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MACROECONOMIC REFORMS, INSTITUTIONS AND ECONOMIC PERFORMANCE IN NIGERIA

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ABSTRACT

This paper investigated the impact of macroeconomic reforms and institutions on economic performance in Nigeria within the framework of co-integration and error correction paradigms. The results showed that contract intensive money and government effectiveness entered the regression lines with the correct *a priori* economic expectations. That is, property right and governance effectiveness are critical in improving economic performance. The results indicated that besides formulation of sound reform policies and political leadership, property rights and governance structure are important elements that determine macroeconomic reforms outcomes and the path of economic performance and sustainable development. Effective governance should be seen as a dynamic process, capable of responding to the ever changing technological, social, economic and political environments. The paper recommends that the concept of governance effectiveness and property rights needs to be redefined or strengthen to make it more effective and accountable and that governance issues and institutions should be incorporated in the reform process if sustainable economic performance is desired.

Keywords: Reforms, Institutions, Co-Integration and Economic Performance and Sustainable Development

INTRODUCTION

Macroeconomic reforms which are the use of monetary, fiscal and structural policies to alter the structure of demand and supply in an economy has occupied the thought of policy makers and scholars of development economics extraction in recent decades. The desire of policy makers had always been to grow the economy by changing the structure and composition of consumption, investment, government expenditure and net export and provide the required incentives or infrastructure to complement efforts of the private sector in converting economies human and material resources to semi or finished output. It is the belief that macroeconomic reforms will alter the structure of the economy in such a way that agents increase their propensity to save and invest, and couple with efficient use of resources leads to increase economic growth and development. Faith in the reform agenda as the universal recipe to attend economic progress has its root in the policy prescription of the 'Washington Consensus', which among others recommended trimming of government size, deregulation, privatization, trade and financial liberalization. This faith stimulated many developing countries including Nigeria to adopt various forms of macroeconomic reforms that would lead to sustainable development.

In the pre-Structural Adjustment Programme (SAP) era, national planning gained much currency, and rapid economic development was brought about through a series of fixed-term National Development Plans. This had a temporary success, increased agricultural exports mainly in cocoa, groundnuts, palm oil and rubber. This scenario changed years later in favour of crude oil as more emphasis shifted to export of oil. For instance, crude oil exports which accounted for 57.5 per cent of total exports in 1970 increased to about 93.3 per cent in the 1980s. The enhanced government revenue led to major expansion in government expenditures, including infrastructure. Public investment rose sharply and aggregate investment-income ratio was an impressive 31.5 per cent while public investment-income ratio was 24.4 per cent (Iyoha, 1995).

Military regimes gain currency in the pre-SAP era with a brief interlude for civil rule between 1979 and 1983. Whereas military administrators relied heavily on the civil service to initiate and implement economic policies, civilian administration of Shehu Shagari (1979 to 1983) saw a reversal in the use of civil service as the driver of government programmes and policies, this action may have fuelled the rent-seeking activity at the time. Maximization of self-interest through rent seeking and unbridled enthusiasm to curry and obtain political patronage became a passion for political gladiators. This patronage gained momentum with the creation of more states and by failing to strengthen the existing institutions. Failure of the legal institutions institutionalized corruption (Bevan et al 1992 and Iyoha and Oriakhi, 2007, Udah and Ogbuagwu, 2011).

Structural Adjustment Programme (SAP) was introduced because the interventionist doctrine of Keynesian economics failed to achieve its desired objectives. In the new paradigm, faith in government was replaced with confidence in the free market economy and on the efficiency of the private sector. The positive direction of this new thinking resulted to the adoption of SAP. SAP set out to ensure that macroeconomic policies, structural parameters and non-policy variables are determined more by the dictates of market forces and reduced government intervention in setting market prices, distribution and allocation of goods and services. It was the thinking of policy-makers at the time that SAP will among others lead to the diversification of the country's export portfolio of goods and services and promote sustainable economic development (Obadan and Ayodele, 1998). However, actual economic performance was mixed and largely below expectations. Available statistics indicated that GDP reduced from a growth rate of 8.3 per cent in 1989 to 4.4 per cent in 1991. On the external account adverse development in the

current account manifested in the increased non-oil imports and relatively lull in non-oil exports (Central Bank of Nigeria Annual Report and Statement of Account 1990-1991).

