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Asymmetric ERPT for the Periods of Implicit-Explicit IT in Turkey

Çiğdem BOZ

Abstract

In this paper we investigate the asymmetric effect of exchange rate movements on prices for the inflation targeting (IT) period in Turkey, from 2002:M1 to 2012:M10, using a co-integrating non-linear auto regression distributed lag (NARDL) model. Our results indicate that depreciation and appreciation is passed through to domestic prices in full IT period in the long-run but former ERPT coefficient is higher than the latter one. In the short run, depreciation is passed through on domestic prices while appreciation is not. These findings imply that prices are sticky downwards but flexible upwards in the short-run and flexible downwards and upwards in the long-run.

JEL Classification: C32, E31, E52

Keywords: Asymmetric Exchange Rate Pass-Through, Nonlinear ARDL, Inflation, Turkish Economy.

Introduction

The relationship between prices and exchange rate has always been one of the attracting and interesting questions for economists since exchange rate shocks have consistently been the critical explanatory variables in inflation models. A number of studies have proposed various models such as VAR with the assumption of that exchange rate shocks affect the prices evenly, regardless of whether the exchange rate shock is positive (depreciation) or negative (appreciation) in order to search for the effects of exchange rate shocks on domestic prices. However, this approach prevents a detailed inquiry into inflation dynamics since linear models might not effectively capture the possible asymmetries or non-linearities in the coefficients. Shin et al. (2011) suggested a co-integrating *non-linear* auto regression distributed lag (NARDL) model so as to capture asymmetric short and long-run relationship between economic variables and we tailored this method to pass through coefficients for the Turkish economy following Delatte and Villavicencio (2012) by the question of whether exchange rate movements have an asymmetric effect on domestic prices.¹

The existing empirical studies of inflation treat inflation and exchange rate as stationary variables and limited attention is paid to the potential presence of unit roots in the data. However, since the inflation rate follow unit root process in Turkish economy, VAR types of models might not be proper to estimate the behavior of prices. Because the ARDL model has a non-restrictive assumption that the variables under examination must be integrated of the same order, in this paper we preferred to utilize non-linear ARDL model to test domestic prices – exchange rate shocks using Turkish data for the Inflation Targeting (IT) period starting from 2002:M1 ending to 2012:M10. Other reasons we use this methodology; it allows for the asymmetric behavior of exchange rates on domestic prices, is suitable even if the sample size is small while the counterparts are sensitive to the size of the sample and provides unbiased estimates of the long-run model and valid *t*-statistics even when some of the regressors are endogenous.

The layout of the paper is following. Section 2 provides a theoretical explanation of ERPT and its asymmetry. Section 3 presents our price model regarding the NARDL framework. Section 4 describes the data and empirical results from NARDL model and Section concludes the article.

1. Theoretical Perspective of ERPT and Its Asymmetry

The impact of the exchange rate on domestic prices can be observed via the coefficient of the exchange rate in inflation models, which is called the ERPT coefficient and can be defined as the percentage change in domestic prices led by one percentage change in the exchange rate. The ERPT coefficient is expected to be positive; it is more likely that depreciation might increase production costs, domestic prices of traded goods, and/or people's price expectations—the former two are called cost channels while the last one is called an expectation channel.²

¹ This method was developed by Shin et al. (2011) in relation to both unemployment-output relationship and adjustment of retail gasoline prices and then tailored for ERPT coefficient by Delatte and Villavicencio (2011), for house prices by Katrakilidis and Trachanas (2012) and for stock market prices by Karantininis et al. (2012).

² Cost channels can be divided into two parts: the prices of imported intermediate goods and the prices of traded final goods included in the consumer price index (CPI). As the dependency on imported intermediate goods is high and the substitution possibility between imported and domestic inputs is limited in small open economies, an increase (decrease) in exchange rate might increase (decrease) the production costs and accordingly the domestic prices via the cost channel. On the other hand, as the CPI basket is mainly composed of traded goods, any depreciation (appreciation) can increase (decrease) the value of imported final goods and, accordingly, the CPI. In the expectation channel, a positive (or negative) shock in exchange rates might increase (decrease)

The asymmetry between the exchange rate and domestic prices, which implies that prices rise faster than they fall in response to exchange rate shocks, might result from asymmetric preferences of agents. As prices are determined by a mark-up over total unit costs, agents might increase their prices in both the short and long run when they face depreciation in the economy due to increased total unit costs. However, in the case of any appreciation, it is more likely that they will not change their prices in the short run as doing so would increase their mark-up, which might be called downward price stickiness. On the other hand, the size of depreciation is generally higher than appreciation, so the increasing cost effect of the exchange rate is larger than the decreasing cost effect; therefore, agents might tend to increase their prices when they face depreciation rather than appreciation.

2. The Non-Linear ARDL Specification of the Calvo's Price Model

Calvo (1983) assumes that optimal prices are determined by a mark-up over total unit costs and we incorporate the exchange rate into the model since it is more likely for the exchange rate to affect domestic prices in a small-open economy:

$$p_t = \alpha_0 + \alpha_1 y_t + \alpha_2 e_t + \varepsilon_{p,t} \quad 1)$$

where p_t is the domestic price level, y_t is the mark-up plus total unit costs, and e_t is the nominal exchange rate—all of which are expressed in natural log units. The coefficient of the nominal exchange rate, α_2 , refers to the ERPT coefficient that indicates the direct effect of exchange rate on the domestic price level. Regressors in Equation 1 are defined as $\Delta y_t = \varepsilon_{y,t}$ and $\Delta e_t = \varepsilon_{e,t}$ where $\varepsilon_{p,t}$ is the iid process with zero mean and variance σ_p^2 , while $\varepsilon_{y,t}$ and $\varepsilon_{e,t}$ are stationary and independently distributed of $\varepsilon_{p,t}$. If error terms ($\varepsilon_{p,t}$, $\varepsilon_{y,t}$ and $\varepsilon_{e,t}$) are present in the data-generating process as $\varepsilon_t = \sum_{i=1}^p \rho_i \varepsilon_{t-i} + \varepsilon_{s,t}$ for $\varepsilon_t = \{\varepsilon_{p,t}, \varepsilon_{y,t}, \varepsilon_{e,t}\}$, which follows the general p^{th} order stationary VAR model following Pesaran et al. (2001), Equation 1 can be rewritten as an unrestricted error correction model (ECM) of the following form:

$$\Delta p_t = \alpha_0 + \xi_1 p_{t-1} + \beta_1 y_{t-1} + \beta_2 e_{t-1} + \sum_{i=1}^{p-1} \theta'_i \Delta p_{t-i} + \sum_{i=0}^p \vartheta'_i \Delta y_{t-i} + \sum_{i=0}^p \varphi'_i \Delta e_{t-i} + \eta_p \quad 2)$$

The NARDL model is an expanded model of Equation 2 that includes decomposed variables of exchange rate, e_t , series as its positive (e_t^+), and negative (e_t^-) parts where the exchange rate is a $k \times 1$ vector.

e_t^+ and e_t^- are the partial sum process of positive and negative changes in the exchange rate, respectively. Partial sum processes can be expressed as follows:

$$e_t^+ = \sum_{i=1}^t \Delta e_t^+ = \sum_{i=1}^t \max(\Delta x_i, 0) \quad e_t^- = \sum_{i=1}^t \Delta e_t^- = \sum_{i=1}^t \min(\Delta x_i, 0) \quad 3)$$

where positive changes in the exchange rate, Δe_t^+ , indicate depreciation while negative ones, Δe_t^- , correspond with appreciation. In order to allow for asymmetry, Equation 2 can be rewritten by adding the positive and negative partial sums of e_t .

inflation expectations and, accordingly, the domestic inflation rate as it is more likely for the agents to form their expectations according to the exchange rate movements given that the exchange rate is perceived as a nominal anchor. Although the floating exchange rate regime weakens this indexation channel, a great deal of importance is still attributed to nominal exchange rate movements, especially for the economies of experienced high inflation, currency crisis, and dollarization in the past.

$$\Delta p_t = \alpha_0 + \xi_1 p_{t-1} + \beta_1 y_{t-1} + \beta_2^+ e_{t-1} + \beta_2^- e_{t-1} + \sum_{i=1}^{p-1} \theta_i' \Delta p_{t-i} + \sum_{i=0}^p \vartheta_i' \Delta y_{t-i} + \sum_{i=0}^p \varphi_i^{+'} \Delta e_{t-i} + \sum_{i=0}^p \varphi_i^{-'} \Delta e_{t-i} + \eta_{p,t} \quad (4)$$

Based on Equation 4, we seek a long-run relationship by devising the null hypothesis of $H_0: \xi_1 = \beta_1 = \beta_2^+ = \beta_2^- = 0$ against the alternative hypothesis of $\xi_1 \neq 0$, $\beta_1 \neq 0$, $\beta_2^+ \neq 0$, and $\beta_2^- \neq 0$. In addition, the asymmetric long-run multipliers of the exchange rate can be computed as $\alpha_2^+ = \beta_2^+ / -\xi_1$ and $\alpha_2^- = \beta_2^- / -\xi_1$. If $\xi_1 = 0$, it implies that there is no long-run asymmetric relationship among the levels of domestic prices, total unit costs, and the nominal exchange rate. Long-run symmetry is tested using a Wald test with the null hypothesis of $\alpha_2^+ = \alpha_2^-$ and rejection of the null hypothesis indicates that the exchange rate has an asymmetric effect on the domestic inflation rate while short-run symmetry is tested using the Wald test with the null hypothesis of either $\varphi_{t-i}^{+'} = \varphi_{t-i}^{-'}$ for all $i = 1, \dots, p$ or $\sum_{i=1}^p \varphi_{t-i}^{+'} = \sum_{i=1}^p \varphi_{t-i}^{-'}$ and rejection of the null hypothesis indicates that the exchange rate has an asymmetric effect on the domestic inflation rate in the short run.

