive increase imported inflation and the national exports, and affected by increased credit facilities and transfers of staff and external shocks, compared to the opposite effect of GDP growth on the inflation dynamics and there is insignificant of the money supply in its broadest sense to inflation dynamics. The Error Correction Term (ECTdi) signal is negative as expected, it has an impact on the

balance in the long term, and the speed of adaptation in the access to long-term is 0.064030 that is approximately 6%.

The test results of Variance Decomposition and test Impulse Response Function showed a consensus with the previous tests. And the study's recommendations can be summarized as the need for effective policies to reduce imports and increase GDP and internal balance, increase foreign investment in local productive sectors.

Keywords: Inflation Dynamics, Error Correction Model, GDP, money supply, Impulse Response Function, Jordan.

Introduction

The inflation of the topics that is still controversy exists about the causative factors and therefore the appropriate policies to curb it, but it can be said that inflation in general is affected by internal and external factors vary in importance depending on the nature of the economy and the degree of openness to the outside world.

In the small economy open to the outside Jordanian economy play external factors play increasingly important with the increasing degree of openness, Jordan has suffered from high inflation rates in recent years in prices of imported consumer goods and materials, was also in the prices of consumer goods and materials and local real estate, land, and most services and this in turn affected the purchasing power of money where the latter is closely linked to the General level of prices, higher General level of prices declining purchasing power of money in the economy and vice versa, Naturally, the appropriate size of the money in the economy in a State with the output of goods and services or the so-called GDP, if the quantity of money in the economy is greater than the output of goods and services of such a situation will lead to higher inflation, thus decrease in purchasing power of money, nor is it normal that an economy is in goods and services that are not matched by a sufficient amount of money to buy it. This situation also has drawbacks which notably decreased aggregate demand and the emergence of a situation of economic stagnation.

Inflation cannot be explain that high prices, but is an integral part of the current global economic crisis, and crises experienced by each country, that because of unemployment and the housing crisis and the high transport fares, reduced agricultural yields, disaster, sabotage, smuggling and wars and the fall in the price of local currency in the currency markets, instability and corruption.

The widespread trend towards consumption, who has led to the creation of the Community consumption, which is one link to inflation. Hence, to study the possibility of controlling inflation and dynamism is one of the themes to be addressed in Jordan, therefore, requires the authorities monitor inflation closely and are taking action and policies necessary to find solutions to this problem, which would reduce and that's what this study is trying to do.

Problem Statement

The problem with the study that inflation is almost a phenomenon permeated all the countries, which requires analysis of the causes of inflation and stand by to work on finding appropriate solutions to address this dilemma in the Jordanian economy and the affect it economically, socially and politically, and can formulate the problem of the study of wonder the following:

- Are influenced by inflation dynamics in Jordan due to higher imported inflation represented by higher prices of imports?
- Are influenced by inflation dynamics in Jordan as a result of the rise in Jordanian exports to the foreign market?
- Are influenced by inflation dynamics in Jordan as a result of the high GDP?
- Are influenced by inflation dynamics in Jordan as a result of the high money supply in the broad sense?

- Are influenced by inflation dynamics in Jordan as a result of rising workers' remittances?
- Are influenced by inflation dynamics in Jordan widening banking facilities - an increase of the demand for purchase -?
- Are influenced by inflation dynamics in Jordan as a result of external shocks - represented by the war on Iraq -?

Importance of the Study

- There is no doubt that knowledge for the future level of inflation in Jordan greatly help to avoid some negative effects resulting from it, so the studies in this framework are running down a niche area, and imposes itself as a branch of an independent scientific view of the important role played by the expected rates of inflation, like the other of economic phenomena and other social, in the design and policy guidance and the appropriate programs.
- The study of inflation dynamics has not received much attention in the Arab library of this study may be one of the efforts made to bridge this shortfall.
- The study of inflation dynamic is one of the elements that organizations should Jordanian economic interest in them and so help them to face the economic challenges posed by global changes present related and benefit.
- the difficulty of relying heavily on the results of studies and research in foreign and applied to the Jordanian market due to differences of economic and social development.
- Characterized in this study being one of the first studies of its kind in Jordan, and most studies have looked into an environment different from the environment of Jordan, and Jordanian libraries lack of such studies and knowledge informed by the researcher.