The success of market liberalization was constrained by a number of factors. These include inability of domestic firms to compete with foreign competitors, political and policy instability, weak institutions and demand, lack of support infrastructure, rent seeking and regional redistribution syndrome. However, the more fundamental problem appeared to be a consistent failure of domestic firms to compete with foreign manufacturers of similar goods and services in terms of prices and quality of the products. The high price of domestic manufactured goods and services reflect, among others poor supply of required infrastructure and institutions that facilitates markets integration and coordination. The issue of poor infrastructure and institutions however, bear particular emphasis. With frequent power outages, load-shedding and poor rationing forced manufacturers and other small businesses to operate what Ekpo (2009) called 'generator economy' (Iyoha and Oriakhi, 2007). The institutional and governance structures govern the behaviour of public and private actors in the economic space, and their behaviour can adversely affect the efficacy of policy reforms and hence economic performance.

To further boost the domestic economy, various economic and structural reforms were introduced in 2003 under a comprehensive economic blue print (the National Economic Empowerment and Development Strategy, NEEDS). NEEDS set out to build and promotes comprehensive macroeconomic policies and non-policy factors that would support economic growth and development and a healthy balance of payments position. Real GDP increased by 6 per cent in 2004 when compared with 10.9 per cent in 2003. The strong economic performance was largely attributed to the rising oil revenue and the reform measures introduced at the time. Between 2000 and 2004 GDP grew at an average of 5 per cent. However, despite this improvement in economic performance at the onset of civilian rule in 1999, GDP per capita was slightly above five hundred US dollars ($500).

Under the economic framework of NEEDS, government also introduced Medium Expenditure Framework (MTEF) and Medium Term Sector Strategy (MTSS); adopted trade liberalization and strengthened the financial sector. In 2007, to consolidate the perceived gains of the reforms in the broad fiscal policy, among others government initiated and liquidated the outstanding indebtedness of the country to London Club of creditors; invested heavily in the energy sector; suspended the import duty waivers; tax holidays and rebates conceded to industrialists to shore up revenue to government and also reform the financial sector of the Nigerian economy.

The absent of sustained economic development and growth despite huge aggregate and public investment was partly attributed to inefficiency of public investment and culture of corruption and misspent natural resource rents (Iyoha and Oriakhi, 2007). Bevan et al (1992) noted that public investments failed to yield the expected value for money. It is obvious that Nigeria has attempted through various development plans, structural adjustment programmes and economic reforms to accelerate economic growth and development, but it is surprising that despite this efforts and couple with endowment in natural and human resources, the country is plaque with history of economic stagnation, declining welfare, social and macroeconomic instability which have tended to undermine development efforts in the past decades. Previous efforts at planning, structural adjustments and economic reforms appear not to have accelerated the pace of economic development and growth to the desired threshold. This is because economic performance since independence has been unimpressive and mix when compared to her West African neighbours with less natural and human resources endowment. For instance, between 1970 to 2000 period, real income per

capita grew at only 0.43 per cent per annum at constant domestic prices and above 4.3 per cent between 2001 and 2009. In real terms per capita income in Nigeria for 2007 was $640 dollars, whereas Cape Verde and Cote d'Ivoire had a per capita income of $2,130 and $870 dollars respectively (Udah and Nyong, 2011).

One is therefore tempted to align with the argument of Easterly and Levine (2001), Acemoglu et al (2003) and Ajayi (2002) that other socio-economic factors (institutional failure) may be responsible for the country's slow economic growth and development. The continued importance of oil rents that end up as capital flight not in productive activity (corruption), government effectiveness, and property right, the rule of law and the legal system and the depth of the financial sector may have been the major impediments to economic development and growth in Nigeria.

The objective of this paper is to investigate the impact of institutions and governance structure on economic performance and seeks to determinant the institutional indicators that complement policy reforms that do not only make them sustainable but enhance economic performance. The paper argues that governance structure and institutions are necessary to create an efficient and more responsive state that facilitates effective integration and coordination of markets for improved economic performance.

CONCEPTUAL FRAMEWORK AND LITERATURE REVIEW

Macroeconomic reforms are usually adopted because of the failure of most economies including Nigeria to operate under the full employment equilibrium as assume in the theoretical argument of Say's Law. Say's Law argued that the flow of economies total output, that is the value of goods and services produced, equals the flow of factor payments. In other words foregone consumption (planned savings) are assumed to equal planned investment in durable goods and services to provide future flow of output. This argument do not always approximate real world realities as most economies operate under the framework of disequilibrium in demand and supply, planned consumption and investment do not always equal supply of goods and services. The resultant disequilibrium economic situation means that to attend continued economic growth and development there is need for various forms of intervention in economic arena to grow aggregate demand and supply to the desired threshold.