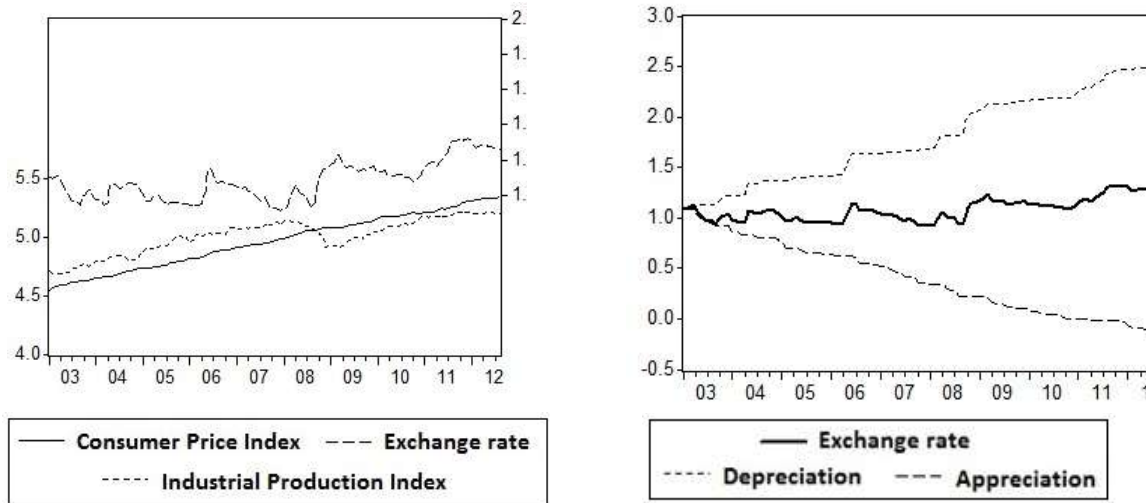
3. Data and Empirical Results

Our data set consisted of the monthly log values of consumer price index (p), industrial production index (y), and the nominal exchange rate (e) for the Turkish economy, covering the period from 2002:M1 through 2012:M10 which are shown in Figure 1.³ The depreciation and appreciation series are derived by the rates of depreciation and appreciation which are calculated according to the previous three months.

In order to search for the asymmetry of the exchange rate pass-through, we first estimated asymmetric ARDL model and then applied the Wald test as the null hypothesis of a symmetric long-run ($\alpha_2^+ = \alpha_2^-$) and symmetric short-run relationships ($\varphi_{t-i}^{+'} = \varphi_{t-i}^{-'}$) can be tested using the Wald statistic.

³ The consumer price index is the 2003-based price index whereas the nominal exchange rate series is calculated as the average Turkish lira value of the official basket [(1 USD + 0.77 EUR)/2] of the CBRT prior to the 2001 crisis. We combined the Industrial Production Index with the base years of 1997 and 2005, where the former changed starting in January 1997 and the latter was combined starting in January 2005. All the variables except for the exchange rate are seasonally adjusted using the Tramo-Seats method and obtained from the Electronic Data Dissemination System (EVDS) of the CBRT.

Figure 1: CPI, IPI, Exchange Rate, Depreciation and Appreciation



Obtained from Electronic Data Dissemination System (EVDS) of the CBRT

&

Table 1: Symmetry Test Results

	Wald Test Statistic
Long-Run Symmetry	11.0636*
Short-Run Symmetry	11.0636*

(1) Null hypothesis for long-run: $\alpha_{2j}^+ = \alpha_{2j}^-$,
(2) Null hypothesis for short-run: $\sum_{i=0}^p \varphi_{ij}^{+'} = \sum_{i=0}^p \varphi_{ij}^{-'}$,
(3) * indicates rejection of the null hypothesis of symmetry at the 1% level.

Table 1 indicates that the Wald test provides overwhelming evidence in favour of asymmetry in both the long and short run for the Turkish economy. Based on these results, we can accept that the most suitable model is given in Equation 4 instead of Equations 2. Table 2 reports the results of asymmetric ARDL model for both implicit-explicit IT periods and full IT term, including estimated values of pass-through coefficients, F -bound test statistics (F_{PSS}), and their p-values.

According to the F -bound test, which delivers a long-run behavior of variables, we found strong evidence in favor of a co-integrating relationship between CPI and its explanatory variables at 1% and 5% significance level in both implicit-explicit and full IT period. According to Table 2, first noticeable observation is that depreciation and appreciation is passed through to domestic prices in full IT period but former ERPT coefficient is higher than the latter one which indicates that behavior of the exchange rate under investigation is asymmetric. If we divide IT period into two parts, it might easily be seen that exchange rate shocks are passed through to priced in both period but ERPT coefficient of appreciation does not have right sign in implicit IT period although it is significant at 1% level. Based on the estimated short-run coefficients, we can indicate that depreciation is passed through on

domestic prices in the short run but appreciation is not in both implicit-explicit and full IT period.

Table 2: Short and Long-Run Estimates of Asymmetric ARDL Model

		Full IT Period	Implicit IT Period	Explicit IT Period
Period → Sample →		2002:M01 2012:M10	2002:M01 2005:M12	2006:M01 2012:M10
Long-Run Coefficients	c	3.5899* [9.8574]	1.0420 [1.0112]	3.0553* [2.8853]
	$\xi_1(p_{t-1})$	-0.0924* [-4.2203]	-0.1115* [-6.2795]	-0.0887* [-2.0808]
	$\alpha_1(y_{t-1})$	0.2410* [3.1926]	0.7830* [3.5612]	0.3576* [2.8853]
	$\alpha_2^+(e_{t-1}^+)$	0.1503* [6.1519]	0.1969* [4.5538]	0.1161* [3.8168]
	$\alpha_2^-(e_{t-1}^-)$	-0.0783*** [-1.7926]	0.2111** [2.5688]	-0.1161** [-1.9529]
Short-Run Coefficients	Δc	0.3317* [3.5594]	0.1162 [0.9172]	0.2709 [1.6082]
	$\theta_1'(\Delta p_{t-1})$	0.2187** [2.5594]	- -	- -
	$\theta_2'(\Delta p_{t-2})$	0.2212* [2.5604]	- -	- -
	$\vartheta_1'(\Delta y_{t-1})$	0.0223* [3.0062]	0.0275* [3.0622]	0.0317* [2.8975]
	$\varphi_1^+(\Delta e_{t-1}^+)$	0.0139* [4.3110]	0.0219* [3.7171]	0.0103** [2.0555]
	$\varphi_1^-(\Delta e_{t-1}^-)$	-0.0072 [-1.4245]	0.0235* [3.3292]	-0.0103 [-1.1583]
Diagnostic Tests	F_{PSS}	17.8113*	39.4320*	4.3595**
	\bar{R}^2	0.3480	0.8262	0.1134
	DW	2.0399	2.0672	1.8340

1) α_2 reflects the symmetric long-run coefficient of exchange rate pass-through while α_2^+ and α_2^- indicate the coefficients of depreciation and appreciation, respectively. (2) ξ_1 is the error correction parameter in ARDL models. (3) F_{PSS} denotes the Paseran-Shin-Smith F test statistic for $k=3$. (4) Long- or short-run relationship is accepted at a significance level of; *%1, **%5 and ***%10. (5) Optimal lag length selected by Schwarz Information Criterion (SIC) allowing for a maximum lag length of 6. (6) Upper bound test statistics at 1%, 5% and 10% are 5.61, 4.35 and 3.77, respectively.

