

Research Paper

Implication of exchange rate policies for sustainable development in Nigeria

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This research study examined the implication of exchange rate policies for sustainable development in Nigeria between 1991 and 2014. Basically there are three (3) types of exchange rate policies, namely; pegged, floating or outright devaluation. The central focus of this study is to find out if the naira exchange rate policies employed at different times have had any significant implication for economic growth and sustainable development in Nigeria. The study made use of secondary data sourced for a period of 22 years. The ordinary least square (OLS) research technique was used to estimate the data with the gross domestic product (GDP) serving as the dependent variable and explanatory variables includes; exchange rate, inflation

rate and the interest rate for the period of study. Our findings showed that the exchange rate regime employed notwithstanding, economic growth and development is not often affected or determined by the choice of exchange rate policies in Nigeria, whether pegged, floating or outright devaluation. We therefore recommend that efforts should be geared towards promoting policies that would make the nation's economy more vibrant through stable exchange rate and export promotion to help correct the imbalance in foreign trade.

Key words: Implication, exchange rate, policies, sustainable, development

INTRODUCTION

The Bretton Woods system of fixed exchange rates, which evolved immediately after the Second World War, worked fairly well for nearly thirty years until 1973 when it out rightly collapsed (Obadan, 2009). U.S. huge current account deficits occasioned by its involvement in the Vietnam War, posed significant challenges to the system. Upon the demise of the Bretton Woods system, a generalized system of floating exchange rates emerged, particularly for the developed countries. The developing countries have had varied experiences with exchange rate regimes, in choosing exchange rate regimes, developing countries need to be fully aware of the circumstances and conditions for their successful adoption. The important factors and criteria in such choices also need to be properly understood. Various

forms of exchange rate regimes are open to individual countries. They range from clean floating or flexible exchange rate regime at one extreme to firmly fixed arrangement at the other extreme, with the remaining regimes falling in a continuum in between. These include managed float, pegs, target zones, currency boards, monetary union and dollarization (Obadan, 2009). In the last few years, a number of developing economies including Nigeria have moved from fixed to flexible exchange rates. This has in most cases led to instability in exchange rates thereby creating an atmosphere of uncertainty which tends to aggravate the problem of inflation in the economy. While inflation rate is often used to track movement in domestic price level, exchange rate is used as a policy instrument or tool in ensuring stability and enhancing export performance (Caballero and Corbo,

1989). In addition, exchange rate policy impacts on the outcome of stabilization measures and debt management strategies (Busari and Olayiwola, 1999), especially in developing countries.

The evolution of the foreign exchange market in Nigeria up to its present state was influenced by a number of factors, which include the changing pattern of international trade, institutional changes in the economy and structural shifts in production. Before the establishment of the Central Bank of Nigeria (CBN) and the enactment of the exchange Control Act of 1962, foreign exchange was earned by the commercial banks which acted as agents for local exporters. During this period, agricultural exports contributed the bulk of foreign exchange receipts.

The fact that the Nigerian pound then was tied to the British pound sterling at par, with easy convertibility, delayed the development of an active foreign exchange market. However, with the establishment of the CBN and the subsequent centralization of the exchange authority in the bank, the need to develop a local foreign exchange market distinct from those in the major international centers became paramount.

The displacement of agricultural exports by crude oil export in the early 1970, as the nation's foreign exchange earner owing to the sharp rise in petroleum prices, enhanced official foreign exchange receipts. Thus, most economic agents had to patronize the CBN for foreign exchange allocation to pay for international transactions. Hence, different exchange rate policies have been adopted at different times to control the wave for dependence on foreign goods patronage so as to foster sustainable development in the country's economy. Therefore, this paper seeks to examine the implication of these various exchange rate policies for sustainable economic growth and development in Nigeria.

Exchange rate is the rate at which one country's currency can be exchanged for another (Heakal, 2009). In other words, it is the value of another country's currency when compared to that of your own country. If you are travelling to another country, you need to "buy" the local currency. Just like the price of any asset, the exchange rate is the price at which, you can buy that currency. If you are travelling to Egypt, for example, and the exchange rate for one U.S. dollar could be 1:5.5 Egyptian pounds.

Nations of the world now run a borderless economy as a result of the impact of Globalization that has reduced the entire world to a global village.

With the aid of information technology people world over could transact businesses all across different borders.