On the demand side government expenditure could fill the gap. In other words, government expenditure could equilibrate demand and supply when aggregate consumption and investment fall short of aggregate supply of goods and services in an economy. Aggregate demand in the Keynesian tradition is presented in equation 1, and is usually expressed as the Yt (Gross Domestic product), which is the sum of domestic consumption (C), investment (I), government expenditure (G) and net export (Exports – Imports).

$$Yt = C + I + G + X - M \qquad (1)$$

If one takes one of the component of aggregate demand in equation I and assume that consumption is partly autonomous (Co) and induced by income (Yd), equation 2 can be written as follows; $C = Co + cY_d$ (2)

Where $0 < c < 1$; and c in equation 2 is the marginal propensity to consume. If supplier of goods and services are willing to supply the market demand (Ys) such that aggregate demand creates its own supply, equilibrium national income Y is

$$Y_t = Ys = Y \qquad (3)$$

Since c is the marginal propensity to consume and assuming that $Y_d - c$ is the marginal propensity to save. Substitute equation 2 into 1 gives;

$$Y = D + G/s; \qquad 0 < s < 1 \qquad (4)$$

Where D is a constant-institutional variables not directly influenced by fiscal policy. Two important implications could be derived from equation 4, namely, where aggregate demand is below full employment, government through its expenditure can fill the gap to increase income. Fiscal policy becomes the most effective tool in this circumstance in raising income and restoring full employment if the marginal propensity to save and consume approaches zero. One naira increase in government expenditure will, through the Keynesian multiplier increase national income by 1/s naira. However, what is missing in the Keynesian multiplier process is the impact of institutional infrastructure and governance structure that provide market preserving and enhancing incentives to both policy makers and private entrepreneurs. Indeed, in an environment of weak institutions and government effectiveness economic agents behave in a way that distorts the smooth operation of the multiplier process, and government expenditure will not result in the desired outcome. For instance, as argued by Ajayi (2002) corruption misallocates human and material resources away from productive economic endeavours to economic rent. Weak institutions create an unfair competition where the new and old oligarchs earned tremendous profits from privatization of public enterprises and subsequently use such economic rent to create impediments to further market oriented reforms. This impedes the multiplier process from equilibrating aggregate demand to supply, and thus, the failure of government expenditure to raise national income to the desired threshold.

The argument of Goldsmith (1998) seems plausible for the multiplier process, the markets cannot operate in an efficient way without enforcement of contracts, and public administrators provide a fair and just mechanism that reward and punish fraud, collusion and other rent seeking behaviours that distort the multiplier process. The state has a critical role to play in ensuring that right institutions are put in place to influence market outcomes in the desired direction. Markets fail to function efficiently if there are perceived short and long-term uncertainties created by unclear and frequent changes in rules and procedures governing the operation of the market. Under this scenario, entrepreneurs not sure of what is legal and illegal and therefore will adopt strategy that circumvent and impedes the smooth operation of the multiplier process. This alters the structure of savings and investment in the economy and the resultant effect is slow economic performance.

On the supply side, the Harrod-Domar growth model argues that at equilibrium planned investment should be equal to savings for the economy to be efficient in converting human and material resources to useful output. Again in environment of weak institutions this equilibrium is not tenable. Under this scenario, economic agents cannot engage in complex, long term and multiple contract exchanges. This is because property right which guarantees long term contracting is either weak or lacking and therefore the market cannot create new investment and savings for a continuous flow of output and demand. Corruption alters the investment and savings functions by skewing public expenditures away from social services, which are important for economic development and growth, lowers the supply of infrastructure required for investment and worsens income distribution, which is important for savings.

North (1990) argument seems to approximate the scenario in Nigeria. He argued that developing countries are unable to accelerate the pace of economic growth and development to the desired threshold because of weak institutions. Weak

institutions provide the environment for political gladiators, public servant and business men to engage in rent seeking behaviour rather than in productive activities. For instance, when property rights and the rule of law are not reliable, entrepreneurs operate at sub-optimal plant size and may rely on bribery to facilitate operation, a practice that increases transaction and transformation costs. This reduces the ability of the economy to attract and increase the volume of domestic and foreign investments and slows the competitiveness of domestic firms.