These findings imply that prices are sticky downwards but flexible upwards in the short-run; flexible downwards and upwards in the long-run and impressively supports the validity of the imperfect market structure in the Turkish economy. Our empirical findings further suggest that magnitudes of exchange rate shocks play an important role in domestic prices: The magnitude of depreciation on prices is larger than appreciation.

Conclusion

As the exchange rate shock is thought to be one of the main causes for missing inflation targets, an understanding of the form and scale of the nominal exchange rate becomes an important issue for economists and policymakers. Thus, in this paper, we concentrated on both long-run and short-run relationships between the nominal exchange rate and consumer prices by employing a co-integrating NARDL model. Our empirical results suggested that a long-run relationship exists between consumer price index and its explanatory variables in both implicit-explicit and full IT period;

depreciation and appreciation is passed through to domestic prices in full IT period but former ERPT coefficient is higher than the latter one which indicates that behavior of the exchange rate under investigation is asymmetric; the magnitude of depreciation on prices is larger than appreciation in the long run; and in the short run, depreciation is passed through on domestic prices while appreciation is not in both implicit-explicit and full IT period.

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Management of Skill Acquisition Centers: A Viable Tool for Poverty Alleviation in Edo State of Nigeria?

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Abstract

This piece of work was carried out to find out the management situation of skill acquisition centers in Edo State of Nigeria. The findings revealed that : (a) less than half of the centers have (i) programme of curriculum (ii) financial record (iii) attendance register and (iv) job order books. (b) No government intervention or assistance except to come for tax purposes. (c) the trainees have high hopes and reported that they are pleased with the activities in their training centers. (d) among the trainees, the following problems were identified (i) Lack of funds for transportation, feeding, accommodation and purchase of learning materials. (ii) Serving their masters' domestic needs. (iii) Power outage, causing seasonal customers. (iv) Sexual harassment of the females by male clients. The trainers listed the following challenges they encounter as (i) High rent for accommodation of their workshop (ii) Power outage (iii) Lack of regular water supply and working materials. The following recommendations were proposed: (a) There is need to produce curriculum for the centers. (b) Challenges of power failure should be tackled (c) Provision of soft loans.

Keywords: Nigeria, poverty alleviation, Edo State , Skill acquisition, management

Introduction

End poverty by 2015. This is the historic promise 189 world leaders made at the United Nations Millennium Summit in 2000 when they agreed to meet the Millennium Development Goals (MDGs).

It is being acclaimed that today we not only have the financial resources to end extreme poverty once and for all but we have the technological knowledge and know how to realize the Goals. It is also clear however that if we carry on in a business as usual mode the goals will not be achieved by 2015. The way forward is to implement and teach good management skills that will ensure profit, alleviate poverty and promote sustainable development.

Attacking poverty has become an international concern and a precedent to achieving sustainable development in consideration of the reality that almost half of the world's population lives in poverty. The world has deep poverty amidst plenty (World Bank, 2000; Islam et.al 2007).

Based on the recognition that formal education programme has failed to become adequately responsive to the needs, particularly of the poorer/disadvantaged section of people. Skill acquisition programme has evolved in various form as a strategic intervention for poverty alleviation.

Skill acquisition programme is a form of non-formal education that is directed at acquiring a specific skill such as:

- (a) Fabricating iron works like iron doors, gates
- (b) Fashion designing
- (c) Catering
- (d) Repairs such as motor mechanic
- (e) Hair dressing
- (f) Carpentry etc.

The skill acquisition programmes can be classified into two main broad areas namely- production and repairs. The production area is those involved in iron works, catering, hair dressing, carpentry and fashion designing. The repair area involves repair of refrigerators, vehicles, motorcycles and bicycles. These two areas render services that create comfort for the citizenry.

Nigeria is the 6th largest oil producing country in the world and the largest and potentially, the richest country in Africa. It has the largest concentration of black people in the world – with a land area of close to one million square kilometers and a population of well over 125 million. With these obvious credentials, leaving the poverty bracket would not have been a hurricane task (Okosun, I et.al 2010). However, poverty has become endemic and the resultant effect is the presence of crimes like robbery, kidnapping, cultism, youth restiveness and political thuggery.

Poverty is a multi-dimensional issue that affects many aspects of human condition, ranging from physical to moral to psychological (Ogwumike, 2002)

The Characteristics of poverty may better give a clearer picture of its concept. It includes

- (a) It is a function of insufficient income levels for securing basic goods and services
- (b) It is the inability of individuals to subsist and to produce for themselves as well as inability to command resources to achieve these (Sen, 1984)

Historically, income levels were the basic measure of poverty. Today, human poverty according to Govinda (2008) is measured in terms of lack of

- (a) Basic education

- (b) Health Care
- (c) Nutrition
- (d) Water and Sanitation
- (e) Income
- (f) Employment and
- (g) Wages.

He went further to say that these measures also serve as a proxy for other important intangibles such as feelings of powerlessness and lack of freedom to participate. Little wonder that such victims of poverty are easily lured into crimes and other vices.

According to Okosun et al (2010), up to the 1980's poverty was largely associated with the rural areas in developing countries, but the situation has changed. With the dramatic increase in the number of persons leaving the rural areas for the urban areas, there is a corresponding increase in the level of urban poverty.

In spite of the outstanding growth towards universal basic and primary education, there are still many left out of the educational system. They constitute the dropout. The non-formal education is therefore expected to absorb this category of people. Sfard (1998) pointed out that non-formal education occurs when learners opt to acquire further knowledge or skill by studying voluntarily with a teacher who assists their self-determined interests by using an organized curriculum, as is the case in many adult education courses and workshops. In this concept is inherent the importance and potential of education, learning and training that take place outside recognized educational institutions.

In Nigeria, non-formal education is seen by governments and NGOs as an opportunity to improve education (non-formal) for increasing income generating programme for the poor and disadvantaged groups.

Poverty alleviation therefore poses the challenge of transforming the physical and social context in which the poor live. The primary responsibility for implementing policies and strategies to achieve this transformation lies with the national governments, right kind of public action and strong personal involvement of the poor themselves. It also requires consistent political will and interest to transfer and build essential physical, social and human capital for the poor.

The millennium development goals place basic education alongside the goals of poverty reduction for concerted action. The situation therefore calls for ensuring that the action in the education sector are strategically designed to impact the economic life of the people in general and of the poor and disadvantaged in particular. Skill acquisition centers abound all over the country especially Edo State of Nigeria. Hairdressing saloons, mechanic workshops, furniture workshops, catering outfit, fashion designing outfit all abound in every nook and cranny of the state yet poverty has not abated. Is non-formal education, particularly programmes involving skill building for income generation a potential instrument for poverty alleviation?

Many pronouncements for poverty alleviation have been made by the three tiers of government in Nigeria- Local, State and Federal- and NGOs yet there is no respite.

The general objective of this paper is to identify and assess the management strategy of skill acquisition centers which is a type of non formal education. Specifically, the paper has sought to identify.

- (a) Types of records kept in the Skill Acquisition Centers (SAC)
- (b) Levels of satisfaction of the apprentices
- (c) Level of competency of the centres.
- (d) Level of government and NGOs involvement
- (e) Problems militating against the operation of the centre

The following research questions guided the study

- (a) Are management strategies adopted by the trainers in the skill acquisition centers?
- (b) Are the center proprietors/ managers competent to run the centers?
- (c) Are there external assistance in the management of the centers?
- (d) What are the problems militating against the centers and the trainees?

Research Methodology

The study is a survey meant to gather data on the management strategy of skill acquisition centers and their trainees' views on training satisfaction, cost of training and sources of income. Also to be surveyed are the problems militating against skill acquisition among trainees and the centers

The target group for this study comprised 64 skill acquisition centers. The centers and the trainees were not selected at random but were interviewed by the research assistants who are registered students of Postgraduate Diploma in Technical Education (PGDTED) at the Institute of Education, University of Benin, Nigeria. The research assistants were given specific instructions on the data collection exercise such as using only centers that have trainees and helping the respondents to understand the question and ensuring that all questions are answered.

Instrument

The instruments for data collection were two sets of questionnaires. The first one was skill acquisition centre management style questionnaire (SACSQ) which sought to find out the management ability of the centre proprietors/managers. The second questionnaire was trainees' satisfaction level questionnaire (TSLQ); this instrument is meant to find out the level of satisfaction of the trainees about their training. Data/responses collected were analyzed using mean responses, simple percentage and rank order. The two instruments were developed by the researchers.

Data Analysis

Background data of Managers and Trainees of Skill acquisition Centers in Edo State

Table 1: Managers and Trainees of skill Acquisition Center by age and qualification.

