Full Length Research Paper

Globalization and economic security in Nigeria: A reflection of the Nigerian manufacturing sector performance (1981 -2010)

Ogunyomi, Oluwatosin Olatunji*, Jenrola, Oladapo .A. and Daisi, Olusegun Richard

General Studies Department, Lagos State Polytechnic, Ikorodu, Lagos, Nigeria.

This study empirically investigated the impact of globalization on economic security, with a reflection of the performance of the Nigerian manufacturing sector, using co-integration and error correction mechanism (ECM) techniques with annual time series covering the period between 1981 and 2010. The findings revealed that globalization has negative impact on the performance of the Nigerian manufacturing sector in the long run but positive effects in the short run. Therefore, it is recommended that since Nigeria cannot cease from participating in the globalization exercise, the Government and other policymakers should adopt a proactive and appropriate policy mix in economic, fiscal, monetary, political, institutional and risk management frameworks, in order to harness and maximize gains of globalization while minimizing the uncertainty shocks to the Nigerian economy.

Key words: Globalization, economic security, co-integration and error correction model (ECM).

INTRODUCTION

Globalization in recent time had been widely perceived as a dual sided phenomenon which has been beneficial to many countries but has not helped matters in most developing countries. Though, the extent and degree of costs and benefits of globalization largely depends on the economic structure of each nation to take advantage of the global market. Obviously, the unparallel economic structure of both developed countries and developing countries created a wide gap of inequality and marginalization. Therefore, the after math of this uncertainty had clearly established that globalization era is creating new threats to national security of both rich and poor countries, in diverse form such as cultural security, economic security, human security, environment security and host of other numerous challenges (Nnoli, 2003; Akin-Aina, 2004; Ajayi, 2003; Youtch, 2002).

Theoretically, globalization is a multidimensional phenomenon which covers all aspect of life including increasing interdependencies among economies through

international trade, international migration, and foreign direct Investment and other capital flows. It is characterized especially by an intensification of cross-border trade and increased financial integration, promoted by rapid liberalization and advances in information technologies, which guarantees economic prosperity, growth and speedy economic development for less Developed countries (LDCS).

However, they are also producing powerful forces of social fragmentation; structural deficiencies, inefficient and inappropriate economic policies; creating critical and vulnerabilities, high existence of corruption solving the seeds of violence and conflicts in the host and extended state borders as well as producing global hardships, like global melt down. All these inherent problems reduce their strength and capacity to successfully compete in the global market, which earmarked the negative effects of globalization. According to the World Development Indications (2007), "globalization has created

*Corresponding author. E-mail: tunji_4peace@yahoo.com. Tel: +234-08055080257

opportunities and challenges for developing countries." Nevertheless, the experiences of China, India, Indonesia, Malaysia; Thailand and some other countries have demonstrated that integration into the global economy is necessary and sufficient condition for long term growth and poverty education.

Therefore, the mixed effects and unambiguous debates of the impact of globalization on economic development as well as threats to national security of both rich and poor countries, motivated the research to empirically examine how globalization had contributed adversely to Nigeria's economic insecurity, with special retrospective to the performance of the Nigerian manufacturing sector.

CONCEPTUAL ISSUES AND THEORETICAL FRAMEWORK

Economic globalization and national security

The term economic globalization refers to the integration of the domestic economies with the world economy and the inevitable consequential increase in the economic interdependence of the countries through trade, financial and investment flows, free factor movements and exchange of technology and information. Here, openness and markets constitute the platform of globalization. Thus, the trend towards the shifting to market economy becomes imperative for every national economy.

On the other hand, National Security is the process of joining international, regional economic institutions as well as reform internal economic institutions and appropriate prudential management of internal and external resources from being manipulated by other governments' or through unexpected and severe economic shocks, political shocks, environmental shocks and others

Therefore, the interrelation between economic globalization and national security is that the more a nation is opened to the world, the more it is exposed to risks of national security, in form of domestic threats (economic, political and social threats); external threats (Sabotage of democracy and violations of territorial integrity) as well as non-traditional threats (migration, drug trafficking and environmental deteriorate) (Ministry of Defense, Defense White Paper, 1998). However, a deeper understanding of globalization had also helped Vietnamese manufacturers, a Southeast Asian country to expand their markets vis-à-vis FDI advantage in both technology transfer and capital accumulation (Ngyuen, 2001).

THEORETICAL FRAMEWORK

The theoretical underpin of this paper is neoclassical growth theory as propounded by Robert Solow, a noble prize economist in the late 1950s and 1960s of the twentieth as an extension of the classical growth theory.

This theory advocated that Gross Domestic product or output is a function of capital and labour , which was the premises for international trade theory. The differences in the national endowments of both capital and labour units in terms of quantity and quality among countries of the world necessitated for international trade theory. However, the present era of globalization was captured from the Solow's growth equation, which was represented by implying exogenously determined factor known as Technology (Ahuja, 2012).

Therefore, according to Solow's neoclassical growth theory, the production function is expressed as:

$$Y = A F(L, K)$$

Where Y is Gross Domestic Product (GDP), K is the stock of capital, L is the amount of unskilled labour and A is exogenously determined level of technology.

In Chenery and Strout (1966), the Solow growth equation was derived as:

$$Q^g = A^g + b_1 K^g + b_2 L^g$$

Where Q^g , A^g , K^g and L^g are the rate of aggregate output, total factor productivity, capital and labour respectively. While b_1 and b_2 are the elasticities of output with respect to the inputs changes.

In summary, the relevance of this theory to this paper is that the cost and benefits of globalization depends on the rate of changes in the total factor productivity, in terms of labour, capital and technology progress, which Solow called residual, are all the determinants of the cost and benefits of globalization in both developed and developing countries. As against the international trade theory such as Adam Smith (Absolute Advantage theory) ; David Ricardo (Comparative Cost Advantage) and Hecksher-Ohlin Modern International trade theory (Factor-Endowment theory), which all emphasizes on differences in factor endowment from one country to another, without considering the rate of changes in technology level, which exogenously affects country's productivity level. This Solow theory also revealed that globalization causes a great economic growth divergence between developed and developing countries through the exogenously

Determined factor, called technology as well as attributed to the collapsed and retrogressive performance of manufacturing sector of most developing economies due to obsolete technology changes and prevalent economic insecurity which had become a threat to national growth and development respectively.

LITERATURE REVIEW ON GLOBALIZATION AND ECONOMIC SECURITY

The term globalization being generally refers to as a

multidimensional phenomenon, had been used and interpreted in many different contexts, varying from economic, political, cultural and environment issues.