Objectives of the Study

The choice of this study is due primarily to the importance of quantitative techniques in economic analysis and to the importance of forecasting future values of economic phenomena such as inflation rates, which makes it possible to control inflation is easy.

The aim of this study was to achieve a number of objectives including:

- Describe the most important factors affecting the dynamics of inflation in Jordan is the various internal and external factors.
- Highlight the theoretical basis and practical analytical to the phenomenon of inflation and drop it on the reality of Jordan.
- Help decision makers to take appropriate policy to find solutions and responses to the problem of inflation.

Review of the Related Literature

- Study Mansour (2010) entitled: inflation dynamics in Yemen

This study aimed to explain the inflation dynamics in Yemen during the time period (1990-2007) to this end, he used three distinct models:

One-equation model, a model construction methodology, the model error correction.

The results of this study suggest that the inflation dynamics in Yemen affected by international shocks, and low exchange rates, and crises of domestic demand and monetary innovations. The price of imports is largely affected by world prices and low exchange rates. In the short term inflation is affected by external shocks, represented by international prices and calculates the exchange rate by a large margin, but in the medium term it is affected by shocks of domestic money supply and domestic demand.

- Study (Nathan Porter, 2010) entitled: dynamics of prices in China

This study aimed to look at the factors that increase the rate of inflation in the Greater China in particular, and note the movements in inflation is food for the compilation of demand factors, such as movements in the output gap and monetary conditions, as in the display, such as movements in input prices and world prices, and the occurrence of disasters natural fluctuations in production capacity, and also investigate the extent of the indirect effects of inflation over the provinces and the main land between the economies of Greater China through the use of form VAR. All of this for understanding the dynamics of inflation at the national level in China. The result of this study to a limited role of direct pressure on the demand for non-food inflation, and also rely on measures to measure the output gap, as there are difficulties in measuring the gap in production economies, rapid changes in the economy such as China.

- Study Ibrahim Saif and David Dabartolo (2007) entitled: The impact of the Iraq War's Impact on Growth and Inflation in Jordan.

Consider this study the impact of the Iraq war from 2003 on growth and inflation in Jordan and explore the business relationship Jordanian-Iraqi, and changes in the consumer price index in Jordan and Iraqi investment in Jordan, and try to indicate the difference between the economic challenges formed by the war in Iraq in general and by the Iraq is in Jordan are particular. This study resulted in that the main cause of inflation is the Iraqi presence as what other factors, including rising oil prices and an end to Government support for petroleum products and export food products to the market throughout the Gulf Jordan contributed to the rising prices.

One of the most important findings of the study that inflation in the provinces greater than inflation in Oman, where a large proportion of Iraqis.

Characteristics of the Economies of Underdeveloped Countries, Leading to Inflation

1. Specialization in the Production of Raw Materials

The adoption of most of the economies of underdeveloped countries on the production of raw materials to the growing role of the export sector in the national economy, but the reliance on a single or limited number of goods produced by these economies for export, making them vulnerable to the vagaries of monetary and price, as a result of fluctuations in demand conditions and supply of those substances , The occurrence of an increase in the exports of the underdeveloped countries of raw materials depends on the economic conditions of industrialized countries and increasing production, which depends on the size of the demand for their products, and supply conditions in underdeveloped countries is affected by many factors that weaken their ability to export, such as fluctuations in weather conditions that impact on revenues from agricultural production or natural disasters destroy crops or mining or resources may lead to cracks in the layers leading to leakage and depletion of oil wells.

In light of this, the underdeveloped countries face two kinds of problems that are related to production and export of raw materials, both in the short term or long-term, as these countries face in the short term problems related to the volatility of demand for its products in global markets for raw materials, which may occur due to increased competition synthetic substitutes produced by those countries or reduce its use in industrial processes, is also facing exports of the underdeveloped countries of the raw materials problems in the long term is to decrease the flexibility showcase their products and thus influence the size of its exports, and therefore the fluctuations in the exports of underdeveloped countries makes them vulnerable to waves of Non-monetary and price stability, on the grounds that these economies are highly sensitive to inflationary pressures because of their reliance on the export of raw materials that face fluctuations in their prices in global markets, which are determined by the forces of supply and demand for its products. We must distinguish between two cases:

A. Situation of Higher Export Prices
Rising raw material prices in world markets, to increase exports of underdeveloped countries, which means increasing their foreign exchange earnings, and thus the high level of access that are often directed towards consumer spending, given To the low entry majority of individuals in those countries and low motives of savings they have, As for the rest of the individuals in those communities and that their incomes are rising, which is often directed towards investment spending or spending on luxury goods or entertainment. Therefore, the increase in the volume of cash income generated from the increase in export volumes often lead to inflationary pressures in the economy, which is due mainly to the low elasticity of the production in those countries and its inability to meet the increase in demand, due to limited production capacity and lack of increase in the short term. The increase in export earnings to pay the workers to demand higher wages, and which soon spread to the rest of the national economy, taking into account that the decline in export earnings do not result in lower

B. Situation of Low Prices of Exports
A decrease in export earnings in underdeveloped countries, whether the result of lower demand for its products, or lack of flexibility of its production of raw materials, or due to low competitiveness in international markets, expose these economies to the inflationary pressures caused by the decrease in revenues from foreign exchange which was used to finance consumption and investment spending and public spending in those countries, in addition to the proceeds went down the state taxes that were imposed on exports as well as the tax imposed on the entry of exporters, which weakens the ability of the state to finance imports, the financing of current expenditure and investment expenditure necessary, due to the inability of the state to control government spending in the short term, and the inability of the productive apparatus to meet the increase in aggregate demand, which is usually confronted by the increase in imports, thus contributing to increase the budget deficit, and that the inability of state revenues to cover its expenses, making those countries more vulnerable to inflationary pressures, due to the adoption of these countries to finance their budget deficits by borrowing from the banking system, which is financed through the new versions of cash, which works to increase inflationary pressures in the economy.

2. State Financial Machine Rigidity

Are tax systems in underdeveloped countries Bjmudha, lack flexibility and change depending on the changes that occur in the economy, and reflects the stagnation and backwardness in the tax systems in underdeveloped countries how little effort the tax in those countries, and through the low proportion of tax revenues to GDP, which often form about 12% - 15% compared with developed countries, which will reach the percentage of the proceeds of harm's Vice to about 30% of GDP. Also constitute indirect taxes, a large proportion in the total tax proceeds compared to the direct tax, and characterized by indirect taxes, direct taxes and the abundance of easily collected revenues, as well as flexibility and translation of the economic situation. However, the control of the owners of private interest and control in guiding the tax legislation, not inconsistent with their interests, led to the stagnation of such legislation, and not to increase tax revenues needed to finance the economic development process, which forced the state in light of lower revenues from taxes to resort to borrowing from the banking system which is usually financed through monetary issuance, or reliance on Foreign loans to finance economic and social development, but the dependence on such sources of inflation that lead to increase the amount of money circulating in the economy lead to increased inflationary pressures, since the increase in the amount of money in circulation does not offset by an increase in real output, which drives prices upward . However, the country's attempts to reduce the money supply by adjusting the public expenditure by restricting bank credit, which in turn leads to lower money supply at a lower rate than the rate of decline in the volume of demand, which results in an economic recession will be followed by the inflation caused by excess demand in the economy, which in turn leads to what is known as the inflationary recession or stagflation.

Reality and Indicators of Inflation Dynamics in Jordan
The Jordanian economy, a pattern is ideal for small and open economy was reflected clearly on the affected cash flow received by the external shocks, and characterized its economy, lack of natural resources, and more than 70% of the value added of GDP in the services sector, especially trade, tourism and banking, there is a manufacturing traditional mining, phosphate, potash, oil refining and production industries and light manufacturing, particularly textiles, clothing and gained in importance recently in light of the relatively large opening of the Jordanian economy to international trade. Jordan's economy also suffered from a chronic deficit in the trade balance, as well as deficits in the general budget of the State, and Jordan received large amounts of workers' remittances from neighboring Arab countries.