When countries trade they do so with currencies of different nations of the world, however in the international trade parlance there is standard currency for which trade between countries are measured against the US dollar. Theoretically, identical assets should sell at the same

price in different countries, because the exchange rate must maintain the inherent value of one currency against the other. There are two different types of exchange rate namely, fixed and floating exchange rates.

Fixed exchange rates

A fixed or pegged rate is a rate the government (Central Bank) sets and maintains as the official exchange rate (Heakal, 2009). A set price will be determined against a major world currency (usually the U.S. dollar, but also other major currencies such as the euro, the yen or a basket of currencies). In order to maintain the local exchange rate, the Central Bank buys and sells its own currency on the foreign exchange market in return for the currency to which it is pegged (Heakal, 2009). If for example, it is determined that the value of a single unit of local currency is equal to US\$3, the Central Bank will have to ensure that it can supply the market with those dollars. To maintain the rate the Central bank must keep a high level of foreign reserves. This is a reserved amount of foreign currency held by the Central Bank that it can use to release (or absorb) extra funds into (or out of) the market (inflation/deflation), and ultimately, the exchange rate. The Central Bank can also adjust the official exchange rate when necessary (Heakal, 2009).

Floating exchange rate

Unlike the fixed rate, a floating exchange rate is determined by the private market through supply and demand. A floating rate is often termed "self-correcting" as any differences in supply and demand will automatically be corrected in the market. Consider this simplified model: if demand for a currency is low, its value will decrease, thus making imported goods more expensive and stimulating demand for local goods and services. This in turn will generate more jobs, causing an auto correction in the market. A floating exchange rate is constantly changing (Heakal, 2009).

Devaluation of exchange rate

Devaluation is a deliberate and legally prescribed reduction in the value of a country's currency in relation to the currencies of other countries and to Gold (Anyanwuocha, 1993). Devaluation makes export prices cheap and import prices dear. As a result, there would be a higher demand for exports while the demand for imports will fall, with consequent remedial effect on the balance of payments equilibrium.

In reality, no currency is wholly fixed or floating (Heakal, 2009). In a fixed regime, market pressures can also influence changes in the exchange rate. Some times

when a local currency does not reflect its true value against its pegged currency, a “black market”, which is more reflective of actual supply and demand, may develop. A Central Bank will often then be forced to revalue or devalue the official rate so that the rate is in line with the unofficial one, thereby halting the activity of the black market. In a floating regime, the Central Bank may also intervene when it is necessary to ensure stability and to avoid inflation; however, it is less often that the Central Bank of a floating regime will interfere.

The concept of sustainable development

According to Brundtland, World Commission on Environment and Development (WCED, 1987) defined sustainable development (SD) as development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Similarly, Soubbotina, (2004) opined that sustainable development should balance the interests of different groups of people, within the same generation and among generations, and do so simultaneously in three major interrelated areas of economic, social and environmental. In agreement, Baker, (2006) indicated that sustainable development reconciles the ecological, social and economic dimensions of development, now and into the future, and adopt a global perspective in this task. It aims at promoting a form of development that is contained within the ecological carrying capacity of the planet, which is socially just and economically inclusive. Hence, sustainable development promotes environmental, social and economic sustainability.

Exchange rate of nations' currencies and economic strength

Generally speaking, when country A's currency is worth more than that of Country B, it does not necessarily mean that Country A's economy is stronger than B's. For example, Japan's economy is regarded as one of the world's strongest, and yet a single Japanese yen exchanges for considerably less than US\$1. On the other hand, Cyprus' economy is considerably smaller than the U.S. economy, but Cyprus currency, which is the pound, exchanges for about twice as much as the U.S. dollar. According to Heakal (2009), the fact of the matter is that looking at a currency's worth relative to that of another currency at a static point in time is meaningless; the best way to judge a currency's worth is to watch it in relation to other currencies over time. Supply and demand, inflation and other economic factors will cause changes to a currency's relative worth, and it is this change in value that can be used to evaluate worth. That is, a relatively and fairly stable currency observed over time can be said to be strong.