Gunter and Hoeven (2004) describe globalization as the gradual integration of economies and societies driven by new technologies, new economic relationships and the national and international policies of a wide range of actors, including governments, international organizations, business labour and civil society. This implies that there are several drivers of globalization as identified in the definition above. These include technological development that enables easy flow of information and reduces transport cost; change in policy attitudes that favour liberalization of foreign investment rules; diminishes protectionism and makes migration easy. Hence, it supports deep integration of the world, fondly expressed as a "global village". Egwaikhide and Ogunleye (2011) purported in their findings that historically globalization begins with liberalization in three important activities in quick succession: first in international trade, then second through foreign direct investment (FDI) and finally through financial flows.

This literature review draws close attention to the impact of globalization on economic security from the standpoint of both positive and negative effects on developing countries as well as providing some great debates on the controversial and unambiguity issues of effects of globalization on economic security with special emphasis on some macroeconomic variables like income inequality; unemployment, poverty, trade volatility and collapse of local infant industries and other mixed effects.

In respect to the impact of globalization on income inequality, more than fifty (50) authors in various researches concluded that globalization has widened income inequality within as well as between countries. In the same vein, Stiglitz (2003) supported these contributors by arguing that globalization impoverishes poor societies rather than enriches them. Furthermore, Cornia and Court (2001) and Cornia and kiiski (2001) showed that the widespread surges in inequality were linked to excessively liberal economic policy regimes and to the way in which economic reform policies, like Structural Adjustment Programme (SAP) were carried out (Ginther and Zavodny, 2002). Similarly, Singh and Dhumale (2002) indicate that, with respect to developing countries, neither trade nor technology is necessarily the most important factors in increasing income inequality; though they agree that globalization (in the form of financial liberalization rather than trade) causes income inequality gap. Weisbrot and Baker (2002) and Weisbrot et al. (2000) all claimed that the recent globalization process has led to diminished progress and lowered growth compared with that of the 1970$_s$ and 1980$_s$ ideology.

Regarding global insecurity and globalization, the aftermath was linked with the recent terrorism, food insecurity (Davis et al., 2001) as well as job insecurity

and changes in employment pattern, all associated with globalization (Torres, 2001). In addition, the other resultants of economic insecurity were heightened by international volatility of trade, capital flows and production in the developing economies. Furthermore, it was argued that the absence of political actions/wills on the part of the Government to counter the heightened risk and uncertainty has contributed as much, if not more, to increased global economic insecurity (Nayyar, 2002; Ocampo and Matin, 2003; Cornia and Court, 2001; Deacon, 2002).

Globalization has increased economic insecurity; the growth in economic insecurity has aggravated the negative implications of rising inequality and – as Kolinsky et al. (2001) have argued – the combination of increased economic insecurity, in form of widening income inequality ; skyrocketed inflationary pressure; high youth unemployment rate; collapse of local infant industries and others symbolizes a national threat to the sustainability of the economic development of most developing countries like Nigeria and other African countries.

Globalization and Nigerian economy

Nigeria has not been spared from the phenomenon of globalization. Although the adverse consequence has not been pronounced, the fact remains that Nigeria has become relatively more integrated into the global economic system.

The tempo intensified with the policy shift from trade and exchange controls to economic liberalization from 1986. Nigeria is highly dependent on external trade, while rapid inflow of capital has been stemmed largely as a result of the relatively underdeveloped state of the financial markets. To determine the extent of openness of the Nigerian economy, trade flows involving the country and the rest of the world could be analyzed. The share of total trade to total output or gross domestic product (GDP) can be applied to measure the openness of Nigerian economy. The increased rate of openness between 1986 and 1993, reflecting a sharp movement from 0.07 to 1.40 during the period and the trend showed a slight decline to 1.34 in 1994. The trend mirrored adequately the performance of the Structural Adjustment Programme introduced in 1986. The openness index nudged upwards rising reaching 8.9 in 2000. A further improvement was recorded in 2002 when 12.49 was recorded. This rose successively, reaching 22.84 in 2008, before declining to 18.79 in 2009. The drop recorded in 2009 was accounted for by the decline in both export and import from their levels in the preceding year.

Although the Nigerian economy has become more opened over the years, its share of world trade has remained relatively low. The share of Nigeria's export in

total world export was below 1 per cent in the period 1970 to 2008, except in 1974, 1976, 1977, 1979 and 1980, when 1.1, 1.1, 1.1, 1.1 and 1.4 percent were recorded respectively. Similar trend was exhibited by Nigeria's import trade. Nigeria has applied various policies over the years to stimulate the productive external sectors of the economy, not only to ensure export competitiveness, but also to expand the import capacity of the economy. The low share of Nigeria's imports in total world import trade was partly accounted for by the low export capacity of the economy.

The undue dependence of Nigeria on crude oil exports has limited the scope for the diversification on the economy, while at the same time exposing the economy to shocks in the international oil markets. This has resulted in the direct transmission of instability in world oil prices into unstable and unpredictable revenue receipts by the government. Thus, development pro-grammes for the economy have been largely predicated on development in the world market for crude oil. The low level of primary commodity exports, owing largely to the crash in commodity prices and the constraining effect of higher incomes and improved living standards on the demand for them, in addition to the low level of export of manufactures, contributed to the predominance of the oil sector. Nigeria's low export performance especially in manufacturing is a major factor preventing the country from benefitting adequately from the integration of goods and services markets across the globe.

The lack of comparative advantage in manufacturing has limited the scope for specialization. With the mobility of all factors of production in the context of international specialization, it is obvious that only those countries with the requisite skills would be able to compete in the global arena. The implementation of market-friendly policies could result in the attraction of the requisite skills and international support that would result in the attraction of the requisite skills and international support that would pave the way for the movement of relevant factors of production into and out of the country. With the current low level of comparative advantage in manufacturing, Nigeria will continue to be marginalized in its economic relations with the rest of the world. To avoid margi-nalization, Nigeria would have to diversify its economy and take appropriate measures to raise manufacturing exports.