And tracking the evolution of inflation rates in the Jordanian economy as shown in Figure (1) that the rate of inflation of 0.7% in 2000 and continued increasing thereafter, and notes that 2004 has recorded a jump clear in the rate of inflation at about 3.4%, due to war launched by the United States with the countries of the coalition on Iraq and the attendant stopped the flow of Iraqi oil and the entry of a large number of Iraqis to Jordan, which has led to increased prices significantly, especially real estate. Either the second leap occurred in 2006 rising to 6.25 percent, then fell in 2007 to 4.7% and then returned to raise significantly in 2008 to up to 14%, hit by high prices globally, especially oil prices, which recorded an unprecedented rise in this year that Jordan imports complete its oil needs from abroad. As witnessed in 2009, down significantly so as to prevent the inflation rate to minus 0.7%, and attributed this decline to the financial crisis that has befallen the economies of the world, which in turn affected the Jordanian economy, and in light of the continuation of the current economic crisis has increased rates of inflation for 2010 to up to 5% depending developments on the global crude oil prices.

Figure (1): The rate of domestic inflation, 2000-2010
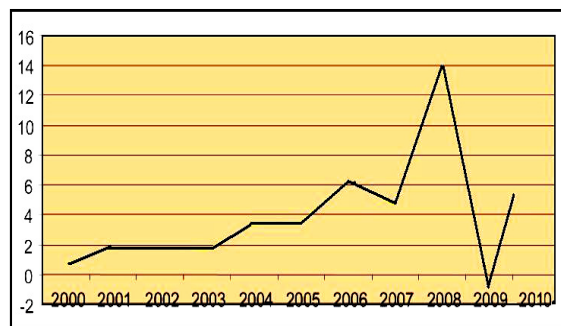
Methodology
This study uses the following model to test the stationary of a recipe:

$$\Delta Xt = \mu + \gamma Xt\text{-}1 + \Sigma \phi \Delta Xt\text{-}i + \varepsilon t$$

This is called a test Augmented Dickey Fuller "ADF", and that the test ADF to test the imposition of the basis for the lack of stationary is (H0 : $\gamma = 0$), and the imposition of the alternative is (H1: $\gamma < 0$) If ($\gamma = 0$) means not to stationary, and ($\gamma < 0$) means stationary, as well as rejection ($\gamma > 0$) which means no stationary.

There are two types of trend Trends:
- A random direction (Stochastic)
- A specific direction (Specific)

The former is removed after taking the first difference, and the other variable directional and say that for (Xt) stable direction with the observation that the variable directional (T) does not delete after taking the first difference, where Treat greater than zero, and the coefficient of the variable to be tested after taking the first difference to him is ($\phi > 1$), if either direction, it deletes the specified constant with the progress of time, and thus become a stationary test as follows:

$$\Delta Xt = \mu + \beta T + \gamma Xt\text{-}1 + \varepsilon t \qquad\qquad (DF)$$

$$\Delta Xt = \mu + \beta T + \gamma Xt\text{-}1 + \Sigma \phi \Delta Xt\text{-}I + \varepsilon t \qquad\qquad (ADF)$$

Since the method of first difference may not be predicated on the issue of non-co integration of time series, then the test for co integration multi shows that even with the use of time series is still at the level, and the presence of integration of joint allows the use of (Error Correction Model "ECM"), which provides a methodology able to discuss the issue of lack of stationary when the time series level and neutralizes the possibility of estimating equation correlation is misleading.

And see all of the (Engle & Granger) to estimate model (ECM) is done through two steps:

- First step: is estimated co integration vector coefficients (Co-Integration) between the variables.
- Second step: using the error end product of this complementary relationship in the model of error correction.

If the variables were integrated and the same degree, it has long-term relationship can be estimated error correction model (ECM) is the most appropriate model for that motor (Dynamics) does not require a diagnosis of the structure is estimated in error correction and show consistent results.

The concept of correcting the error (Error Correction Model "ECM") is a way to correct the dependent variable, which depends not only on the level of the explanatory variables, but the deviation of explanatory variable on the scope of the relationship for the equilibrium of the variable.

Was the use of test analysis of the components of variance (Variance Decomposition) and to identify the amount of variance in predicting each variable that is attributable to the error prediction in the variable itself and the amount that is due to the error prediction in the explanatory variables other in the form of study, are usually analyzed the components of variance for every variable of the variables model and highlights the importance of analyzing the components of variation to show the relative importance of the impact of any sudden change (Shock) in every variable of the variables the model all the variables in the model and avoid the problem of the existence of impact of simultaneous errors (Contemporaneous) in the different variables in the model, are used to distribute Cholaski (Cholaski Decomposition)

Was applied test (Impulse Response Function), which works to track the time path of various shocks (Shocks) experienced by the different variables included in the model study and reflect how the response of each of these variables for any shaking or sudden shock in any variable in the form with the passage of time. It should be noted that both components of variance analysis and response function of the reaction are of great importance in the process of prediction.