	Trainers by Age	Trainees by Age	Trainers by Education	Trainees by Education
Below 20 years	50.9%	49.1%	No formal schooling	6.2%
21-31 years	37%	63%	Primary school	15.6%
32-42 years	37%	63%	Secondary education	25.8%
Above 42 years	63%	37%	Higher education	45.8%
	0%	0%	Higher education certificate holders	15.8%

It can be observed that 50.9% and 49.1% of the trainees were below 20 years and between 21-31 years respectively. On the other hand, 37% and 63% of the trainers were between 32-42 years and above 42 years respectively. Similarly, while 6.2 % of the trainers and 4.2% of the trainees had no formal education, 15.6% and 25.8% of the trainees had primary school education. Trainers had 53.1% and 25% of secondary and higher education while trainees had 45.8% and 15.8% were secondary and higher education certificate holders.

Research question one: Are management strategies adopted by the Trainers in the skill acquisition centers?

Table 2: Management skills of Trainers of Skill Acquisition Centers

Management Skills	Number of Respondents	Percentage Response	Percentage Response
Module Curriculum	64	22%)	18%)
Personal Record book	64	16%)	19%)
Finance book	64	22%)	18%)

der-book	64	7%)	8%)
lance of in-service training	64	%)	%)

It can be observed on table 2 that 42.2%, 51.6% and 56.2% of the trainers had curriculum programmes, financial record book and attendance book respectively. Also, 54.7% and 50% of the managers had job order books and had attended in-service training respectively.

Research Question two: Are there external assistance in the management of the centers?

Table 3: Government Intervention in Skill Acquisition Centers

Type of intervention	No of respondents	Positive response	Negative response
Visit by Government officials	64	39(61%)	25(39%)
Registration with the Ministry of Labour and Productivity	64	11(17.2%)	53(82.8%)
Financial aid	64	00(%)	64(100%)
Reason for lack of financial aid			
I Un-	64	9(14.1%)	55(85.9%)
willingness to	64	33(51.6%)	31(48.4%)

request for aid			
ii Lack of awareness of such an opportunity	64	22(34.3%)	44(65.7%)
iii.Applied, but no positive outcome			

Sixty –one percent of the respondents reported that Government officials

visited their skill acquisition centers however it was for taxation purposes. About17.2% said that they registered with the Ministry of labour and productivity. None had received financial aid from Government. While Forty- one percent of the respondents said that they were unwilling to request for financial aid, 51.6% indicated that they were not aware of the opportunity. However, 34.3% of the respondents said that they applied for financial aid from the Government but the response was not forth-coming.

Research Question three: What are the trainees’ perceptions of the learning process?

Table 4: Trainees Perception of the learning Process

Statements	No of Respondents	Positive responses	Negative responses
I am learning well.	120	114(95%)	6(5%)
The master teaches me always.	120	70(58.3%)	50(41.7%)
I am always taught by the senior apprentice.	120	50(41.7%)	70(58.3%)
The workshop is quite busy.	120	90(75%)	30(25%)
I come to work regularly.	120	115(95.8%)	5(4.2%)
I like this place.	120	113(94.2%)	7(5.8%)
I will recommend the place to my relations.	120	118(98.4%)	2(1.6%)
I shall complete the programme	120	118(98.4%)	2(1.6%)
The training I am receiving is adequate	120	109(90.8%)	11(9.2%)
I shall practice when I graduate	120	118(98.4%)	2(1.6%)

Responses regarding the learning process reveal that 58.3% stated that they were taught by their masters while 41.7% said that they were taught by the senior apprentices. However, 95% and 90.8% of the respondents indicated that they were learning well and that the training they received was adequate. Seventy- five percent of the trainees stated that their workshops were busy, 95.8% go to work regularly, 94.2% indicated that they liked the practice, 98.4% stated that they would complete the programme and the same percentage of respondents stated that they would practice when they graduate and would recommend the trade to their relations.

Research Question Four How do skill acquisition centers perform in the training of trainees?

Table 5 Performance of skill acquisition centers.

Factors	No of respondents	Responses
No of trainees registered.	64	1-2 (21;32.8%) 3-4 (22;34.4%) 5-7 (10;15.6%) Above7 (11;17.2%)
No of trained trainees in a year	64	1-2 (11;17.2%) 3-4 (22;34.4%) 4-7 (10;15.6%) Above 7 (19;29.7%)
No of trainers	64	None (14;21.8%) 1-2 (30;46.9%) 3-5 (11;17.2%) Above 5 (9;20.1%)
No of dropouts	64	None (45;70,3%) 1-2 (15;23.4%) 3-4 (4,6.3%)
Willingness of trainees to learn	64	Yes.48 (75%) No. 16 (25%)

The managers of skill acquisition centers stated that they registered 32.8%, 34.4%,15.7% and 17.2% of the age brackets 1-2,3-4,5-7 and above 7 respectively. Also,21.8%,46.9%,17.2% and 20.1% of the respondents indicated that they trained none,1-2,3-4 and above 5 respectively in a year. As for the number of dropouts, while 70.3% stated that none dropped out in their centers, 23.4% and 6,3 % indicated that they experienced 1-2 and 3-4 dropouts respectively.Furthermore,75% of the trainers said that the apprentices were willing to learn while 25 % said that trainees were not willing to learn.

Research Question five: What are the problems militating against the centers and the trainees?

Problems experienced by Trainees

The problems encountered by the trainees were listed as:

- i.lack of finance for transportation, feeding, accommodation and for the purchase of learning materials;

- ii. Working very long hours, performing household chores for madam and 'Oga' and, occasional beating by masters;
- iii Seasonal customers due to rain, flood and power outage; and
- iv Sexual harassment of the females by male clients.

The managers of skill acquisition centers listed their problems as follows:

- i. high rent of accommodation;
- ii power outage;
- iii lack of regular water supply; and lack of sufficient working materials.

Discussion of results

The study sought out to determine among other concerns, whether management strategies were adopted by the managers of skill acquisition centers, the findings revealed that less than half the number of respondents had programme of curriculum for the training in the centers. Also, only about half the number of managers had financial record, attendance and job order books. Similarly the same percentage has ever attended any in-service training. These findings are worrisome as adoptions of management strategies are essential for viable organizations. In addition, the question that comes to mind is; what managers would the products of such centers become if their masters do not possess management strategies nor attend courses for upgrading. The situation is very grave if the Government is sincere about aggressively addressing the poverty situation in Nigeria. Another focus of the study was to find out Government intervention, in the skill acquisition centers. The findings revealed that Government had not intervened meaningfully in the centers as all the managers have never received financial aid from Government. Further interrogation revealed that it is either they were not aware of such opportunities, or they got frustrated after several fruitless attempts. Though 61% of the managers said that they were visited by Government officials but they were for taxation purpose. The findings suggest that Government is highly uninterested in the activities of the skill acquisition centers as the only reason for Government presence was for taxation purpose. Could it be that Governments' concern for the alleviation of poverty for the poor be a lip-service? Bearing in mind that the majority of the people in this category do not have formal education or dropouts from the primary and secondary schools and have no prospect of livelihood or to acquire some life-skills.

Trainees' perception of the learning process in the centers revealed that almost half the number of trainees were taught by senior apprentices. As some of them commented that some of their 'Ogas' were hardly around. The situation is not unexpected as there is no monitoring from the centers regarding the learning content by anybody. However, the trainees are excited and satisfied with the learning process as majority stated they were learning well and that the training they were receiving was adequate and that they liked the practice. Could trainees' opinion be based on the fact that it is because they had never known anything better? Also majority of trainees stated that their shops were busy, they go to work regularly, they desire to graduate and continue with the practice and would recommend the training for their relations. The enthusiasm of the trainees portends great prospect for the skill acquisition centers. Probably, they see the training at the centers as the only opportunity for

them to earn some sort of livelihood especially as they have already dropped out of the formal schooling system.

The performance of the skill acquisition centers was accessed and it was found that, the majority of the centers registered very low number of persons (below 4persons), only few registered above five persons in a year. In addition, almost a quarter of the centers didn't train a single person in a year though ironically, also about a quarter of the centers trained above five persons as well in a year. Majority of the centers stated that they didn't experience the drop out of their trainees. It is instructive to note that while the registration of trainees is low the retention rate is very high. Could it be that the people who come to the center see these places as the home of refuge? No wonder, majority of the trainers said that trainees were willing to learn. The discussed findings presents mixed prospects for skill acquisition centers, in the first instance the very low attraction of the youths to the center is worrisome as it is only the people who show up at the center that can be trained. A plausible explanation for the low registration could either be the tendency to look at trades with disdain in the Nigerian setting or the continuous tendency of school dropouts and leavers to search for none existent white collar jobs. Whatever the reason, the finding indicates that to stem the tide of high rate of unemployment and alleviate poverty, urgent measures must be taken to make skill acquisition centers attractive enough for the youths.