Nigeria's position in the global economy would have been worse than it is now if financial markets integration had been prevented from a full reign on the economy. This situation was not deliberately created. It merely resulted from policy inactivity and the poor state financial markets. The financial markets in Nigeria have not kept pace with developments in the global financial markets. The non- internationalization of the capital market pre-vented the economy from exposure to developments in international financial markets. The financial turmoil in East Asian economies in 1997 and the wide spread

contagion effects across the Asian continent, with some marginal effects on the US and European economies would have had some impact on the Nigerian capital market. This does not, however, mean that the state of our capital market is ideal. It is imperative that we develop the capital market to cope with the problems that may likely arise from the full integration of Nigerian's capital market into the global network. Financial markets integration which has been facilitated by the rapid advance in information technology, compounds the problem of monetary management. The injection of short-term capital into an economy, and the rapid withdrawal of such funds reduce the scope of official surveillance, tasking to the limit the expertise of financial managers. The disequilibrium that such rapid capital flows creates in the financial markets negatively impacts on the productive sectors of the economy. The inflow of medium to long-term capital into an economy could be applied more judiciously, since the quantum can easily be determined and the sources well defined. The use of such resources to augment domestic savings helps to expand the scope for economic growth through improved investment outlay. In certain circumstances, when the domestic financial market is sound, and prudential regulations are transparent, short-term capital flows could easily be managed, thus providing a source of short-term capital financing. A short-term capital flow has not been a major source of funding for the Nigeria's financial market.

With the linking of the Nigerian Stock Exchange with major world financial centres, portfolio flows into Nigeria are expected to increase. However, the interna-tionalization of Nigeria is expected to increase, while her financial markets should be preceded by a strong domestic economy, and a competitive position in the context of globalization.

The domestic financial markets are still rudimentary and the rate of economic growth has not been encouraging even with the adjustment efforts. The emigration and immigration of capital which largely indicates the performance of an economy, given that a high and sustained non-inflationary rate of economic growth had been achieved, has eluded us in setting our goals and priorities owing to the unattractiveness of the domestic financial markets.

The problem of labour market integration also applies to Nigeria. However, many highly skilled Nigerians have migrated to other African countries where their skills are required. This pattern follows what has been established in other regions of the world. The problem with labour migration as it affects Nigeria is that highly skilled personnel that are in short supply in the country are moving out in search of better opportunities. Labour migration in the industrialized countries releases only the portion of labour that is in excess supply. Thus, the country of origin is not disadvantaged.

In order for Nigeria to benefit from globalization, efforts

should be made to develop human capital and decode the multimedia super-corridor for relevant information. Thus, information technology should progress in line with the global trend. Above all, good governance, transparency and accountability are desirable for a strong and competitive economy.

CHALLENGES AND OPPORTUNITIES IN NIGERIAN MANUFACTURING SECTOR

Globalization has being introduced into the Nigerian economy through international trade, trade liberalization, commercialization and privatization exercise ,of which only globalization concept had undermined the growth in the manufacturing sector in Nigeria as it exposes local firms and industries to competition from global corporation who often have better financing, technology, advertising and market reach. With increasing breakdown of barriers in developing countries including Nigeria as a result of globalization, industrialized nations have therefore taken advantages of trade liberalization thereby seeking market to dump their cheap manufactured goods and rendering the local industries inefficient leading to slow growth rate, low capacity utilization and low output of the local industries as the demand for goods produced in the country decline due to cheap imported goods and high cost of production faced by the industries. With globalization, Nigeria kept imported goods and high cost of production faced by the industries. These problems have therefore caused firms to leave their industries rendering many Nigerians unemployed.

Trade liberalization, a major policy thrust in the Structural Adjustment Programme (SAP) in 1986 in Nigeria, led to the exposure of infant local industries in Nigeria to unfavorable competition with Multi-National Corporation (MNCs). The local industries do not have what it takes to compete with these multi-national corporations which have stronger financial base, produce better and cheaper products and have a strong and efficient managerial capacity. Trade liberalization focused exclusively on import liberalization without sufficient attention to improving export markets access and establishing a competitive exchange rate to ensure that the resources freed-up in the import-competing sector are deployed into the export sector. This however led to increase importation of consumer goods without a significant increase in manufactured export, making the local industries, leaving the protection of these industries shattered as most consumers prefer cheap and better products to an expensive locally produced goods due to high cost of production and high technological deficiencies in their production processes.

Another problem faced by Nigerian manufacturing sector in liberalization process is that Nigeria may be able to control how fast she can open her borders but cannot determine how other countries open theirs. Thus, increased trade barriers by developed countries have however served as an obstacle in promoting manufactured goods export in the country.

The rapid economic growth and prosperity in Asian developing countries is derived by their ability to enhance manufactured exports and industrialization and produce goods in which they have comparative advantages which turns out to be cheaply produced and affordable by their trade partners. But in the case of Nigerian industries, the ability to produce these goods is constrained by many domestic factors which include infrastructural inadequacies and macro economic instability leading to low level of output, high cost of production, low capacity utilization and unfavourable business environments. The adverse business conditions coupled with insecurity of life and property, political instability makes it difficult for Nigerian industries to take advantages of the opportunities offered by globalization. For Nigeria to become a manufactured export-driven nation, it becomes pertinent that these problems be addressed so as to encourage growth and development of the manufacturing sector and the economy as a whole.

It is however realistic to stress that no meaningful economic growth, wealth creation, employment generation and poverty reduction can be achieved in any country without a robust manufacturing sector. This therefore depicts the importance of the manufacturing sector in the growth of the real sectors of the Nigerian economy as it facilitates the use of human resources in the procurement of raw materials and in the production and distribution of goods. Besides, most manufactured goods are easily transferable across national and international boundaries and as a result could enhance foreign exchange earnings and balance of payment condition of the country. The manufacturing sector in developed and fast developing countries is the driver, mover and core aspect of industrialization. While manufacturing sector's share to GDP in other developing countries such as Malaysia stood at 30.9% in 2003, 25% on the average from 2000 to 2006 in Singapore, the Nigerian manufacturing sector's share of GDP is declining and is also a single digit percentage of GDP. As reported in Vanguard Newspaper on July 10, 2008, "Textile industry has further lost additional 15,000 direct jobs in the last one year with the danger of more closures and more job losses following the closure of UNT PLC, Atlantic Textile mill and United Textile Ltd amongst others. The manufacturing firms in Nigeria are faced with high cost of production as a result of adverse business conditions; multiple taxation by different levels of government and excessive dependence on imported raw materials, uneasy access to markets and low profit level which reduces their competitive strength and defunct the value-added feature of a manufacturing sector.