EXCHANGE RATE MANAGEMENT IN NIGERIA

Pre-structural adjustment programme (sap) period

During the period that preceded the introduction of the SAP policy in Nigeria, the exchange rate of the naira was administratively managed and backed by control measures (Obaseki, 1991). The Nigerian pound was pegged to the British pound sterling before and immediately after the creation of the Central Bank of Nigeria. However following the generalized floating of the major currencies in 1972, the Nigerian currency devalued in February, 1973 by 10 per cent in sympathy with the dollar devaluation of the year. This was meant to prevent an adverse balance of trade in Nigeria external transactions and safeguard the external value of the naira since the level of reserves was relatively comfortable. Thereafter, both the pound sterling and the dollar were used as reference currencies, and a policy of progressive appreciation of the naira against the weaker of the two currencies was adopted. Due to the adverse effect of this measure, it was discontinued. The need for a change in policy was particularly influenced by the 1982 reappearance of trade arrears, which proved difficult to tackle. Hence, in 1981, a policy of gradual depreciation was embarked upon. The policy was meant to increase foreign exchange receipts through increased export volume and value, stem the out flow of foreign exchange and reduce the pressure on the balance of payments (Obaseki, 1991). During the period of administrative management of the naira and particularly between 1978 and 1985, the Central Bank used a basket of currencies of Nigeria's major trading partners as one of several indicators to determine the value of the naira. Others were the state of the balance of payments, level of reserves, foreign exchange supply and demand relationships, inflation and domestic output. The basic framework for exchange rate management was the Exchange Control Act of 1962, which was reinforced by the economic stabilization (Temporary Provisions) Act, 1962. The 1962 Act made provisions for measures to increase foreign exchange resources, reduce the disbursement of foreign exchange and preserve the nation's international reserves. Other policies were either in pursuance of the objectives of the 1962 Act or meant to reinforce the provisions of the Act. The specific policies that were applied during this period are as follows: trade and exchange controls, export promotion, external reserves, diversification, external debt and exchange rate administration (Obaseki, 1991).

Post structural adjustment programme (sap) period

The pitfalls of exchange control led to its abandonment. Consequently, a market based system commenced in July, 1986, with the introduction of the Structural

Adjustment Programme (SAP) (Obidegwu, 1990). The SAP objectives include the achievement of balance of payments and fiscal viability, the rationalization of public enterprises through privatization and commercialization, the reduction in the level of unemployment and the attainment of sustained economic growth. To achieve the objective of balance of payments and fiscal viability, a market-determined exchange rate mechanism was put in place, fiscal and monetary policies were tightened to be consistent with the achievement of balance of payments equilibrium. The key element of the SAP is the free market determination of the naira exchange rate through an auction system. Apart from the shift to market-determined exchange rates and control deregulation, other policy measures adopted under the previous system were continued with modifications, where necessary, to accord with the policy framework of deregulation (Obaseki, 1991).

Under the new dispensation, the Foreign Exchange Market (FEM) was conceived as a mechanism for the determination of an appropriate exchange rate for the naira in order to reduce the pressure on foreign exchange resources and stabilize the balance of payments (Obaseki, 1991). In effect, the exchange rate mechanism was expected to result in a more rational allocation and utilization of foreign exchange resources and reduce foreign volatility, thus, making foreign exchange management less difficult. The major source of foreign exchange to the market is the central Bank of Nigeria, which incidentally earns most of the nation's foreign exchange from crude petroleum exports. The main users of foreign exchange are manufacturers who ironically contribute little to the pool of foreign exchange resources. This asymmetry has resulted in continuous pressure on official foreign exchange resources. Since the inception of the market-determined system in September 1986, the naira has undergone substantial devaluation. However, the authorities have constantly adjusted the modalities of operating the system to make it more efficient in order to be able to realize the objectives for which it was set up. Thus, in January, 1989, the autonomous market was abolished and the Inter-Bank Foreign Exchange Market (IFEM) emerges. A set of criteria were used to determine the exchange rate. Due to the persistent decline in the value of naira, the Bureau de Change was established in 1989, to enlarge the scope of the officially recognized foreign exchange market and make foreign exchange available to small users in a less formal manner (Obaseki, 1991).

Some scholarly works have been carried in this area, a few are mentioned in this study; Brada and Mendez, (1999) theoretical model demonstrates how higher exchange rate volatility increases the potential gains from trade for economic benefits. Their study uses an international firm that sells its product either entirely at home or abroad, and must also determine which market to choose with incomplete knowledge of exchange rate

volatility. Their theoretical construct results in a generally positive relationship between the variance of the foreign spot exchange and the volumes of output and total export. Their findings collaborate with the findings of Dellas and Zilberfarb (1993), the increase in the value of the firm's option to export depends on the convexity of the relationship between profit and the exchange rate, and ultimately upon the degree of the firm's risks aversion.