Another focus of the study was to determine the challenges confronting the trainees and trainers of the skill acquisition centers. The trainees listed them as follows:

- i. lack of fund for transportation, feeding, accommodation and the purchase of learning materials;
- ii. Working very long hours, performing household chores for madam and 'Oga' and, occasional beating by masters;
- iii Seasonal customers due to rain, flood and power outage; and
- iv Sexual harassment of the females by male clients.

The managers of skill acquisition centers listed their problems as follows:

- i. high rent of accommodation;
- ii power outage;
- iii lack of regular water supply; and lack of sufficient working materials.

From the foregoing listed challenges, both the trainers and trainees experience financial difficulty and the negative consequences of power outage and flooding. These challenges are as a result of the inability of the Government to provide basic amenities as light, water and finance which are essential for the proper functioning of such centers. A common sight is to see both managers and trainees idle at the centers because of power failure or rainfall as many of the workshops are open spaces. The implication of this finding is that these centers are unable to function maximally and effectively because they are unable to work for a relatively long period of time. To address the issue of

power failure, they need to buy generators and many skill acquisition center managers expressed their inability to cope with such expenses and the cost of diesel or petrol for the generator. The challenges of the trainees are exacerbated by the fact that they are young and unable to defend themselves. Thus they learn under very harsh, deplorable and unfriendly conditions. This was rightly captioned by a respondent thus:

'I walk very long distance to my work place because I have no money for transport. and if I get there late, my Oga beats me for coming late. That is not all. at times people look down on you because you are doing this work',

Some of the females opined that they are sexually harassed as they work late in the shops. It is sad that when such occurrences happen, they are unable to seek redress for fear of falling out of favour with their masters who would vie such an action as negative publicity to the center.

Conclusion and recommendations

It is hereby conclude in this study that proven management strategies were not adopted by the managers of the skill acquisition centers in Edo State. There was no government intervention in the centers. Though the trainees were willing to acquire life skills for poverty alleviation, only few people enrolled graduate at the training centers. Both the trainers and trainees have major challenges as lack of finance and lack of infrastructure.

The following recommendations are made for the proper management of the centers for poverty alleviation:

- i. the Government and interested organizations should employ bodies like the Institute and Faculty of Education of the University of Benin to organize comprehensive workshops on management strategies for skill acquisition providers. It is time that international organizations work out how to help document the activities into curricula so that standard can be ensured.
- ii. the Government could as a matter of urgency tackle the challenges of power failure, water supply and flooding. Most of the equipment for these centers requires electricity. The use of alternative means usually increase the cost of running the centers.
- iii. Government and NGOs could provide soft loans for trainers and trainees of skill acquisition centers. Just as those in the formal school system are given scholarship, these ones that are trainees should also be entitled to scholarship, bursary etc

It is expected that if the suggested strategies are adopted there would be great improvement in the performance of the skill acquisition centers and this could contribute immensely to the alleviation of poverty among the populace.

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A Framework for Effective Management of Intellectual Assets: A Case for Digital Repositories in Nigeria

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Abstract

A digital repository is an organization whose mission is to continuously store, manage, and disseminate digital assets and resources in a distributed manner to designated community. We explore the concepts of digital repository and repository standards such as the Open Archival Information System (OAIS), and popular metadata schemes. We also look at related systems in Nigeria and elsewhere with a view to providing an ideal system for institutions in developing countries such as Nigeria. We then develop a framework (according to the ISO OAIS 14721:2003 reference model) for managing intellectual assets to primarily serve staffs, students and secondarily the wider academic and local community. We also implemented the system using Computer Science department, Federal University of Technology, Akure, Nigeria, as a case study. Our framework will further enhance teaching and research in academic institutions leading to enhanced knowledge sharing and collaboration among staff, students and the larger community.

Keywords: digital repositories, digital library, metadata, Dublin Core, XML, collaboration, intellectual assets, OAIS.

1. Introduction

Even though there had been developments in archival technologies, significant research and developments began specifically in the 90's. Over the years there had been archives where medieval books, archeological discoveries and even books are kept in their physical form. Variants of these include the traditional libraries [1]. From private and public archives- made up of nonfiction and fiction book, through ancient Chinese Dynasty libraries and the magnificent Library of Alexandria to university libraries around the world, academic archives and its variants have evolved through the ages. Right from the establishment of the University College Library (now Kenneth Dike Library University of Ibadan) in 1948, the Federal government of Nigeria has actively taken giant steps in the development of archives and allied infrastructure such as the National Virtual Library and the National Doctoral and Master's Thesis Repository being managed by the NUC [5].

The growth in web technologies and proliferation of the internet has become the important catalysts in the engineering and adoption of digital libraries. Digital libraries are essentially online collections of heterogeneous information which are usually maintained by some librarian. Increased development in digital library technologies has resulted into a related archival technology called digital repository. Digital repositories now serve as the bed-rock of most modern digital libraries turning digital libraries into mere content delivery systems that transparently pool digital resources, knowledge and information from a variety of interconnected repositories.

A true digital repository is made up of an organization-that manages a collection of assets, comprising the institution –that implement and commission the repository, administrators –that ensures the continuity of service delivery and publishers – the repository depositors [13]. Assets in a digital repository are meant to support research, learning, and administrative processes. The range of different types of digital content can be vast, including text, audio, video, images, learning objects and datasets.

In digital repositories, storage is an invisible service, and electronic access is via a distributed network or the internet. Most repositories are hosted as web portals that could be discovered through various means including search engine listings. Most repositories provide secure access to its contents via authentication and authorization. They usually provide high performance search engines that allow users to find and locate desired resources, alongside online cataloguing systems, efficient search-and retrieve technologies [13].

In order to provide an open access to contents and a universal design methodology, digital repositories are built around a number of standards. The proliferation of these standards has led to increasing implementation and integration of digital repositories in research, academics and related systems. Such standards range from access protocol such as the Open Archives Information System (OAIS) to content description Metadata standards. These standards ensure that digital repositories efficiently bear their core properties viz; authenticity - certainty that the creator of a digital asset cannot deny they are the creator, integrity -ability to maintain data correctness and completeness by preventing accidental or malicious changes (i.e. data corruption), reliability - the ability of the system to perform according to its specification efficiently, availability –surety that the system is always available as expected, and Capacity for reuse -the ability to provide a universal mode of access to support sharing [8].

The greatest advantage of repositories is that they help institutions to break the cycle of individual silos and develop coherent and coordinated approaches to the capture, identification, storage and retrieval of their intellectual assets. These intellectual assets go beyond normal publishing regimes, and may include audiovisual objects, datasets, presentations, learning materials and research works. A managed approach to these assets enhances opportunities for efficient use of existing

research, increases opportunities for improved learning experiences and encourages collaboration within and between different disciplines and groups [7].

However, this technology is having varying impacts on existing academic systems. According to Raym Crow (2002), digital repositories introduce new kind of expertise such as metadata tagging, authority controls, user support and content management procedures, that facilitates access to, and the usability of, the data itself. Though they can increase the visibility and status of an entire academic department, the intellectual rights of faculty members may be under threats due to plagiarism and copyright infringement. Deploying a digital repository will also incur great cost by demanding new standardized means of content creation, preparation, and preservation that are entirely a departure from the norm [11].

The Computer Science department Federal University of Technology Akure, is endowed with enormous, yet growing, collection of digital materials to support teaching and research, and the delivery of its overall academic responsibilities. These intellectual assets span electronic journals, digitized materials, conference papers, digital output of staffs and students (e.g. theses, dissertations etc); digital learning objects (e.g. course materials, e-Books, audiovisuals etc). The existing method of archival does not provide a federated means to manage these assets that are either dispersed in individual silos or dumped carelessly in the store. All research and intellectual resources need care and attention to survive and as such there is an urgent need for the development of an infrastructure for the management and preservation of these invaluable intellectual properties.

This work develops a framework for a repository that would primarily serve staffs, students and the larger community. More importantly, this work will reduce the cost of deploying and managing large open-source repositories in institutions of developing countries where the cost of ICT infrastructures is still exorbitantly high. Users will have access to the repository via the internet using high speed personal or university network. Descriptive access to the collections is available through the cataloguing and metadata management subsystems and all access privileges are controlled by a user authentication and authorization system in order to ensure security, licensing and intellectual property rights management. The producer/creator/publisher community for the repositories, like traditional library include the repository management team and may include, with adequate verification processes, individual scholar, and departmental staffs. The design of the repository will further enhance sound academic performance, continuous preservation of intellectual assets, and more also improve students' proficiencies in the use of internet technologies.