Model Used

$$DIt = \alpha + \beta 1IMt + \beta 2Xt + \beta 3GDPt + \beta 4M2t + \beta 5CEt + \beta 6WRt + \delta DUt + \varepsilon t$$

Where:
DIt: Inflation dynamics.
IMt: imported inflation - imports.-
Xt: Jordanian exports.
GDPt: Gross domestic product
Mt: money supply in the broad sense (M2).
CEt: banking facilities.
WRt: workers' remittances.
DUt: dummy variable measures the external shocks.
εt: random error.

Empirical Results
Stationary Test (Unit Root Test)

After testing Dickey - Fuller ADF test Phillips - Perron PP to test the stationary time series involved in the study model at the level (Level) and for the teams first (First difference), has been the analysis results in Table (1) that the results of (Unit Root Test) and the time series is still at the level of all variables as the critical value (1991, Mackinnon) at the level of significance of 5% (according to ADF - 2.941 according to PP -2.933) with the exception of dynamic inflation, according to ADF and PP, and when taking the first difference and re-test have shown that all time series are static at 5% level of significance and the results showed nihilistic rejection of the hypothesis of the difference at the first level of significance of 5%.

Table 1: Test results stationary time series

FIRST DIFFERENCE		LEVEL		
ADF	**PP**	**ADF**	**PP**	**Variables**
-6.47	-14.34	-4.23	-3.88	DI_t
-5.82	-5.81	O.04	0.084	IM_t
-4.20	-2.90 **	-1.68	-0.83	X_t
-2.19	-11.95	-0.59	-0.27	GDP_t
-5.23	-5.24	3.4	4.21	M_t
-3.83	-3.89	0.35	0.86	CE_t
-11.90	-8.64	-0.20	-0.82	WR_t
-6.40	-6.40	-1.61	-1.60	DU_t

** Significant at a level acceptable to 10%.
* Source: prepared by the researcher - Output software EViews

The critical values to Stationary Test by Mackinnon Critical Values are as follows:

FIRST DIFFERENCE	LEVEL	
-3.621	-3.615	
-2.943	-2.941	ADF
-2.610	-2.609	
-3.600	-3.596	
-2.935	-2.933	PP
-2.605	-2.604	

Source: prepared by the researcher - Output software EViews

Johansen Co-Integration Test

Results showed the root of unity that all variables are static when the first difference (1) I point (Engle &Granger) that the lack of sleep time series at the level does not negate the existence of linear relationship long-term relationship between variables and thus can test co integration were used test Johansen integration joint Johansen Co-integration Test was applied to the model study where the built in table (2) test results for co integration between the dynamics of inflation and imported inflation and the national exports and gross domestic product (GDP) and money supply in the broad sense, credit facilities and workers' remittances and external shocks, the data on a quarterly basis for 2000 : 1 to 2010:3, and the results showed rejection of the hypothesis nihilism of four vectors integrated (i.e., the presence of four long-term relationships) and the results indicate rejection of the hypothesis that there is no integration of joint, and that there are three vectors integrated at least suggests a long-term relationship between variables, and where will reject the hypothesis of lack of integration by Engle and Granger model are used to correct the error.

Table 2: Results for Johansen Co-integration Test of the dynamics of inflation

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.850321	271.0104	159.5297	0.0000
At most 1 *	0.749838	193.1407	125.6154	0.0000
At most 2 *	0.719799	136.3293	95.75366	0.0000
At most 3 *	0.605154	84.16706	69.81889	0.0023
At most 4	0.379723	46.06742	47.85613	0.0729
At most 5	0.363636	26.48625	29.79707	0.1148
At most 6	0.167464	7.954905	15.49471	0.4702
At most 7	0.010686	0.440470	3.841466	0.5069

Trace test indicates 4 cointegrating eqn(s) at 0.05 the level
* denotes rejection of the hypothesis at the 0.05 level
**Mackinnon - Haug - Michelis (1999) p-values
*** Source: prepared by the researcher - Output software EViews

The Results of Regression Error Correction Model of Inflation Dynamics

The estimated model of the study (model dynamic inflation) using the model error correction (ECM) procedures were followed and the method of (Hendry & Ericson, 1991) to estimate the model error correction following a procedure called (General to Specific procedures) to reach the estimate the final version of each model.