Literature on the determinants of economic growth has shifted emphasis from the traditional physical and human capital accumulation, total factor productivity, technological innovation and diffusion, knowledge creation and openness to institutions and governance structure in the 1990s as important determinant of the growth process (Helpman, 2004). Knack and Keefer (1995) and Mauro (1995) path breaking works revolutionized the effect of institutions on economic growth. Whereas Knack and Keefer (1995) test the impact of institutions on economic growth using data from 97 countries for the period 1974-89 to argue that the quality of institutions measured as security of property rights and the level of contract enforcement are important determinants of economic growth and investment, Mauro (1995) in his paper submitted that subjective indexes of corruption have an inverse relationship with economic growth and investment. Alesina (1998) collaborates the findings of Knack and Keefer (1995), and Mauro (1995) when in his paper demonstrated that institutional quality measured as bureaucratic efficiency, absence of corruption, protection of property rights and the rule of law are important for economic growth.

The issue of causality has been raised in the literature concerning institutions, economic growth and development. Kaufmann and Kraay (2003) had argued that there exists a strong positive correlation between quality of institutions and growth across countries. However, reverse causality is always an issue in growth regressions. Therefore, problem may arise not only because causality may run from income to institutions, but also because several institutional variables are measured at the end of the growth period. In order to minimize the causality issue, Mauro (1995) used two-stage estimations technique. Chong and Calderon (2000) used a more rigorous approach to show a strong evidence of bi-directional causality, running from institutions and economic growth, and from economic growth to institutional quality. And added that the poorer a country is, the stronger the influence of institutional quality on economic growth. Addison and Baliamoune-Lutz (2003) argued that property right is especially important when a country is implementing macroeconomic reforms. This is because in the early stage of reform, property and contract rights determine the extent to which investments responds to reform incentives. This agrees with the findings of Acemoglu et al (2003) that countries with weak institutions tend to pursue poor macroeconomic policies. Kaufman and Kraay (2003) building on a new data set and non-sample information found no positive relationship between institutions and economic growth and development. This finding shows that good governance is not a luxury good, poorer countries can also afford it.

Barro (1991) contribution to the growing literature on analysis of institution in a macroeconomic context was a novelty. He used proxies for political stability to establish that number of coups, political assassination and property rights are important for a country's long term economic growth. Similar studies such as those conducted by Brunetti et al (1997b and 1997c) strongly showed that institutions that protect property rights will promote investment and economic growth. Nugent (1999) and Kaufmann et al (1999) investigated the concept of governance proposed by World Bank. Both studies attempted to link their concept of governance to various development objectives such as GDP per capita, illiteracy and infant mortality.

The effectiveness of government in providing sound policies and delivering quality public goods is important for economic performance. The literatures on government effectiveness and economic performance have produced mixed results. Devarajan et al (1996) found negative relation between component of public investment and economic growth for a group of developing countries. This, they attribute to misallocation of public funds, which result in low supply of required infrastructure. Pritchett (1996) incorporated an investment efficiency coefficient in his model and argued that public investment may not create productive capital in developing countries because of inappropriate use of these investments. However, Aschauer (2000) investigated both the quantity and efficiency of public capital on economic growth and concluded that both factors contribute to economic growth. Similarly, Easterly and Rebelo (1993) found a positive relation between public investment in transport and communication on economic growth.

THE MODEL

The model adopted for this study is based on the endogenous growth theory used elsewhere by Stern (1991); Romer (1986, 1990); Sala-i-martin (1990); Ndiyo (2003); Helpman (1992) and Barro (1990). Romer (1986) departs from Solow (1956) by assuming that the economy-wide capital stock, positively affects output at the industry level, so that there may be increasing returns to scale at the economy-wide level. Romer's model endogenizes the reason why growth might depend on the rate of investment (as in the Harrod-Domar model). In the simplified version presented in this study, we abstract from the household sector, an important feature of the original endogenous growth model with some modifications, in order to concentrate on issues concerning macroeconomic reforms, institutions and economic performance.