The domestic industries face unfavorable competition

with the influx of cheap finished products and the dumping of sub-standard goods from industrialized and other developing nations. These problems are still prominent in the sector as the manufacturing sector contribute an annual average of 9.58% in the period 1981-1985, 7.08% ; from 1986-1990, 5.8%; from 1991-1995, and 4.95%, 3.9% and 2.6% during the periods 1996-1999, 2000-2003 and 2004-2007 respectively to the Gross Domestic Product (GDP). Capacity utilization rate followed the same downward trend from an annual average of 53.6% in the period 1981-1985 to 41.1%. 35.4% and 31.8% during the periods 1986-1990. 1991-1995 and 1996-1998. The manufacturing sector in spite of its huge potentials to create wealth, reduce poverty and generate employment has remained stagnant contributing 3.31% annually on the average to GDP in the period 1998-2008. The stagnation and unimpressive performance of this sub-sector is injurious to the industrial sector growth and also a major obstacle facing the growth and development of the Nigerian economy.

Finally, the overdependence on oil and monoculture nature of the Nigerian economy to the neglect of the manufacturing sector has served as a constraint in maximizing the benefits of globalization; rather it has partly led to slow growth in non-oil export and poor development of other sectors mainly the agricultural and manufacturing sector of the Nigerian economy.

TECHNIQUES OF ANALYSIS

The methods of analysis adopted in this study focus on empirical investigation of the impact of globalization on economic security in Nigeria with special references to the performance of the Nigerian Manufacturing Sector. The ordinary least square (OLS) is employed to estimate the model stated in eqn (3) because it is simple and provides best linear unbiased estimates (BLUE). In order to ascertain the robustness of the data series in this study, we employed Unit roots, Co-integration and Error corrections techniques. This is because most economic time series data that exhibit strong trends are not stationary (Gujarati, 2004).

Specifically, unit root is conducted to determine whether the time series are stationary or non stationary, hence, we employed Augmented Dickey-Fuller statistics to establish the existence of unit root or not, after differenced at I(d) times.

Co-integration is used to ascertain that some variables are co integrated, which implies a long run relationship or prediction for the Model. Thus, Johansen cointegration approach is adopted in this study.

Finally, the Error Correction Model (ECM) is often used to establish a short-run relationship among the variables, through a dynamic error correction of the time series specified in equation (4). The error correction mechanism is a systematic disequilibrium adjustment process by which an untamable daft from equilibrium is

prevented.

Theoretically, an error correction model for two or more variables is started generally as:

$$\Delta Y_t = \alpha_0 + \alpha_1 \Delta X_{it} + \alpha_2 U_{t-1} + \mathcal{E}_t \text{--------------------------------------(4)}$$

Where Δ is the first difference
α_2 is the degree of adjustment
U_{t-1} is the one year period log of error correction term derived from randomness of equation of OLS model.

In this study, the OLS model in eq (3) after tested through unit root, was then transformed into the following equation form:

$$\Delta PMS = \beta_0 + \sum_{t=1}^{m} \alpha_1 \Delta DOP_{t-1} + \sum_{t=1}^{m} \alpha_1 \Delta ED1_{t-1} + \sum_{t=1}^{m} \alpha_1 \Delta NCF_{t-1} + \sum_{t=1}^{m} \alpha_1 \Delta GRGDP_{t-1} + \sum_{t=1}^{m} \alpha_1 \Delta CEES_{t-1} + \sum_{t=1}^{m} \alpha_1 FB_{t-1} + \alpha_2 ECM_{t-1} + \mathcal{E}_t \text{--------} \quad (5)$$

The ECM_{t-1} in eqn (5) shows one year period lag of the performance of manufacturing sector error correction term, which is expected to be negative, while α_2 is the speed of adjustment and Δ implies first difference.

METHODOLOGY, HYPOTHESIS AND DATA SOURCE

The methodological approach used in this study was modified from the works of Obaseki (1999), Aremo and Aiyegbusi (2011) and Tamuno and Edoumiekumo (2012) as well as the literature review in choosing the relevant determinants for this model. Thus, this paper mainly focuses on the cause and effect of globalization on economic security in Nigeria, with an emphasis on the real sector, that is the manufacturing sector performance in Nigeria.

There are several specifications for this model; however, this study uses the specification represented in equation (6) below:

$$S_{it} = \text{ }_i + \beta V_{it} + \mathcal{E}_{it} \text{ _____} \quad (6)$$

Where s_{it} is the dependent variable, representing economic security expressed as a ratio of manufacturing output to real Gross Domestic Product. The variable V_{it} is a non constant vector of I regressors, for i = 1, 2, - - - N. Each regressor is observed for a period t, with t = 1, 2 …. T. The study focuses on fixed effect estimation, which allows the constant parameter $_i$.

Therefore, for our empirical estimation, the model expresses that economic security, represented as performance of the Nigerian Manufacturing Sector measured using ratio of Total Manufacturing Output to Real Gross Domestic product TMO/RGDP as a function of Foreign Direct Investment (FDI); Net Capital Flours (NCF), Growth Rate of Real GDP, Fiscal Balance (FB), Capital Expenditure on Economic Services (CEES), Degree of Trade Openness (DOP), which represent variable for globalization is measured as a proportion of Total External Trade (TET) to the Real Gross Domestic product TET/RGDP .

The modified Model is functional represented as:

Table 1. ADF Tests results for unit roots (1981-2010).

Variables	ADF test type	ADF start (at levels)	ADF start (At 1st difference)	ADF start (At 2nd differences)	Order of integration
PMS	Intercept without trend	-3.0154	-7.5258	-11.3365	I (1)
DOP	Intercept without trend	0.9746	-6.6577	-7.8753	I (1)
FDI	Intercept without trend	-1.5823	-1.5823	-6.5108	1 (2)
NCF	Intercept without trend	-1.7746	-5.9991	-9.4348	I (1)
GRGDP	Intercept without trend	-2.8682	-4.3383	-6.0514	I(1)
CEES	Intercept without trend	-2.3311	-5.0122	-7.8355	I(1)
FB	Intercept without trend	-1.9877	-1.9761	-4.5109	I(2)

Source: Author's computation (See Appendix). Note: ADF test statistics are compared with the critical values derived from Mackinnon (1991) as reported by E-view software 6.0 as follows : critical values for intercept without trend for various degree of freedom are : 1% (-4.3226) 5% (-3.5867) and 10% (-3.2321) respectively.