Although the explanatory power of the model is high and statistically acceptable but it must recognize that the use of differences in the form of error correction adversely affects the value of (R2) .

The estimated inflation dynamics the equation and all variables were statistically acceptable at the level of significance less than 5% with the exception of money supply in the broad sense (M2) which means that it is moral.

Showed that the impact of national exports to a positive inflation dynamic and increasing national exports by 1% increases inflation dynamics by 0.27% and was little flexibility in periods of slow down in the short term.

The impact of the credit facilities at the delay and a positive one but it was not flexible increase in credit facilities increased by more than 1% from 0.13% inflation dynamics in the short term.

And showed appreciation that the positive effect of imports when the delay and any one that the increase in the growth of imports by more than 1% of inflation dynamics by 0.73% in the short term.

The GDP was a negative impact upon the period of delay and one that any growth in GDP by 1% would reduce inflation dynamics by 0.32%, which is inelastic in the short term.

And showed the money supply in the broad sense (M2) no effect on inflation dynamics in spite of the increased rates of growth of money supply (M2) during the study period with no significant inflationary effects, and is due to the significant growth in net foreign assets as a result of receipt of the United Nations Compensation for Jordanians returning from Kuwait and the deposit of the UAE and the International Monetary Fund large amounts in the Central Bank as well as privatization proceeds and compensation of the United Nations in 2000, and increased capital flows (FDI), especially in the aftermath of the war in Iraq and increase the credit facilities largely as a result of increased demand and increased economic activity in Jordan and the private housing sector. Workers 'remittances also showed a positive impact on the dynamics of inflation so that workers' remittances increased by more than 1% of the dynamics of inflation by 0.17% when the period of delay and one in the short term.

The dummy variable which reflects the impact of external shocks of the war on Iraq has shown a positive impact despite the weakness of its effect as an increase in impact of external shocks by more than 1% of the dynamics of inflation by 0.06% at three periods of delay in the short term.

Either correct the error limit is ECTdi negative signal as expected it has an impact on the balance in the long term, and the speed of adjustment to reach the long term is 0.064030 that is approximately 6% of the causes of imbalances disappear after a quarter of the year, and noted that the standard error of the equation is very small.

Table 3:   The results of Regression error correction

Dependent Variable: D(DI) Method: Least Squares Date: 03/27/11 Time: 03:41 Sample (adjusted): 2001Q1 2010Q3 Included observations: 39 after adjustments				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	0.053875	0.017334	3.108163	0.0036
D(X(-2))	0.268657	0.052228	5.143937	0.0000
D(CE(-1))	0.129960	0.028029	4.636568	0.0000
D(DU(-3))	0.056586	0.017729	3.191752	0.0029
D(GDP(-1))	-0.317804	0.118370	-2.684844	0.0106
D(IM(-2))	0.729859	0.209607	3.482034	0.0013
D(M2(-2))	-0.699101	0.405834	-1.722626	0.1070
D(WR(-1))	0.165811	0.068195	2.431431	0.0200
RESID01(-1)	-0.064030	0.031237	-2.049794	0.0472
R-squared	0.721950		**Mean dependent var**	0.014940
Adjusted R-squared	0.646802		**S.D. dependent var**	0.036742
S.E. of regression	0.021836		**Akaike info criterion**	-4.612473
Sum squared resid	0.017642		**Schwarz criterion**	-4.183657
Log likelihood	121.6994		**F-statistic**	9.606974
Durbin-Watson stat	1.844116		**Prob(F-statistic)**	0.000000

* Source: prepared by the researcher - Output software EViews

The Results of Variance Decomposition

This test is used to find out how much variance in the prediction of each variable to predict the return to the error in the variable itself and the amount of revenue to the wrong prediction in the other variables. When applying this test on the variables:

Imported inflation, national exports, GDP, money supply in the broad sense, credit facilities, workers' remittances, and external shocks with the dynamics of inflation has been obtained on the results of analysis of variance variable dynamics of inflation shown in the table No. (4), showing the results of Table (4) that when analyzing the components of the dynamic contrast inflation explains 100% of the components of variation in the first period when the shock by a standard deviation of one in the variable itself, and take back down out of reach in the second period to 75.11% of the error prediction of the variability, while about 9.20% and 12.81% and 0.29% and 0.68% and 0.005% and 0.015% and 1.88% of error in predicting the dynamic contrast is due to inflation, imported inflation, exports and national GDP and broad money and credit facilities and workers' remittances and external shocks, respectively. This means that during the second period can change the dynamics of inflation explain about 75.11% of the forecast error in the dynamics of inflation itself, while the changes in national exports explain about 12.81% of the forecast error in inflation followed by dynamic changes in imported inflation, which explain about 9.20% of forecast error in inflation dynamics, and changes in the external shocks that explain about 1.88% of the forecast error in the dynamics of inflation, followed by the change in money supply, which explains about 0.68% of the forecast error in the dynamics of inflation, followed by the change in GDP, which explains 0.29 % of the forecast error in the dynamics of inflation, followed by a change of 0.015% of the forecast error in the dynamics of inflation and, finally, can the changes in credit facilities in the interpretation of only 0.005% of the forecast error in the dynamics of inflation. While noting the increase in the proportion attributable to imported inflation, national exports, GDP, money supply, credit facilities, workers' remittances and external shocks during the third period of up to about 11.71% and 16.64% and 1.01% and 2.08% and 0.72% and 1.86% and 3.57% respectively, and then continue to fluctuate with a tendency to increase that up to about 26.55% and 15.64% and 5.87% and 2.38% and 1.03% and 2.16% and 3.68% respectively in the period of the tenth. As is also noted that imported inflation is ranked first in terms of impact on the dynamics of inflation in this period followed the national exports, and GDP, and external

shocks, then money supply, and workers' remittances and finally credit facilities.The analysis of the components of variance clearly shows that the relative importance of national exports in interpreting the dynamics of inflation are the largest in the short term, which runs for three years, followed by the relative importance of imported inflation, and external shocks, then money supply, followed by workers' remittances and GDP while the relative importance Credit facilities are the least in the interpretation of changes in the dynamics of inflation. In the long run, these relative importance are subject to certain changes, which occupies the imported inflation ranked first followed by the relative importance of national exports and GDP, and external shocks followed by money supply in its broadest sense, and workers' remittances, while the remainder of this relative importance of the credit facility is at least in the interpretation of changes in inflation dynamics.

Table 3: The Results of Variance Decomposition

| Period	DI	IM	X	GDP	M	CE	WR	DU
1	100.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	75.113	9.2049	12.807	0.2908	0.6824	0.0047	0.0145	1.8814
3	62.405	11.708	16.640	1.0087	2.0786	0.7243	1.8631	3.5703
4	61.833	10.926	17.440	2.2246	1.8845	0.6515	1.8344	3.2036
5	53.931	20.315	15.184	1.9884	1.6613	0.7981	2.6537	3.4674
6	47.072	27.736	13.645	3.0583	1.6764	1.1177	2.4389	3.2534
7	44.010	27.224	14.320	5.8389	2.0065	1.0462	2.3067	3.2454
8	43.326	26.759	14.715	6.1619	2.3042	1.0791	2.2490	3.4047
9	43.292	26.221	15.196	6.0267	2.3806	1.0548	2.2104	3.6171
10	42.694	26.552	15.636	5.8659	2.3848	1.0290	2.1593	3.6775

* Source: prepared by the researcher - Output software EViews

The Results of Impulse Response Function

This means the test track the time path of the sudden changes that can be exposed to different variables of the model and how other variables respond to any sudden change in any variable of the model variables of the study. And figure no. (2) Shows Impulse Response Function of inflation dynamics to a sudden change rate of one standard deviation in each of the imported inflation, national exports, gross domestic product, the broad money supply, credit facilities, workers' remittances, and external shocks.