The general endogenous production function

$$Gdppc = AK_i^{\alpha} L_i^{1-\alpha} K^B \qquad (1)$$

Where

Gdppc = real GDP per capita at time t

A = total factor productivity

K = Capital stock

L = Labour

We assume symmetry across the economy for simplicity, so that each productive unit will use the same level of capital and labour. Then, we have the aggregate production function as

$$Gdppc = AK^{\alpha} L^{\beta} \qquad (2)$$

We assume that the impact of institutions on economic performance possibly operates through total factor productivity (TFP) or technical efficiency. David (1997) had argued for the role institutions play in increasing technical efficiency. Thus the level of technical efficiency is affected by the quality of institutions. This in turn affects the efficiency of investment and reform policies. Since the paper intends to investigate the impact of reforms, institutions on economic performance, we assume therefore, that TFP is a function of quality of institutions (property rights, corruption, government effectiveness and rule of law), reform policies are captured by financial sector variable (M2/GDP) and government expenditure. The use of government expenditure on transportation is consistent with our definition of infrastructure and an attempt to capture the relative impact of government expenditure on transportation on economic growth and development. Thus

$$A = f(corruptr, Geffectivtr, Rulelw, m2/GDP, govexpt, CIM) \qquad (3)$$

Combining equations 2 and 3, we get

$Gdppc = C_tK_t^{\alpha} L^{\beta}$ $corruptr^{\theta}$, $Geffectivtr^{d}$, $Rulelw^{Б}$, $m2/GDP^{\partial}$, $gexpendtr^{\mu}$, CIM^{Ω} (4)

Where α, β, θ, d, Б, ∂, μ, and Ω are elasticity coefficients. From equation 4 an explicit estimation function is specified, after taking the natural logs of both sides as follows

$LogGDPPC = a_0 + a_1\alpha corruptr + a_2Geffectivtr + a_3Rulelw + a_4m2/GDP + a_5CIM + a_6gexpendt + a_5Geffectivtr*gexpendt + Et$ (5)

Where Et is the white noise error term. The sign of all the elasticity coefficients are expected to be positive. The paper also measure performance in terms of macroeconomic stability and for this purpose the paper used inflation as proxy. To investigate the effect of institution and governance on macroeconomic stability (inflation) the paper specifies equation 6 as follows:

$inflatr = b_0+b_1\alpha corruptr+b_2Geffectivtr+b_3Rulelw+ b_4m2/GDP + b_5CIM + b_6Geffectivtr*gexpendt + Et$ 6

One important argument in equations 5 and 6 is that macroeconomic reforms have the potential to affect economic performance through various channels; this paper examined the specific link between government effectiveness and its expenditure on economic performance. The hypothesis is whether the effective governance structure affects the impact of government expenditure on economic performance. To this end the interaction of government effectiveness and expenditure is introduced in the regression to test the significant of the interaction coefficient. A negative coefficient would mean that effective governance structure would be more effective in boosting economic performance if government spending is low. In other words, a negative interaction provides evidence of substitutability between effective governance and government expenditure. A positive sign of the coefficient of the interaction variable would imply that where the volume of government expenditure is high, as is the case in Nigeria, effective governance structure plays a complementary role, and the marginal impact of effective governance structure on economic performance would be increasing with the level of government expenditure. This complementary role allows government expenditure to get the right value and enhance economic performance.

Table 3.0: Expected a priori signs of coefficients

Variables	**Measurement**	**Expected *a priori* sign**
corruptr	Abuse of public office for private gains	-
Geffectivtr	Measures the efficiency of public capital	+
Rulelw	Rule of law measures the extent to which a society is successful in developing an environment in which fair and predictable rules forms the basis for economic and social interactions.	+ -
M2/GDP	Measures the liquidity level. A higher liquidity ratio suggests higher intensity of the banking system.	+
CIM	Broad money supply minus currency in circulation divided by broad money supply. Used as an indicator of property rights and property right measures trust, the degree to which a country's law protect private property	- +
Geffectivtr*gexpendt	Interaction term	- +