2. Open Archive Information System Reference Model

The Open Archival Information Systems Reference Model provides insight into the necessary functions of a long-term digital repository. Consultative Committee for Space Data Systems developed the model starting from the early 1990's and became an ISO standard in 2002. Compliance with the Open Archival Information System (OAIS) reference model is a key attribute of trusted digital repositories according to the [12]report. Andreas and Max in their paper "White Paper on Digital Repositories" identified the model as a means to establish structure and common ground, which all relevant stakeholders can identify with. The OAIS reference model describes the activities in an archival system and identifies both internal and external interfaces to the archive functions and does not pre-empt any specific implementation or system design.

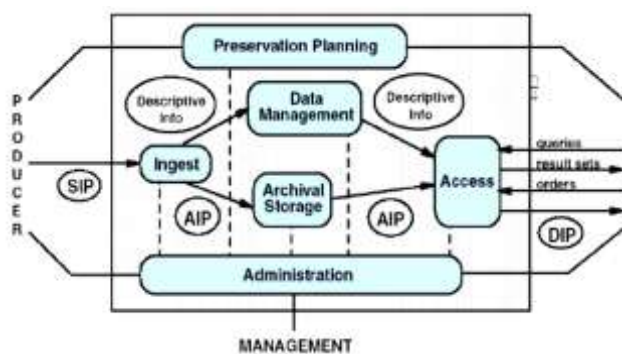
3. Metadata Schemes

Metadata is structured information that describes, explains, locates, or otherwise makes it easier to retrieve, use, or manage an information resource [10]. According to the ANSI [10] specification metadata could be descriptive, structural, or administrative. It can describe a collection, a single resource, or a component part of a larger resource. It can be embedded in a digital object or it

can be stored separately. Storing metadata with the object it describes ensures the metadata will not be lost, obviates problems of linking between data and metadata, and helps ensure that the metadata and object will be updated together. Also, storing metadata separately can simplify the management of the metadata itself and facilitate search and retrieval. Therefore, metadata is commonly stored in a database system and linked to the objects described. In addition to resource discovery, metadata can also help organize electronic resources, facilitate interoperability and legacy resource integration, provide digital identification, support archiving and preservation.

According to the [10], metadata schemes generally specify names of elements and their semantics. Many current metadata schemes use SGML (Standard Generalized Mark-up Language) or XML (Extensible Mark-up Language). Many different metadata schemes are being developed in a variety of user environments and disciplines. Some of the most common ones are discussed below.

Fig. 1.0 ISO OAIS Functional Model (CCSDS, 2002)



3.1. Dublin Core

The Dublin Core Metadata Element Set is a vocabulary of fifteen properties for use in resource description. The name "Dublin" is due to its origin at a 1995 invitational workshop in Dublin, Ohio; "core" because its elements are broad and generic, usable for describing a wide range of resources. The

[10] specification stated that the original objective of the Dublin Core was to define a set of elements that could be used by authors to describe their own Web resources [10]. The major elements as defined by the Dublin Core Metadata Initiative (DCMI) of the Dublin Core metadata set includes {contributor, coverage, creator, data, description, language, publisher, relation, rights, source, subject, title, type}.

3.2 Metadata Encoding and Transmission Standard (METS)

The Metadata Encoding and Transmission Standard (METS) was developed to fill the need for a standard data structure for describing complex digital library objects. METS is an XML Schema for creating XML document instances that express the structure of digital objects, the associated descriptive and administrative metadata, and the names and locations of the files that comprise the digital object. METS enhances ease of management of digital library objects within a repository and promote exchange between repositories [10]. The major sections defined within a METS schema are: METS header, file section, structural map, structural links, and behavior.

4. Existing Digital Repositories

There are many projects around the world today implementing the OAIS reference model. Some of these projects are in-house while some are commercially available, only a few established have been standardized as repository technologies most of which are open source.

4.1. Fedora

According to [14] FEDORA™ is an acronym for Flexible Extensible Digital Object Repository Architecture. Fedora is a general-purpose digital object repository system that can be used in whole or part to support a variety of use cases including digital asset management, institutional repositories, digital archives, content management systems, scholarly publishing enterprises, and digital libraries. Fedora is open-source software licensed under the Mozilla Public License. Developed

jointly by Cornell University (New York) and the University of Virginia, USA, it fully implements the OIAS reference model and uses the METS metadata scheme [14].

4.2. Dspace

DSpace™ is a joint project of MIT Libraries and the Hewlett-Packard Company. It intends to provide stable long-term storage needed to house the digital products of MIT faculty and researchers. The software is also available to other institutions as open-source. In general, it is a solution to archiving and maintaining access to the results of research projects and similar academic activity [9]. It is OAIS compliant and supports the METS metadata schemes. DSpace advertises itself as providing functions such as capturing and describe digital works using a custom workflow process, distributing an institution's digital works over the web, so users can search and, retrieving items in the collection and preserving digital works over the long term [9].

4.3. Greenstone

Greenstone has nearly a 10 year history of development at the University of Waikato in New Zealand, and at associated centres. It is unique among digital library projects in that it has always maintained a strong focus on the low-cost, low-technology end of information storage and distribution, as well as supporting large projects. Greenstone imports and exports using the METS standard. It is open source and supports the OAIS reference model (Richard Wright, 2007).

5. Overview of the Proposed System

The computer science digital repository (CSDR) is an attempt to address a problem that faculty members and students face. As faculty and other researchers develop research materials and scholarly publications in increasingly complex digital formats, there is a need to collect, preserve, index and distribute them: a time-consuming and expensive chore for individual faculty and their departments, labs, and centers to manage themselves. This system provides a way to manage these research materials, publications, other resources in a well maintained repository to give them greater visibility and accessibility over time. The system's information model, like most standardized repository is built around the idea of organizational "Communities"—natural sub-units of an institution that have distinctive information management needs. In this case "Communities" are defined to be the departmental staffs, students and community members.

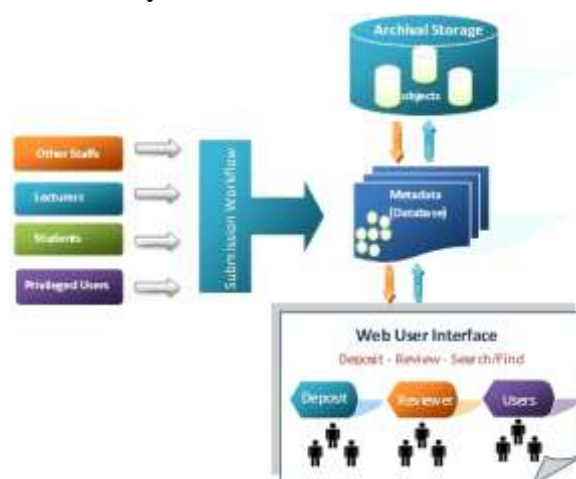


Fig. 2 System Information Model

6. System Architecture

The system architecture is a straightforward three-layer architecture, including storage, business, and application layers. The storage layer is implemented using the file system, as managed by the database tables. The business logic layer is where the system-specific functionality resides, including the workflow, content management, administration, and search and browse modules. Finally, the application layer covers the interfaces to the system: the Web UI, the layer at which users operate. The business logic layer is made up of the following components;

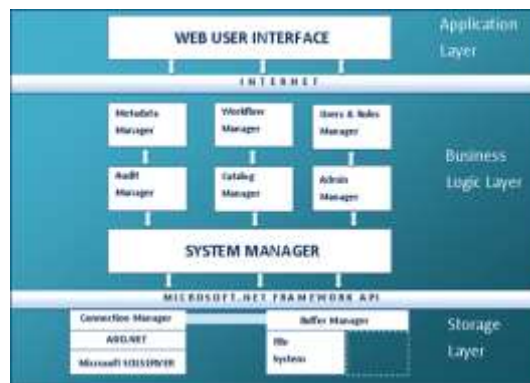


Fig. 3 System Architecture

- i. **Metadata Manager** – this system component manages the metadata repository
- ii. **Workflow Manager** – this component defines and enforces system policies on the proper channels or paths objects and users take in the system.
- iii. **Users and Roles Manager** – manages users, roles, and grant privileges
- iv. **Audit Manager** – the audit manager maintains system audits and logs
- v. **Catalog Manager** – facilitates search/retrieve processes and generates assets catalog/index
- vi. **Admin Manager** – manages system configuration settings
- vii. **System Manager** – services requests and allocates resources
- viii. **Connection Manager** – establishes connection to the database, send SQL queries, return results and disconnect from the database.
- ix. **Buffer Manager** – this component manages the file system, allocates and de-allocates disk storage spaces. It stores and retrieve object datastreams.