Franke, (1990) provide the effects of exchange rate instability across major sector of an economy such as fishing, mining, manufactured goods, import and export, chemicals and others. From his study, he found that foreign bilateral trade is particularly sensitive to exchange rate volatility. He concluded that trade (import and export) is more responsive to exchange rate volatility because trade is relatively open to international trade where openness is measured by the ratio of import and export.

Feenstra and Kendall, (2005) examined the relationship between exchange-rate instability and foreign export volumes for 12 industrial economies using a model that includes real export earnings of oil-producing economies as a determinant of industrial country export volumes. A supposition underlying the model is that, given their levels of economic development, oil exporters' income elasticities of demand for industrial country exports might differ from those of industrial countries. Five estimation techniques, including a generalized method of moments (GMM) and random coefficient (RC) estimation, was employed on panel data covering the estimation period (1977-2003) using three measures of volatility. The result provides no evidence of a single instance in which volatility has a negative and significant impact on trade.

Todani and Munyama, (2005) investigate the impact of exchange rate on foreign south African exports flow to the rest of the world, as well as on south Africa goods, services and gold exports. The ARDL bounds testing procedures developed by Pesaran et al. (2001) were employed on quarterly data for the period 1984 to 2004. The results suggest that, depending on the measure of volatility or when a significant relationship exists, it is positive. No evidence of a long run gold and services exports demand relations were found. These result are however not robust as they show great amount of sensitivity to different definitions of variables used.

Vita and Abbot (2004) used the ARDL econometrics technique to analyse the impact of exchange rate on UK exports to the European Union (EU). The study estimated an export demand equation using dis-foreign monthly data for the period 1993 to 2001 and concluded that UK export to the EU are largely unaffected by exchange rate volatility. Aristotelous, (2001) obtain similar results while examining the case of Irish exports to Britain. Estimated error correction models by Doyle, (2001), also for Irish export to Britain, reveal that both real and nominal volatility are significant determinants of changes in total exports and in a number of sectors. Both positive and

negative short-run elasticities predominate.

Wang and Barratt, (2002) analysed the effect of exchange rate on international trade flows by studying the case of Taiwan's exports to the United States from 1989-1999. They found that real exchange rate risk has insignificant effects in most sectors, although agricultural trade volumes appear highly responsive to real exchange rate volatility.

Ariccia, (1999) used the gravity model and provides a systematic analysis of exchange rate volatility on the bilateral trade of the 15 EU members and Switzerland over a period of 20 years from 1975 to 1994. In the basic regressions, exchange rate volatility has a small but significantly negative impact on trade.

Pickard, (2003) uses stochastic coefficient econometric modeling to forecast real exchange rate instability and examine how expected and unexpected volatility affect bilateral trade flows of certain steel products between Canada, Mexico and United States using monthly data for the seven-year period 1996-2002. The results of the model indicate that the effects of exchange rate volatility on bilateral trade flows for this sector are relatively minor, where sustained changes in the spot exchange rate sectoral economic growth and the price of goods being trade all exert more significant influence on trade levels than exchange rate volatility. However, the model, results also tend to indicate that as exchange rate volatility increases, the well-developed U.S-Canadian forward currency exchange market may present economic agents with profit correlation between volatility and trade. For the less developed U.S.-Mexican forward currency market, the model results indicate that the relationship between trade and volatility, both expected and unexpected, is weak and predominantly negative.

Rey (2006) investigates the impact of nominal and real effective exchange rate values on exports of six Middle Eastern and North Africa (MENA) countries to 15 member countries of the European Union (EU), for the period 1970Q1-2002Q4. Moving average standard deviation and conditional standard deviation at ARCH model was used to generate four different measures of volatility for each country. The co-integration results indicate a significant relationship, negative for four countries (Algeria, Egypt, Tunisia and Turkey), positive for the last two (Israel and Morocco), between MENA exports and exchange rate volatility. The short run dynamics, using an error correction model, shows that the Granger causality effects of the volatility on real exports are significant, whereas the effects of real exchange rate and the gross domestic product of EU are more contrasted. Chowdhury, (1993) compare real and nominal foreign exchange instability effects on exports. Using a flexible lag version of the Goldstein-Khan two-country imperfect substitute's model for bilateral trade, the study identifies the overall effect into both timing as well as a size impact. The result shows that the size impact of forecasted foreign exchange volatility does not vary

according to the measure used in terms of magnitude and direction. However, there are very different timing effects, when compare real and nominal foreign exchange rate volatility.