Source: computed by the author

METHODOLOGICAL ISSUES

This paper adopted the co-integration and error correction paradigms to investigate the relationship between economic performance, reforms and institutions from 1970 to 2010. Given data instability in Nigeria occasioned by policy instability cum economic disruptions etc, it becomes increasingly useful to test the time series property of the variables included in regression analysis for meaningful economic results. In a univariate time series model of the form;

$$Y_t = \beta xt + \varepsilon_t \qquad 7$$

The usual presumption in equation 7 is that the disturbances ε_t are white noise series. But if Y_t and X_t are integrated series the presumption might not hold. The general argument in co-integration analysis is that if two series are integrated to different orders, the linear combination of them will be integrated to the higher order of the two orders. It follows that if Y_t and X_t are I(1) (if both are trending variables) then it is expected that $Y_t - \beta x_t$ would be I(1) irrespective of the value of β, not I(0). If Y_t and X_t are both drifting with their own trend, then unless there is some relationship between those trends, the different between them should also be growing, with yet another trend, otherwise there is some inconsistency in the model. On the other hand if the two series are both I(0), then there may be a β such that

$$\varepsilon t = Y_t - \beta x_t \qquad 8$$

is I(0). Intuitively, if the two series are both I(1), then partial difference between them might be stable around a fixed mean. The implication would be that the series are drifting together at roughly the same rate. In such a case it is possible to isolate the long-run relationship between Y_t and X_t, that is, the manner which the two variables drift upward together and the short-run dynamics, that is, the relationship between the derivations of Y_t from its long-run trend and derivations of X_t from its long-run trend. In this scenario, differencing of the data would be counterproductive, since it would obscure the long-run relationship between Y_t and X_t. Co-integration provides the framework to preserve the information about both forms of covariation.

This paper adopted the Engle-Granger two step procedures. First the paper investigated whether or not the series are integrated of the same order, if the null hypothesis that $\delta = 0$ cannot be rejected against alternative $\delta < 0$, then, we conclude that the variables are not cointegrated. In the Engle and Granger framework, a second step after the cointegration test is to use the residuals from the static regression as an error term in a dynamic first difference regression (Jeffrey 2004, Gurujarati, 2005).

PRESENTATION AND DISCUSSION OF RESULTS

The result of the unit root tests based on the Ng and Perron (2001) modified unit root tests is presented in table 4.1 in the appendix. The purpose is to determine whether the variables follow a non-stationary trend and in fact of the order of 1 denoted by 1(1) or whether the series are stationary at levels, that is, of the order 1(0). All the variables under scrutiny namely per capita GDP, contract intensive money (property right), government effectiveness, corruption index, government expenditure, investment as a ratio of GDP, rule of law, the interaction term and credit to private sector as a percentage of GDP are I(I) process, which means that they are stationary at first difference. Since all the variables are integrated at an order of 1, That is,

I(1), it suggests that they have a stochastic trend. In addition, the fact that their first difference appear to be stationary further shows that they all candidates for inclusion in long run relationship concerning the interdependence between dependent and explanatory variables included in the model.

The paper proceeds to investigate whether the series under consideration are co-integrated using the Engle and Granger (EG) two step procedure, so that a well-defined relationship exists between them in the long-run. The contribution of Engle and Granger (1987) was to demonstrate that albeit individual series could be non-stationary a linear combination of them might produce stationary series. The EG provides information about the short term dynamics responses of variables included in the model. The method is straightforward and requires running regression using stationary series I(0), which in our case is obtained by using the first differences of the variables and including in the regression as an explanatory variable the lagged residuals from the levels regression. This lagged residual is intended to capture the error correction term and then tested to see whether or not it is a stationary process. The result in table 4.2 indicates that the residual denoted as ECM1 and ECM2 are stationary at levels. This strongly suggests the existence of a co-integrating relationship among variables in the model.

The presence of co-integration makes it possible to estimate the error-correction model (ECM), which is a solution to the problem of spurious result associated with estimating equations involving time series variables, and to capture dynamic adjustment to the long run (Patterson, 1990). Adopting the general to specific framework, we proceeded to estimate over-parametised error correction model of the economic performance equations (equations 5 and 6) from where a parsimonious (preferred) error correction model was obtained. The novelty of ECM is that it provides a framework for establishing the links between the long run and short run approaches to economic modelling, which is important in macroeconomic reforms. Thus with ECM no information associated with the variable first differencing is lost because the modelling technique incorporates both the short run dynamics and long run information through the error correction term. The parsimonious (preferred) model is presented in table 4.2 for equations 5 and 6. A careful examination of the parsimonious results show that the error correction term is well specified as it has the expected a priori sign and is statistically significant.

The existence of a well specified error correction model indicates how policy makers adjust their anticipated changes in per capita income and macroeconomic stability, and in this case, about 23 per cent for equation 5 and 85 per cent for equation 6 on the average. The nature of the distribution of the error term indicates that it is stationary. This means that the combinations of dependent and the explanatory variables are co-integrated. The existence of co-integration provides further validity of the regression results (Nyong, 1995; Engle and Granger, 1987; Domowitze and Elbadawi, 1987, Udah and Ayara 2011).