7. System Model

Let O_i be an object that can be deposited into the repository's vaults. An object traverse through the system from one level to another, it assume a state $s \in S$ where $S = \{new, reviewed, archived\}$. We represent the set of repository users as a superset defined as

$$U = \{users, depositors, reviewers, administrator\} \quad (1)$$

Such that any user U_k is $U_k \in U$. Let A be the finite set of metadata that uniquely describe objects where

$$A \subseteq \{Dublin\ Core\ metaset\}. \quad (2)$$

Let e be the byte stream content of an object and P be the set of very high level operations that can be performed by user U_k such that $P \in \{deposit, search, review, manage\}$

Definition 3.2:

An Object $o \in O$ is a tuple of its stream, a set of metadata elements and the current state s i.e. $O = \{e, \{A\}, s\}$ where metadata set A relates to the set of all or some of the Dublin Core metadata set and current state $s \in S$.

Definition 3.3:

Every object O is defined by a set of attributes (metadata) A that uniquely distinguish it from other objects. i.e $O_i \neq O_j$ s.t. $O_i\{A\}$ is sufficiently different from $O_j\{A\}$. The set of metadata defining object O_i is sufficiently distinct from that defining object O_j . The repository is essentially a 4-tuple structure defined as:

$$R = \sum(\{O\}, \{S\}, \{U\}, \{A\}) \quad (3)$$

Definition 3.4:

The digital content of a repository R is a collection of all objects O_i where $i = 1, 2, 3, 4, 5 \dots \dots n$ and n is limited by the memory of the target system. That is C is the collection of all objects i.e $\{O_1, O_2, O_3, \dots \dots O_n\}$

$$C = \bigcup_{i=1}^n O_i \text{ and } C \subset R.$$

Definition 3.5:

An operation $p: s \rightarrow s$ transfers system objects from a state to another (possibly new) state. Intuitively, it modifies the contents of an object, its metadata, and changes state of the object or that of the system.

8. Metadata

This system uses the Dublin Core metadata standard for describing items intellectually due to its simplicity. We further extend the Dublin metadata set by including additional fields for document abstracts, keywords, technical metadata and rights metadata, among others. This metadata is attached to every digital object in the CSDR, and is indexed for browsing and searching the system. However, for the sake of interoperability with other repository and libraries, we also implement the METS metadata scheme to enhance discoverability and sharing.

9. Process Model & Workflow

The system tackles the complex problem of how to accommodate the differing submission workflows by recognizing the entire process as a number of tasks and designating privileges to some user-defined users called **reviewers**. Who is allowed to deposit items? What type of items will they deposit? Who else needs to review, enhance, or approve the submission? Who can see the items once deposited? In digital repositories all of these issues are in the jurisdiction of the repository

management team as long as the repository provides support for them. The system models "e-people" who have "roles" in the workflow. Users are registered and then assigned to appropriate roles. The system allows the management team to be able to designate a small group of people as reviewers and metadata editors, depositors and all other users as end-users.

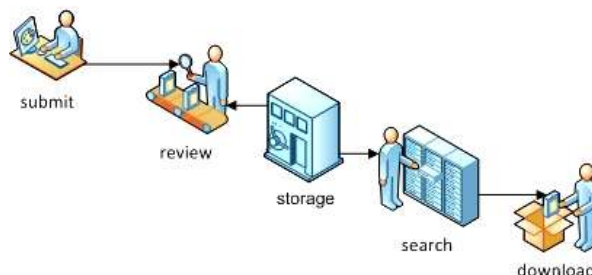


Fig. 4 Process Workflow

Each item deposited by a depositor goes through a process of cleanup, review, and approval before finally being deposited to storage as shown in Fig 3.3. Each person with a role to play in this process is notified of the new submission, and goes to a personal workspace in the system to perform their assigned task. Items that do not make it through the process are not archived in the system and are thus disposed of.

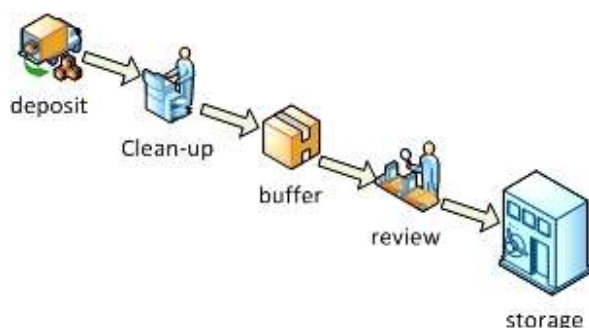


Fig. 5 Object Transition Workflow

10. User Interface

The user interface of this system is web-based and therefore supports the client/server model of the internet. There are several interfaces: one for submitters and others involved in the submission process, one for end-users looking for information, and one for system administrators. The end-user or public interface supports search and retrieval of items by browsing or searching the metadata. Once an item is located in the system, retrieval is accomplished by clicking a link that causes the archived material to be downloaded to the user's web browser. "Web-native" formats (those which will display directly in a web browser or with a plug-in) can be viewed immediately (e.g portable document formats and images); others must be saved to the user's local computer and viewed with a separate program that can interpret the file (e.g., a Microsoft Excel spreadsheet, an SAS dataset, or a CAD/CAM file).

Fig. 6 is a well-labeled schematic diagram showing the organization of the web user interface and the interconnection between web pages while *figure *.* is a Use Case diagram of the application*

(Computer Science Digital Repository) showing the various use cases with respect to tasks and users(system actors). Also some snapshots of the actual applications are listed in the appendix.

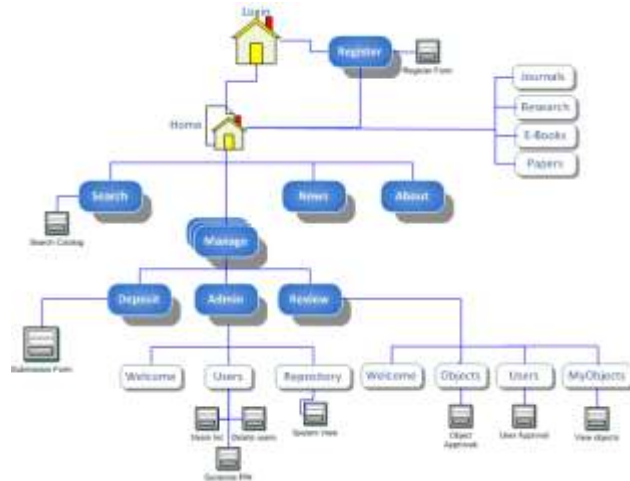


Fig. 6 Application Organization

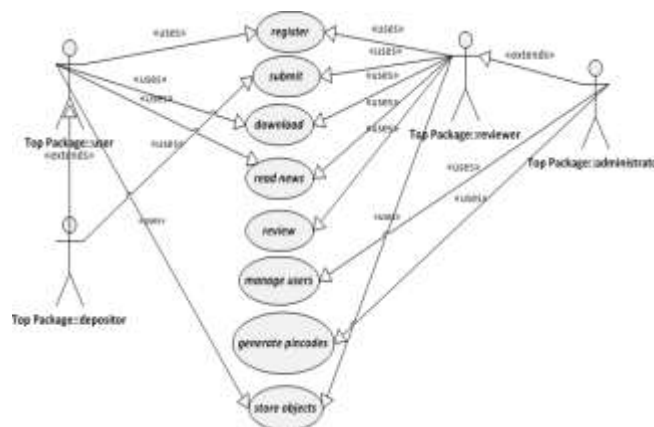


Fig. 7 Use case diagram

11. Challenges of Building Digital Repositories

Building and sustaining a digital repository requires the proper technological infrastructure. Power, telecommunication and Internet infrastructures are major fabrics in the deployment of digital repositories. The Nigerian Communications Commission's regulatory efforts have led to increased competition and availability of a wide range of voice, data, and Internet applications and services; proliferation of Internet connectivity in all parts of the country. However, [5] identified the lack of a national fiber network backbone infrastructure as a major issue in the successful implementation of digital repositories and other related infrastructure in Nigeria; forcing education institutions and Internet service providers to deploy connectivity and bandwidth via expensive technology like the VSATs.

[5] also decried the erratic nature of electric power supply in Nigeria as another major problem that needs to be addressed for the successful implementation of not only digital repositories in the country, but all other ICT infrastructures. This has significantly inflated the cost of Internet access; and also reduces the rate of internet penetration in both urban and rural communities. Since web server needs to be up and running 24/7 without interruption, providing a reliable electric power supply has to be part of the planning and deployment of a such infrastructure.

Developing digital repositories requires a considerable amount of skilled staff with varying skill levels in library information management, software/web development, and network management. Unfortunately, Nigeria has an acute shortage of digital/systems librarians, catalogers to manage archival processed and to ensure that policies and standards are adhered to and experienced web software engineers to design and maintain repository software, and network engineers to install and manage the networks.