Broda and Romalis, (2003) on the study of the relationship between trade and exchange rate, develop a model of international trade in which international trade depress real exchange rate volatility and exchange rate volatility impacts on trade in products differently according to their degree of differentiation.

In particular, commodities are less affected by exchange rate volatility than more highly differentiated products. Using the foreign trade data for a large number of countries for the period 1970-1997 they find strong results supporting the prediction that trade dampens exchange rate volatility.

The traditionalist view on the impact of currency depreciation on trade indicates that it leads to an expansion in trade via lower export prices. The structuralist school, however, stresses some contractionary effects, Meade (1951). Hirschman, (1949) points out that currency depreciation from an initial trade deficit reduces real national income and may lead to a fall in aggregate demand. Kandil and Mirzaie, (2002) argued that currency depreciation gives with one hand, by lowering export prices and takes away with the other hand, by raising import prices.

They observed that if trade is in balance and terms of trade remain unchanged, these price changes offset each other, especially when the famous Marshall-Lerner condition is not satisfied (The Marshall-Lerner condition, states that currency devaluation will only lead to an improvement in the balance of payments if the sum of demand elasticity for imports and exports is greater than one, is named after English economist Alfred Marshall (1842-1924) and the Romanian born economist Abba Lerner (1905 - 1985). If imports exceed exports, the end result is a reduction in real income within a country. (Cooper, 1971; Krugman and Taylor, 1978; Edward, 1986).

METHODOLOGY

This study adopts De-Grauwe, (1996) political-economic theory approach to understanding exchange rate movement. This approach proposes that nations that have flexible exchange rate systems and experience exchange rate misalignments are susceptible to lobbying from failing industries to create or increase protection from trade. As a result, greater exchange rate instability would decrease trade flows as a result of protectionist legislation or executive order. However critics of this approach, point out that (1) an industry's vulnerability due to adverse exchange rates often reflect deeper competitiveness issues and (2) flexible rates help absorb the output and unemployment costs of misalignments.

Table 1.Dependent Variable: Gross Domestic Product (GDP)

Variables	coefficient	standard error	t-statistics	probability	interpretation
C	484836.4	126362.8	3.8369	0.0012	SIG*
EXCHR	2798.5	509.5	5.4932	0.0000	SIG*
INTR	-13179.0	4348.0	-3.0311	0.0072	SIG*
INFR	1237.5	1404.2	0.8813	0.3898	N/S**

$R^2 = 0.82$, F-stat = 26.35, DW = 0.75, N = 22, N/S** = Not significant, Sig.* = Significant.

Model specification

The model for the study is designed to capture gross domestic product (GDP) as a function of exchange rate that is $GDP = f(\text{Exchange rate})$ for the period between 1991 and 2014. This model can be extended to include interest rate (Intr) and inflation rate (Infr) as part of the explanatory variables as well. Therefore, the model can be specified as thus with GDP as the dependent variable and Exchrte, Intr and Infr as independent variables;

$$GDP = B_0 + B_1\text{Exchrte}_1 + B_2\text{Intr}_2 + B_3\text{Infr}_3 + U$$

Where,

GDP = Gross Domestic Product

Exchrte = Exchange rate

Intr = Interest rate

Infr = Inflation rate.

Estimation techniques

The study used the Ordinary Least Square (OLS) research technique to estimate the values of the parameters B_0 , B_1 , B_2 , and B_3 . Likewise, the student's t-values obtained was used to determine the statistical significance of the parameter estimates and the test of goodness of fit for the model using the R^2 technique. The R^2 enable us to know the percentage of variations between the dependent variable and the explanatory variables.

A priori expectations

On a priori grounds, it is expected that Gross Domestic Product (GDP) should have a positive relationship with Exchange rate (Exchrte) but adverse relationship with Interest rate (Intr) and inflation rate that is a negative relationship.

PROCEDURE FOR EVALUATION OF RESULTS

The Ordinary Least Square (OLS)

The t-values for the various explanatory variables that shall be obtained after estimation will be used to interpret

the OLS regression results. Such that given the rule of thumb of 2, if the t-values exceeds 2 it implies that the variable(s) is or are statistically significant and if otherwise it is considered not to be statistically significant.