In equation 5 three variables namely contract intensive money (CIMTR), interaction of government effectiveness with government expenditure and government effectiveness (GEFFECTR) entered with the correct a priori signs and were statistically significant. This suggests that a one per cent improvement in property right leads to 64.6 per cent increase in income, and implying that per capita income will improve significantly if investors have confidence that their investments will be protected. Entrepreneurs enter into a transaction in the present and received payoffs in the future and in most cases with policy makers that are unknown to them and to sustain such transactions there should be element of trust. The government effectiveness variable entered with a negative sign but was statistically significant. This negative but significant coefficient of government effectiveness in Nigeria could be attributed to poor quality of civil and public services, and the degree of

independence from political pressure, the quality of policy implementation and the credibility of government commitment to such policies.

The coefficient of the interaction of government effectiveness and expenditure is positive and statistically significant. This is quite revealing. It strongly suggests that effective governance structure complements government expenditure. The magnitude of the coefficients of the interaction term in the model indicate that improving effective governance structure could significantly increase the value government gets from its expenditure and therefore boost per capita income.

The inflation equation (equation 6) surprisingly only contract intensive money the proxy for property right entered with the correct a priori sign and was statistically significant. This implies that a one per cent increase in the trust economic agents place on the reform process as capable of guarantying investments will lead to 75.8 per cent reduction in inflation. The Durbin Watson statistics (D.W) value of 1.60 and 1.90 strongly indicates that there is no first order serial autocorrelation. The explanatory power of the regression line is modest at 0.33 and 0.47 per cent. This means that the regression lines explain about 33 and 47 per cent of total variations of dependent variables around its mean.

Since the validity of the diagnostic statistics requires that the error term follow a normal distribution, the hypothesis that the error term is normally distributed was tested using the Jarque-Bera test. The result shows that the JB statistics is about 0.790973, and the probability of obtaining such a statistics under the normality assumption is about 69 per cent. Therefore, we do not reject the hypothesis that the error terms are normally distributed. This suggests that the OLS estimator is unbiased; has minimum variance; consistence and follows a normal distribution.

CONCLUSION

The objective of this paper had been to investigate the impact of macroeconomic reforms and institutions on economic performance in Nigeria from 1980 to 2010 within the framework of cointegration and error correction paradigms. Much of the major reform agenda was pursued during this period, starting from the structural adjustment programme, which culminated in the liberalization of markets, banking sector, privatization of public enterprises etc. Economic performance is measured by per capita GDP and inflation; macroeconomic reforms is captured by ratio of credit to the core private sector as a percentage of GDP and government expenditure on transport and communication; institutions and governance are measured by contract intensive money (proxy for property right), rule of law and government effectiveness.

The hypotheses that govern this paper are that effective institutions and governance structure should create a framework that would facilitate a smooth coordination of private and public sectors. Thus a country with strong institutions should attend high level of economic performance. These hypotheses were tested with data from Central Bank of Nigeria Statistical Bulletin, World Bank governance indicators, and transparency international.

The results showed that contract intensive money, government effectiveness and the interaction of government effectiveness with government expenditure were the variables that entered the regression lines with the correct *a priori* economic expectations. That is, property right, the interacting term and governance effectiveness are critical in improving economic performance. The results indicated that besides formulation of sound reform policies and political leadership, the country's

institutions and governance structure are important elements that determine macroeconomic reforms outcomes and the path of economic performance. Effective governance should be seen as a dynamic process, capable of responding to the ever changing technological, social, economic and political environments.

The results also showed that government expenditure on transport and communication, credit to the private sector as a ratio of GDP and the rule of law did not yield the desired outcomes. This is because they were not statistical significant; however, the *a priori* signs of their coefficients indicated that they are important in determining economic performance. The statistical insignificant of these variables could be attributed to the inability of the country to develop strong institutions that allow reforms to achieve its objectives. This means that the growing misuse of public funds, poor policy implementation and the culture of rent-seeking that divert resources to unproductive ventures could be attributed to weakness of the rule of law. This weakness in institutions makes the reform process in the banking sector and government expenditure not lead to improve per capita income and macroeconomic stability.