Is clear from Figure no. (2) That imported inflation has a positive effect on inflation dynamics and the effect lasts for four years. So that any sudden change in the amount of imported inflation and a standard deviation of a single positively affect inflation dynamics and the effect lasts for four years and then begins to recede. As for the variable of national exports, the positive effect starts after the fifth year so that any sudden change in national exports amounting to one standard deviation and a positive impact on inflation dynamics, but this effect to not be shown directly but after five years. As for the variable GDP, then the height leads to lower inflation dynamics and continues to this effect for more than five years and then fade the effect after the sixth year and found Impulse Response Function that any sudden change rate of a standard deviation of one in the gross domestic product (GDP) adversely affect inflation dynamics for five years and then this becomes a non-significant effect after the fifth year. As for changing the money supply in the broad sense has made the outcome is moral and it is compatible with test regression error correction, while for the credit facilities, the impact on inflation dynamics is positive, very limited so that any sudden change rate of a standard deviation of one affects positively on inflation dynamics and continues to this effect for a short period only.

As for the changing workers 'remittances, the impact was small and positive start after the second year and fades in the long term so that any sudden change in workers' remittances amounting to one standard deviation and a positive impact in inflation dynamics, but this effect is not directly but appears after two years. As for external shocks, the positive impact is little in the short term inflation dynamics appears after the fourth year, and was compatible with the results of previous tests, so that any sudden change in the external shocks of standard deviation of one affects positively on inflation dynamics, but this effect is not directly but appear after four years.

Figure2: Impulse Response Function of Inflation Dynamics

Accumulated Response to Cholesky One S.D. Innovations ± 2 S.E.
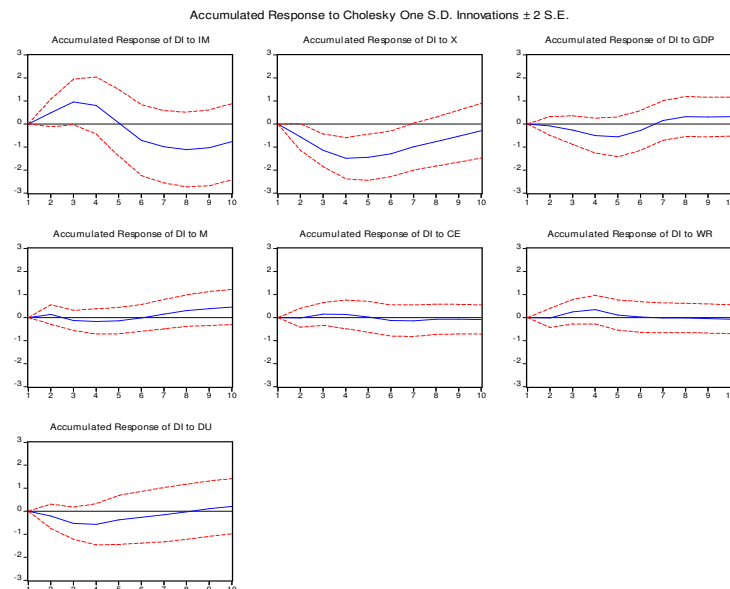
Source: prepared by the researcher - Output software EViews

Recommendations

In light of the foregoing, this study recommends the following:

1. The need to reduce oil imports to finding alternative goods such as shale oil available in Jordan and to accelerate the practical application of the draft nuclear energy for peaceful purposes as an alternative to oil imports.
2. Work to achieve internal balance by diversifying and increasing exports of Jordan, after filling a need of the local market, and not at its expense.
3. Direct investment and expand and create new job opportunities in the Jordanian labor market towards productive projects, especially with low cost such as agricultural projects, and after that the results of the study showed an inverse relationship between GDP and inflation dynamics.
4. Take action to achieve an increase in the value of domestic savings by increasing the size of GDP and higher rates of annual growth rates of annual growth of total final consumption.
5. Create incentive procedures to guide the credit facilities to productive projects and long-term.
6. Promote policies that would increase foreign investment in domestic productive sectors.
7. The need to combat the serious implications of the phenomenon of inflation on the Jordanian society, and try as much as possible the integration and the creation of a rapprochement between the various constituent layers of the society, and to eliminate manifestations of administrative and financial corruption.
8. Need to give sufficient weight to the standard and predictive studies regarding various economic phenomena and take their results very seriously.

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