Estimation package and data sources

In the estimation of the specified model, the Ordinary Least Square (OLS) Multiple regression technique was employed. The estimation will be carried out with the use of an econometric package known as 'E-Views'. In order to facilitate time series analysis, data on, Gross Domestic Product, and the Annual Budget in capital and recurrent expenditure were collected from the following sources:

1. CBN – Statistical Bulletin and Annual Reports and Statement of Accounts (Various Issues).
2. International Financial Statistics (IFS) published by the International Monetary Fund (IMF).
3. Internet Surfing.

RESULTS AND DISCUSSIONS

In the analysis of our model, we obtained the following results for the ordinary least square (OLS) multiple regression models. Please note that the result presented below have their details in software form at the appendices.

Ordinary least square (ols) results

The OLS multiple regression result is as presented (Table 1). The results generated from the Ordinary Least Square multiple regressions as presented in (Table 1) are quite revealing and instructive. Considering the value of the coefficients, the results show that a unit change in exchange rate (EXCHR) causes the GDP to rise by 509.5 units. Likewise, a unit change in interest rate (INTR) causes the GDP to fall by -13179.0 units. With regards to inflation rate (INFR); a unit change in inflation rate causes the GDP to rise by 1237.5. Based on their t-ratio values and using the rule of thumb of 2, it was found that the exchange rate (EXCHR) and the Interest rate were found

to be statistically significant; while inflation rate was not statistically significant. This implies that both exchange rate and interest rate had significant impact on the gross domestic product while the inflation rate does not. With regard to a priori expectations in relation to signs; Exchange rate and Interest rate conformed to a priori expectation with relation to their signs. However, only the inflation rate did not conform to a priori in relation to sign. The R^2 value of 0.82 implies that the coefficient of determination is about 82% for the model, the f-statistics value of 26.35 is relatively high suggesting in the overall the significance of the model. The Durbin Watson value of 0.75, suggests the presence of positive autocorrelation since it is much closer to zero.

Conclusion

With the aid of the Multiple Regression technique, the result obtained showed that there has been a significant relationship between the naira exchange rate and the gross domestic product (GDP) in Nigeria. We concluded that the exchange rate regime in use notwithstanding whether fixed, floating or outright devaluation it does have significant impact on the demand for imported and exported goods and services in Nigeria. Although, it has boosted exports more, but we observed that imports has also being on the increase as well. This is possibly because of the dependent nature of the nation's economy on imported goods in that many of her citizens preferred to procure foreign made goods at the expense of the locally made ones. This cannot help to foster sustainable development that we seek.

Recommendation

- (i) A commitment to diversification of the economy from over-reliance on oil to development of other key sectors. As a result, industrial, agricultural, minerals, services and the financial sectors ought to be given much more attention than they currently command so as to make more products other than oil available for exports.
- (ii) The policy of indigenization and the development of local industries should be aggressively pursued through the process of empowering more State and Local Governments structures to focus on development planning and their implementation. In this regard, the power sector should be properly looked into so as create enabling environment for investors to come invest in the nation's economy.
- (iii) The production on a large scale of non-oil export products should be embarked upon to make-up for both the demand at the local markets and also have enough for export as well. This will help to correct the unfavorable balance of payments problems that have been bedeviling the economy ever since.

AUTHORS' DECLARATION

We declare that this study is an original research by our research team and we agree to publish it in the Journal.

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E-views Software Results

Dependent Variable: GDP
 Method: Least Squares
 Date: 11/11/15 Time: 12:50
 Sample: 1991 2012
 Included observations: 22

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	484836.4	126362.8	3.836859	0.0012
EXCHR	2798.528	509.4569	5.493160	0.0000
INTR	-13179.04	4347.945	-3.031096	0.0072
INFR	1237.461	1404.186	0.881266	0.3898
R-squared	0.814513	Mean dependent var	475596.6	
Adjusted R-squared	0.783599	S.D. dependent var	212133.6	
S.E. of regression	98682.36	Akaike info criterion	26.00017	
Sum squared resid	1.75E+11	Schwarz criterion	26.19854	
Log likelihood	-282.0018	F-statistic	26.34730	
Durbin-Watson stat	0.744618	Prob(F-statistic)	0.000001	