PMS = f (DOP, FDI, NCF, GRGDP, CEES, FB) _____ (7)

The OLS linear regression equations based on the above functional relation is

$$PMS = \beta_0 + \beta_1 DOP + \beta_2 FDI_1 + \beta_3 NCF + \beta_4 GRGDP + \beta_5 CEES + \beta_6 FB + U_t_____ \quad (8)$$

Apriori expectations of signs of parameters are stated below:

$\beta_0 > O$; $\beta_1 > O$; $\beta_2 > O$; $\beta_3 > O$; $\beta_4 > O$; $\beta_5 > O$; $\beta_6 > O$ where

PMS = Performance of the Nigerian Manufacturing Sector is measured using total manufacturing output (TMO) as a ratio of RGDP, representing economic security in the country

DOP = Degree of Openers, represented as Index of globalization, measured as Total External Trade (TET) as a ratio of RGDP.

FDI = Foreign Direct Investment, which represents trade liberalization, being components of globalization

GRGDP = Real GDP growth rate, which represents the index of income inequality within the country

CEES = Capital Expenditure on Economic Services, representing the infrastructural development, by summing capital expenditure on power, Telecommunication, transportation and other productive Capacities or utilities.

FB = Fiscal Balance, representing Good government through Protection is in policy.

U_t = Error term

Hypothesis testing

The specified regression model of eq (8) shows the empirical testing of the underlisted hypotheses of the study as:

Ho: Economic globalization does not affect economic security, in terms of performance of the Nigerian Manufacturing Sector.

H_1: Economic globalization does affect economic security, in terms of performance of the Nigerian Manufacturing Sector.

Data sources

The annual time series data for this study are sourced from the Central Bank of Nigeria (CBN) Statistical Bulletin (2010); World Development Indicators; International Monetary Fund (IMF) publication and National Bureau of Statistics (NBS) publication (2010) for the period, 1981-2010.

PRESENTATION AND DISCUSSION OF RESULTS

In line with this specification, the summary of the results of stationary test to examine the order of integration of our time series using Augmented Dickey Fuller test result which reveals the order of differencing for each variable is presented Table 1.

From the result in the table, it is revealed that all the series except foreign direct investment (FDI) and fiscal balance (FB) are stationery at 2nd difference. Thus, it implies that this variable can affect the long run prediction of Nigeria's economic security level. Therefore, we proceed to test for the actual number of co integration equations that exit among the variables.

Cointegration test results of the model

The cointegration test for this model is presented through Johansen cointegration test in Table 2.

As shown in Table 2, all the variables in this model are cointegrated with 4 cointegrating vectors at both 5 and 1% significant level respectively. This implies that the model is very useful for long-run prediction on the effect of globalization on the performance of the Nigerian Manufacturing Sector.

From Table 3, we derive a cointegrating equation among the performance of the Nigerian Manufacturing Sector, Degree of Openness; Foreign Direct Investment, Net Capital flows, Growth rate of GDP; Capital Expenditure on Economic Services and Fiscal Balance respectively. The value of the cointegrating vectors (β) is presented below:

$$PMS = -0.068636 - 0.005763DOP + 4.07FDI - 8.32NCF + 0.04GRGDP - 2.28CEES - 6.06FB_____ \quad (9)$$

The equation indicates a stationary long run relationship between performance of the Nigerian Manufacturing

Table 2. The cointegration test for this model.

Eigen value	Likelihood ratio	5% critical value	1% critical value	Hypothesized No. of CE(s)
0.845949	169.9512	124.24	133.57	None **
0.743999	119.4485	94.15	103.18	At most 1 **
0.675582	82.65901	68.52	76.07	At most 2 **
0.615296	52.26448	47.21	54.46	At most 3 *
0.485055	26.47190	29.68	35.65	At most 4
0.271080	8.552122	15.41	20.04	At most 5
0.000554	0.014965	3.76	6.65	At most 6

Date: 10/30/12   Time: 16:34; Sample: 1981 2010; Included observations: 27; Test assumption: Linear deterministic trend in the data; Series: PMS DOP FDI NCF GRGDP CEES FB; Lags interval: 1 to 1. *(**) denotes rejection of the hypothesis at 5%(1%) significance level; L.R. test indicates 4 cointegrating equation(s) at 5% significance level.

Table 3. Long run model.

PMS	DOP	FDI	NCF	GRGDP	CEES	FB	C
1.000000	-0.005763	4.07E-07	-8.32E-08	0.043799	-2.28E-08	-6.06E-08	-0.068636
	(0.00094)	(6.0E-08)	(8.4E-08)	(0.01657)	(1.5E-08)	(1.3E-08)	
Log likelihood	-1121.245						

Sector and determinants of globalization (trade openness) in the Model.

From the equation (9), it is seen that a negative relationship exists between performance of the Nigerian Manufacturing sector and globalization (degree of openness) in the long run. The co- efficient value of -0.01 suggests that one per cent increase in the degree of openness (globalization) will lead to a decline in the performance of the Nigerian Manufacturing Sector. That is, as more Multinational Corporation comes into the country, the more the infant industries or small and medium scale enterprises fold-up in the long-run, hence it is statistically significant at $P < 0.05$.

The foreign direct investment co-efficient value of 4.07 implies that a one percent increase in FDI would probably improve the performance of the Nigerian Manufacturing sector, if there are business enabling facilities in the long run.

Furthermore, the net capital flow (NCF) co efficient of -8.32 is inversely related with the performance of the Nigerian Manufacturing sector; it suggests that a one per cent increase in NCF will lead to 8.32 decline in Nigerian Manufacturing performance in the long run. This could explain why a lot of capital flows never yielded any meaningful development to the real sector because it is monopolized by only the oil sector in Nigeria; high corruption among the leaders also contributes to the decline in performance of the manufacturing sector in Nigeria. Though, it does not confirm with apriori expectation as well as not statistically significant at 5 percent level.

The growth rate of GDP co-efficient of 0.04 is insignificant positively related with the performance of the manufacturing sector in Nigeria. This implies that a one percent increase in economic growth (growth rate of GDP) would lead to a slight increase of 4 percent in the performance of the manufacturing sector in Nigeria, in terms of output and economic security achievable in the long run.

However, the co-efficient of capital expenditure on economic services, in terms of power, transpiration and communication and other utilities is of negative value of -2.28. This implies that capital expenditure on economic services is significantly negatively related to Nigerian manufacturing sector in the long run. A one percent increase in CEES will lead to poor performance of the Nigerian Manufacturing Sector in Nigeria, due to high level of corruption and sabotage among the leaders in the country. This result is contrary to the apriori expectation as well as statistically insignificant at 5% level.