The paper has also shown that economic performance is enhanced when there is element of trust. Per capita income of the country can increase when investors have confidence that their investments will be protected and that policy makers have the ability to implement policies with high degree of credibility, efficiency and accountability. The paper recommends that the concept of governance effectiveness and property rights needs to be redefined or strengthen to make it more effective and accountable and that governance issues and institutions should be incorporated in the reform process if sustainable economic performance is desired.

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Table V.1: Ng and Perron 2001 Modified Unit Root Tests

Variables	MZa	MZt	MSB	MPT
ΔPcaptr	-19.6271	-3.1254	0.15960	1.24869
1%	-13.8000	-2.5800	0.17400	1.7800
5%	-8.1000	-1.9800	0.23300	3.1700
10%	-5.7000	-1.6200	0.27500	4.4500
ΔCIMTR	-16.6578	-2.86261	0.17185	1.55717
1%	-13.8000	-2.58000	0.17400	1.78000
5%	-8.10000	-1.98000	0.23300	3.17000
10%	-5.70000	-1.62000	0.27500	4.45000
ΔGEFFECTR	-17.4529	-2.95389	0.16920	1.40466
1%	-13.8000	-2.5800	0.17400	1.78000
5%	-8.1000	-1.9800	0.23300	3.17000
10%	-5.7000	-1.6200	0.27500	4.45000
ΔRULAWTR	-20.0042	-3.16248	0.15809	1.22519
1%	-13.8000	-2.58000	0.17400	1.78000
5%	-8.10000	-1.98000	0.23300	3.17000
10%	-5.70000	-1.62000	0.27500	4.45000
ΔCORRUPTR	-20.4289	-3.18852	0.16008	1.22561
1%	-13.8000	-2.5800	0.17400	1.78000
5%	-8.1000	-1.9800	0.23300	3.17000
10%	-5.7000	-1.6200	0.27500	4.45000
ΔINVGDPTR	-17.4633	-2.95471	0.16920	1.40377
1%	-13.8000	-2.5800	0.17400	1.78000
5%	-8.1000	-1.9800	0.23300	3.17000
10%	-5.7000	-1.6200	0.27500	4.45000
ΔGEXPENTR	-18.8323	-3.0097	0.15982	1.51088
1%	-13.8000	-2.5800	0.17400	1.78000
5%	-8.1000	-1.9800	0.23300	3.17000
10%	-5.7000	-1.6200	0.27500	4.45000
ΔCSPGDPTR	-19.1577	-3.0728	0.16039	1.35805
1%	-13.8000	-2.5800	0.17400	1.78000
5%	-8.1000	-1.9800	0.23300	3.17000
10%	-5.7000	-1.6200	0.27500	4.45000
ΔGeffectivtr*gexpendt	-16.2371	-2.8321	0.25634	1.36548
1%	-13.8000	-2.5800	0.17400	1.78000
5%	-8.1000	-1.9800	0.23300	3.17000
10%	-5.7000	-1.6200	0.27500	4.45000
Ecm1	-17.5751	-2.96369	0.16863	1.39654
1%	-13.8000	-2.5800	0.17400	1.78000
5%	-8.1000	-1.9800	0.23300	3.17000
10%	-5.7000	-1.6200	0.27500	4.45000
Ecm2	-16.4751	-2.86369	0.15862	1.49534
1%	-13.8000	-2.5800	0.17400	1.78000
5%	-8.1000	-1.9800	0.23300	3.17000
10%	-5.7000	-1.6200	0.27500	4.45000

Table 4.2 Parsimonious or Preferred Results

Variable	GDPCAPTR	INVGDPTR
Dlog(Gexpentr)	0.07 (0.48)	-0.02 (-0.10)
Dlog(CIMTR)	6.46 (2.21)	7.58 (1.90)
Dlog(Rulawtr)	0.32 (0.47)	-0.83 (-0.90)
Dlog(CPSGDPTR)	0.09 (0.26)	-0.40 (-0.70)
Dlog(Geffectr)	-2.81 (-1.91)	-1.41 (-0.70)
Dlog(Corruptr)	0.30 (0.89)	-0.85 (-4.65)
DGeffectivtr*gexpendt	0.82 (3.41)	0.74 (2.89)
ECM2(-1)		-0.85 (-4.65)
ECM1(-1)	-0.23 (-2.01)	
	R^2 = 0.33	R^2 = 0.47
	D.W. = 1.60	D.W = 1.9

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