Also, the fiscal balance coefficient is – 6.06. This implies that an inverse relationship exists between fiscal balance and performance of the Nigerian Manufacturing sector in the long run. This explain why bad governance in terms of poor / inappropriate economic policies had adversely led to the collapse of the Nigerian Manufacturing Sector, such as implementation of foreign driven policies, rather than taking a cursory look at the domestic economy, in providing the costs and benefits of such policies. Thus, it is contrary to apriori expectation but statistically insignificant at 5 percent level.

In summary, the above result supports the literature review findings of Aremo and Aiyegbusi (2011); Chete (2003); Ogunrinola and Osabuohien (2010) and Tamuno

Table 4. Short-run model.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.000302	0.000993	-0.304364	0.7645
D(DOP(-1))	0.000215	0.000570	0.376916	0.7109
D(FDI(-1))	-1.52E-08	5.13E-08	-0.295871	0.7709
D(NCF(-1))	-2.68E-08	5.80E-08	-0.462133	0.6498
D(GRGDP(-1))	-0.003778	0.012257	-0.308199	0.7617
D(CEES(-1))	3.27E-09	9.88E-09	0.331138	0.7446
D(FB(-1))	8.04E-10	1.51E-08	0.053362	0.9581
ECM(-1)	-4.62E-09	1.61E-08	-0.287348	0.7773
R-squared	0.093774	Mean dependent var		-0.000400
Adjusted R-squared	-0.279378	S.D. dependent var		0.003069
S.E. of regression	0.003471	Akaike info criterion		-8.234441
Sum squared resid	0.000205	Schwarz criterion		-7.844400
Log likelihood	110.9305	F-statistic		0.251302
Durbin-Watson stat	1.846196	Prob(F-statistic)		0.964728

Dependent variable: D(PMS(-1)); Method: Least Squares; Date: 10/30/12   Time: 17:01; Sample(adjusted): 1986 2010; Included observations: 25 after adjusting endpoints.

and Edoumiekumo (2012) respectively.

Parsimonious Error Correction Model (ECM): A short run analysis

In econometric analysis, a cointegrated set of time series variable must have an error correction representation, which reflects the short –run adjustment mechanism.

Table 4 shows the short-run model of this study. From the table, it is seen that the sign of the lagged error correlation terms for the performance of the Nigerian manufacturing sector is negative but not statistically significant. A value of -4.62 for the co-efficient of error correction term suggests that the economic security in respect of performance of Nigerian manufacturing sector will converge towards its long run equilibrium level (Stability level) within 462 days after the negative shocks of globalization in the country, Nigeria. This equilibrium in the economic security is achievable if and only if there is proactive or response economic policies to restrict the evil of globalization.

In the short run of this model, the foreign direct investment (FDI); net capital flows (NCF) and growth rate of GDP (GRGDP), all have a negative effect on the performance of the Nigerian Manufacturing sector; that is, resulted in economic insecurity in the country. Though, all the included variable are not statistically significant; this implies that, the short-run decision is not reliable but based on ceteris- paribus, that is each of these expectations can be achievable, only when there are certain proactive actions on the part of the leaders or policy makers.

The other variables show positive relationship with the performance of the Nigerian manufacturing sector, such

as Degree of openness (globalization); Capital expenditure on economic services, in terms of infrastructural facilities provision and fiscal balance, which represents good governance and appropriate economic policy. All these are positively related with economic security in the short-run but not also statistically significant at both 5 and 1%, except 10% respectively. This shows that the outcomes are not reliable in a volatile economy like Nigeria.

Furthermore, the co efficient of determination of this model, represented as R^2 value of 0.09, indicates a very weak explanatory variable; hence, the model shows a weak goodness of fit in the short run. This implies that only 9 percent of the included explanatory variables explained how the performance of the manufacturing sector in Nigeria or economic security is affected, while other factors not included in the model known as stochastic variables provided about 91 percent changes in the dependent variables (Nigerian Manufacturing Sector) at the short-run.

The Durbin- Watson value of 1.84 exhibited that the model is free of autocorrelation in the specification.

Finally, the F- statistic value of 0.25 with a corresponding high probability value of 0.96 indicates that the overall statistically influence of the explanatory variables in explaining the performance of the manufacturing sector or economic security in Nigeria was found to be statistically insignificant at both 1 and 5% level. Thus, economic globalization does affect economic security, both positively and negatively in terms of Nigerian Manufacturing Sector Performance frpm 1981-2010.

In summary, the short-run results of this model show that the effect of globalization, measured as degree of openness and other components of globalization like foreign direct Investment (FDI) and net capital flows

(NCF) on economic security, measured as the performance of the Nigerian manufacturing sector, revealed that the effects of globalization are mixed because only degree of openness had an insignificant positive effect on economic security while the other components of globalization like FDI and NCF had a negative effect on the economic security in Nigeria.

Therefore, it is concluded in this study that globalization is a mixed effects, which could be both positive and negative in the short-run. This conclusion is similar to previous findings in the literature (Egwaikhide and Ogunleye, 2011; Stiglitz, 2003; Cornia and kiiski, 2001; Kolinsky, 2001).

SUMMARY AND POLICY IMPLICATIONS

This study empirically examined the impact of globalization on economic security, with a special reflection of the performance of the Nigerian Manufacturing Sector. The ordinary least square (OLS) and cointegration techniques were used to examine the long –run effects; while error correction model (ECM) was also used for the short-run analysis.

The empirical results concluded from the findings that globalization has mixed effects on the performance of the Nigerian Manufacturing sector. In short run, the presence of globalization, in terms of trade openness of the host country could enhance positive performance on the Nigerian Manufacturing Sector. This fact supports the introduction of economic liberalization in 1986 because it had successfully increased the share of Nigeria's economy in the world, as well as generated employment, earnings from export and others massively; until mid 1990s, when there was a sharp fallout in widening income inequality and other economic insecurity challenges become an earlier recent threats to the gains of globalization in the Nigeria economy.

In the long run, the finding of the results revealed that globalization (or degree of openness) had negative effects on the performance of the manufacturing sector in Nigeria. This empirical finding is supported by the increased number of domestic manufacturing companies in Nigeria that had shut down operations or relocated outside Nigeria due to unparallel competitive markets with the so-called Multi-National Corporations (MNCs), in terms of cheap imported goods; stronger financial base, favorable competitive exchange rates, efficient managerial capacity and other advantages to the detriment of the local industrial growth in Nigeria.

According to MAN report (2010); it was revealed that there had been an increased in the number of firms and factories that had shut down operations from 159 in 1990 to about 834 firms in 2009 across the country. Furthermore, it was also gathered that there had been an increase in the number of job losses in the Nigerian manufacturing Industry from 800 to 8300 job losses (Guardian, August, 2009); while the number of manufacturing employment level declines from 1,420,541 to 1,027,799 in 2002 to 2007 (MAN Report, 2008).

In addition, the manufacturing share of GDP in Nigeria had decline drastically from 8.2% in 1990 to 4.2% in 2003 (MAN Report, 2004).

On the basis of these findings, the following recommendations are made. First and foremost, the Nigerian Government, being a prominent member of the community of nations in the world, cannot stand aloof in participating in the globalization exercise, rather should rethink of harnessing the gains of globalization through proactive and sound policy mix in economic, fiscal, monetary, institutional, political and risk management frameworks. Secondly, the government should adopt a protectionist policy to maximize the benefits of globalization and minimize its harmful effects on economic security and national security at large. Thirdly, there is need for the Nigerian Government with other West African regional countries to strengthen their Unionism, as adopted in Asian Crisis in 1997, which led to the formulation of Association of Southeast Asian Nations (ASEAN) and others to reduce the threats of economic insecurity and national security through globalization. Thus, the regional association would enhance national and economic security among member states through the positive effects of globalization, rather than concentrating associations with the advanced countries because their economic and national challenges differ from one and another.

Lastly, the Nigerian Government should adopt fiscal discipline as well as fiscal- monetary policy co-ordination to strengthen the domestic economic through massive investment on the basic infrastructural facilities that would boost the real sector of the economy.

All these policies recommendations, if implemented, would make the Nigerian Government benefits immensely from the globalization crusade and minimize the risks of shocks at both short-run and long-run, as in the case of Asian tigers economy.

REFERENCES

Aina AD (2000). Globalization and the Challenges of National Development: The case of Post debt Relief Nigeria. A paper presented at Babcock University, Nigeria.

Ajayi GO (2003). Seizing the opportunity of ICT for Development: Creating Enabling policies, National information technology development agency Monograph.

Aremo AG, Aiyegbusi OO (2011). Can Globalization induce economic growth in less developed economies? Evidence from Nigeria Small Open Economy. J. Emerging trends in economics and management science 2(6), 511-519.

Chete L (2003). Can Globalization induce economic growth in less developed economies? Evidence from Nigeria Small Open Economy. J. Emerg. Trends Econ. Manage. Sci. 2(6):511-519.

Chenery HB, Strout AM (1966). "Foreign Assistance and Economic Development", Am. Econ. Rev. 56(4) Part I.

Cornia GA, Court J (2001). Inequality , Growth and Poverty in the era of Liberalization and Globalization .WIDER Policy Brief No. 4.

Cornia GA, Kiiski S (2001). Trends in Income Distribution in the Post-World War II Period: Evidence and Interpretation. WIDER Discussion

Paper No. 2001/89 (Sep.)

Davis CG, Thomas CY, Amponsah WA (2001). Globalization and Poverty: Lessons from the Theory and Practice of Food Security, Am. J. Agric. Econ. (Malden, Ma.) 83(3):714-721.

Deacon B (2002). Globalization and the Challenge for Social Security., in Poland Sigg and Christina Behrendt (eds): Social Security in the Global Village .New Brunswick, Transaction Publishers pp.17-30.

Egwaikhide FO, Ogunleye EK (2011). Globalization and Macroeconomic Convergence Criteria in the West Africa Monetary Zone. J. Monet. Econ. Integration 10(1).

Ginther DK, Zavodny M (2002). Technology, Growth and the Labour Market. Dordrecht, Boston and London, Kluwer Academic publishers.

Guardian News Paper, 10th, 2009: 2.

Gujarati DN (2004). Basic Econometrics 4th edition, New York: McGraw-Hills Publishing Company, India.

Gunter BG, Hoeven R (2004). The Social Dimension of Globalization: A review of the Literature. Int. Labour Rev. 143:1-2.

Kolinsky R (2001). Globalization and Economic Insecurity, in IDS Bulletin (Brighton), 32(2):13-24.

MAN REPORT (2010; 2008; 2004).

National Bureau of Statistics (2010). Statistical News: Labour Force Statistics No. 476, Abuja: the NBS Publication.

Nayyar D (2002). Governing Globalization : Issues and Institutions, Oxford, Oxford university Press.

Obaseki PJ (1999). Can Globalization induce economic growth in less developed economies? Evidence from Nigeria Small Open Economy. J. Emerg. Trends Econ. Manage. Sci. 2(6):511-519.

Ocampo JA, Martin J (2003). Globalization and Development: A Latin American and Caribbean Perspective, Palo Alto CA, Sandford University Press.

Ogunrinola IO, Osabuohien ES (2010). Globalization and Employment Generation in Nigeria's manufacturing Sector (1990-2006). Eur. J. Soc. Sci. 12(4).

Singh A, Dhumale R (2000). Globalization, technology, and income inequality: A Critical Analysis working paper No. 210(Dec.). Helsinki, United Nations University/world Institute for Development Economics Research (UNU/WIDER).

Stiglitz J (2003). Globalization and its Discontents, New York: WW. Norton.

Tamuno SO, Edoumiekumo SG (2012). Industrialization and Trade Globalization: What Hope for Nigeria. Int. J. Acad. Res. Bus. Soc. Sci. 2(6).

Torres R (2001). Towards a Socially Sustainable World Economy: An Analysis of the Social Pillars of Globalization, Geneva, ILO.

Weisbrot M, Baker D (2002). The Relative Impact of Trade Liberalization on Developing Countries. Briefing Paper. Washington, DC, Center for Economic and Policy Research.

Weisbrot M, Naiman R, Kim J (2000). The Emperor has no Growth: Declining Economic Growth Rates in the Era of Globalization. Briefing Paper. Washington, DC, Center for Economic and Policy Research.

World Bank (2008). World trade Indicators 2008 database at http://www.worldbank.org/wti 2008.

Youtch I (2002). Global communication and Culture Identity: East Asian Perspective, Maidenhead: pragmatic 3rd edition p.141.

Ahuja HL (2012). Macroeconomics: Theory and Policy, 18th Revised Edition, S.Chand and company Limited, New Delhi.

APPENDIX.

Data Presentation for the Model.

Obs	PMS	NCF	FDI	GRGDP	DOP	CEES	FB
1981	0.067	137.3	3757.9		0.12	3629.4	-3902.1
1982	0.078	1624.9	5382.8	-0.03	0.1	2542.5	-6104.1
1983	0.058	556.7	5949.5	0	-8	2290.7	-3364.5
1984	0.052	534.8	6418.3	-0.01	0.07	656.3	-2660.4
1985	0.06	329.7	6804	0.1	0.09	892.7	-30397.7
1986	0.058	2499.6	9313.6	0.02	0.07	1099.9	-8254.3
1987	0.059	680	9993.6	-0.01	0.22	2159.7	-5889.7
1988	0.062	1345.6	11339.2	0.07	0.22	2128.7	-12160.9
1989	0.059	-439.4	10899.6	0.07	0.38	3926.3	-15134.7
1990	0.055	-464.3	10436.1	0.13	0.58	3485.7	-22116.1
1991	0.061	1808	1243.5	-0.02	0.8	3145	-35755.2
1992	0.057	8269.2	20512.7	0.02	1.29	2336.7	-39532.5
1993	0.054	32994.4	66787	0.01	1.4	18344.7	-65157.7
1994	0.053	3907.2	70714.6	0	1.34	27102.8	-70270.6
1995	0.049	48677	119391.6	0.02	6.06	43149.2	1000
1996	0.048	2731	122600.9	0.04	6.37	117829.1	32049.4
1997	0.046	5730.9	128331.8	0.03	6.91	169613.1	-5000
1998	0.042	24078.8	152409.6	0.03	5.11	200861.9	-133389.3
1999	0.043	1779.1	154188.6	0	6.57	323580.8	-285104.7
2000	0.042	3347	157535.4	0.05	8.9	111508.6	-103104.7
2001	0.042	3377	162343.4	0.08	9.04	259757	-221048.9
2002	0.038	8205.5	166631.6	0.21	7.52	215333.4	-301401.6
2003	0.036	13056.5	178478	0.1	10.82	97982.1	-202724.7
2004	0.037	19909.1	249220.6	0.1	12.49	167721.82	-172601.3
2005	0.038	25881.8	269844.7	0.07	17.88	265034.7	-161406.3
2006	0.039	41470.8	302843.3	0.06	17.51	262207.3	-101397.5
2007	0.04	53924.8	354221	0.06	19.27	367900	-111237.1
2008	0.041	33615.2	367598	0.06	22.84	594400	-47378.5
2009	0.042	43924	395432	0.07	18.72	509120.5	-810008.46
2010	0.043	62514.4	495000.6	0.05	25.2	434480	-1105439.78

Source: CBN Statistical Bulletin (2010); National Bureau of Statistics (2010).

REGRESSION OUTPUT

OLS RESULT.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.059799	0.002010	29.74466	0.0000
DOP	0.000629	0.000645	0.975384	0.3400
FDI	-1.39E-07	5.54E-08	-2.518015	0.0196
NCF	1.75E-07	1.22E-07	1.436838	0.1648
GRGDP	-0.050426	0.025307	-1.992517	0.0589
CEES	1.44E-08	1.90E-08	0.759217	0.4558
FB	-1.55E-08	7.58E-09	-2.037245	0.0538
R-squared	0.711012	Mean dependent var		0.049379
Adjusted R-squared	0.632197	S.D. dependent var		0.010108
S.E. of regression	0.006130	Akaike info criterion		-7.144674
Sum squared resid	0.000827	Schwarz criterion		-6.814637
Log likelihood	110.5978	F-statistic		9.021284
Durbin-Watson stat	1.154164	Prob(F-statistic)		0.000050

Dependent Variable: PMS; Method: Least Squares; Date: 10/30/12 Time: 15:32; Sample(adjusted): 1982 2010; Included observations: 29 after adjusting endpoints.

CO- INTERGRATION RESULT.

Eigenvalue	Likelihood ratio	5 % critical value	1 % critical value	Hypothesized No. of CE(s)
0.845949	169.9512	124.24	133.57	None **
0.743999	119.4485	94.15	103.18	At most 1 **
0.675582	82.65901	68.52	76.07	At most 2 **
0.615296	52.26448	47.21	54.46	At most 3 *
0.485055	26.47190	29.68	35.65	At most 4
0.271080	8.552122	15.41	20.04	At most 5
0.000554	0.014965	3.76	6.65	At most 6

Date: 10/30/12   Time: 16:34; Sample: 1981 2010; Included observations: 27; Test assumption: Linear deterministic trend in the data; Series: PMS DOP FDI NCF GRGDP CEES FB; Lags interval: 1 to 1; *(**) denotes rejection of the hypothesis at 5%(1%) significance level; L.R. test indicates 4 cointegrating equation(s) at 5% significance level.

PMS	DOP	FDI	NCF	GRGDP	CEES	FB	C
1.000000	-0.005763	4.07E-07	-8.32E-08	0.043799	-2.28E-08	-6.06E-08	-0.068636
	(0.00094)	(6.0E-08)	(8.4E-08)	(0.01657)	(1.5E-08)	(1.3E-08)	
Log likelihood	-1121.245						

Normalized Cointegrating Coefficients: 1; Cointegrating Equation(s).

ERROR CORRECTION MODEL.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.000302	0.000993	-0.304364	0.7645
D(DOP(-1))	0.000215	0.000570	0.376916	0.7109
D(FDI(-1))	-1.52E-08	5.13E-08	-0.295871	0.7709
D(NCF(-1))	-2.68E-08	5.80E-08	-0.462133	0.6498
D(GRGDP(-1))	-0.003778	0.012257	-0.308199	0.7617
D(CEES(-1))	3.27E-09	9.88E-09	0.331138	0.7446
D(FB(-1))	8.04E-10	1.51E-08	0.053362	0.9581
ECM(-1)	-4.62E-09	1.61E-08	-0.287348	0.7773
R-squared	0.093774	Mean dependent var		-0.000400
Adjusted R-squared	-0.279378	S.D. dependent var		0.003069
S.E. of regression	0.003471	Akaike info criterion		-8.234441
Sum squared resid	0.000205	Schwarz criterion		-7.844400
Log likelihood	110.9305	F-statistic		0.251302
Durbin-Watson stat	1.846196	Prob(F-statistic)		0.964728

Dependent Variable: D(PMS(-1)); Method: Least Squares; Date: 10/30/12 Time: 17:01; Sample(adjusted): 1986 2010; Included observations: 25 after adjusting endpoints.