12. Conclusion

The enormous potentials of digital repositories have been identified with emphasis on their use in the academic environment to manage and preserve scholarly intellectual resources and assets for long-term access and use. The major attributes of digital repositories as defined by the Open Access Information System (OAIS) reference have been identified to ensure conformity to standards defined by the reference model. Features of the two popular metadata schemes for describing repository resources have also been described as a veritable means to support interoperability between repositories.

Common challenges in the development and deployment of digital repositories in Nigeria include but not limited to; poor funding, erratic power supply, cost of infrastructure, rural-urban divide in internet access, issues with digital right management and insufficient human resources.

Finally, to demonstrate how digital repositories can help Nigerian institutions develop coherent and coordinated approaches to the capture, storage and retrieval of their intellectual assets, a web-based digital repository for the Computer Science department, FUTA was developed. This will greatly help the department and all other implementers of digital repository to deliver their academic responsibilities with ease and efficacy.

Increased development in the area of interoperability between digital repositories will be spurred by increase use of web services, grid/cloud technology and distributed middleware. Interoperability varies in how closely different repositories are linked together. With grid technology a group of repositories may be federated into a single repository space, repository grid or repository cloud from which users can endlessly pool resources. Paradigm shift towards cloud and ubiquitous computing will further reduce cost of ownership, enhance open access and provide unmatched performance. Also, developments in digital right management to protect intellectual rights (and to serve as a means for recognizing the work of contributors) will lead to better, trusted and secure repositories.

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Fiscal Federalism in Developed, Ldcs, and Transition Countries: Lessons for Nigeria

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Abstract

Decentralisation of fiscal activities has become popular in recent years. This approach to intergovernmental finance can improve the allocation of public spending by making it more consistent with the wishes of citizens, and it can provide political glue for countries with regional ethnic diversity. This paper examines such issues as principles of fiscal relation in a federation, tax sharing arrangements, expenditure assignment principles, the performance of national and subnational bureaucracies, and the quality of public expenditure management systems in order to identify conditions and institutions that can significantly reduce the benefits of decentralisation in Nigeria, and other African countries. The paper adopted both descriptive and analytical methods by relying on secondary sources for data gathering. The lessons offered are relevant and useful for Nigeria and other African countries to benchmark upon so that they can enjoy the benefits of decentralisation through the creation of strong fiscal systems and institutions which are the main features of successful federations like Canada, Australia, Germany, and the United States.

Keywords: Decentralisation, Hegemony, Centralism, Federation.

1.0 Introduction

Fiscal decentralization has become an important subject in the policy equation of many developing and developed countries. Fiscal decentralisation exists when subnational governments have the power, given to them by the constitution or particular laws, to raise (some) taxes and carry out spending activities within clearly established legal criteria. Examples of fiscal decentralisation include the fiscal federations in Argentina, Australia, Brazil, Canada, India, Germany, Nigeria, Switzerland, and the United States (Tanzi, 1995).

Nations are turning to devolution to improve the performance of their public sectors. The hope is that state and local governments, being closer to the people, will be more responsive to the particular preferences of their constituencies and will be able to find new and better ways to provide these services (Oates, 1999; Sharma, 2005; Ewetan, 2011).

Many countries, especially in the industrialized world, can be considered to be federations in the practical sense that significant fiscal functions (revenue generation and incurring of expenditure) are undertaken by lower levels of government or subnational units of government. Such federal economies have developed elaborate forms of fiscal arrangements between the central and other levels of government which jointly determine the way in which tax bases are allocated and shared among the various levels of government as well as how funds are to be transferred from one level to another (Anyanwu, 1999).

In the developing world there is widespread interest in fiscal decentralisation with the objective of breaking up the grip of central planning that, in the view of many, has failed to bring these nations onto a part of self-sustaining growth (Oates, 1999).

There has been a growing movement towards greater fiscal decentralisation in recent years even in non-federal states. This has been attributed to globalization and deepening democratization the world over on the one hand, and increasing incomes on the other (Tanzi, 1996). Other specific reasons for the increasing demand for decentralisation are:

- Central governments increasingly are finding that it is impossible for them to meet all of the competing needs of their various constituencies, and are attempting to build local capacities by delegating responsibilities downward to their regional governments.
- Central governments are looking to local and regional governments to assist them with national economic development strategies.
- Regional and local leaders are demanding more autonomy and want the taxation powers that go along with their expenditure responsibility (Ozo-Eson, 2005; Ewetan, 2011).

Nigeria is a plural country that can be aptly classified as a federal state. The establishment of the Nigerian federal structure dated back to the 1946 adoption of Richard's constitution which granted internal autonomy to the then existing regions of Nigeria (Nwosu, 1980; Arowolo, 2011; Ewetan, 2011).

In Nigeria the dismal performance of the public sector since the first half of the 1980s has brought to the front burner the issue of fiscal federalism which has remained dominant and most contentious in Nigeria's polity. In the last three decades Nigerians

have contended with not only vanishing real incomes but also unbearable levels of unemployment and inflation, decay in social amenities and failure to maintain, not to talk of improving, the nation's infrastructures. This dismal performance of the public sector has prevented the creation of opportunities for a resilient and sustainable growth and development of the Nigerian economy, which should be the object of rational and functional fiscal federalism (Arowolo, 2011; Ewetan, 2011).

Long years of military rule and the centralized nature of the military hierarchical structure created the financial hegemony enjoyed by the federal government over the thirty states (36) states and seven hundred and seventy four (774) local governments. This has created disaffection in the Nigerian federation. Thus the worry over the development of a national and functional fiscal federalism for Nigeria is well founded (Ewetan, 2011).

The aim of this paper is to review a few of the issues of fiscal federalism, intergovernmental fiscal relations, and fiscal decentralisation that have emerged throughout the world in recent years and draw useful lessons that can improve intergovernmental fiscal relations in Nigeria and other African countries.

2.0 The Objectives and General Principles of Fiscal Relations in a Federation

2.1 The objectives of fiscal relations in a federation

In a federation an ideal system of fiscal relations among units would;

- ensure correspondence between subnational expenditure responsibilities and their financial resources (including transfers from the central government) so that functions assigned to subnational governments can be effectively carried out;
- increase the autonomy of subnational governments by incorporating incentives for them to mobilize revenues of their own;
- ensure that macroeconomic management policies of the central government are not undermined or compromised;
- give expenditure discretion to subnational governments in appropriate areas in order to increase the efficiency of public spending and improve the accountability of subnational officials to their constituent in the provision of subnational services;
- incorporate intergovernmental transfers that are administratively simple, transparent, and based on objective, stable, non-negotiated criteria;
- minimize administrative costs and, thereby, economize on scarce administrative resource;
- provide 'equalization' payments to offset differences in fiscal capacity among states and among local governments so as to ensure that poorer subnational governments can offer sufficient amount of key public services;
- incorporate mechanisms to support public infrastructure development and its appropriate financing;

- support the emergence of a governmental role that is consistent with market-oriented reform; and
- be consistent with nationally agreed income distribution goals (Sewell and Wallich, 1994; Litvack and Wallich, 1993, Anyanwu, 1999).

Different countries attach different priorities to each of these objectives, and the priorities may change over time. Apparently, all these objectives cannot be achieved simultaneously, therefore, choices need to be made (Anyanwu, 1999).

2.2 Principles of revenue (tax) assignment

The case for decentralizing taxing (revenue) powers is not as compelling as that of decentralizing public service delivery. Lower level taxes can introduce inefficiencies in the allocation of resources across the federation and cause inequities among persons of different jurisdiction. Similarly, collection and compliance costs can increase significantly. These problems seem to be more severe for some taxes than for others, so the selection of which taxes to decentralize must be done with care. According to Anyanwu (1999) the economic principles that come into play include efficiency of the internal common market, national equity, fiscal need and administrative costs.

- **Efficiency of the Internal Market:** For efficiency of the internal market, taxes on mobile factors/resources (labour, capital, goods and services) are best left at the center. Decentralizing such taxes will interfere with the efficiency of the economic union.
- **National Equity:** Taxes which have redistributive consequences are best retained at the centre because, as with efficiency case, uncoordinated state tax policies may unwittingly induce arbitrary differences in redistributive consequences for residents of different states.
- **Fiscal Need:** In order to ensure accountability, revenue means should be matched as closely as possible to revenue needs. Therefore, tax assignment intended to further specify policy objectives should be assigned to the level of government having the responsibility for such a service. Thus progressive redistributive taxes, stabilization instruments and resource rent taxes would be suitable for assignment to the central government, while tolls on the interlocal roads would be suitable for state governments.
- **Administrative Costs:** Tax collection involves both collection and compliance costs. Thus, for some taxes, such as those whose base is mobile or where the tax base straddles more than one jurisdiction, administration and collection are better handled at the centre. If such taxes are decentralized, both collection and compliance costs will increase along with evasion and avoidance costs. On the basis of the foregoing principles, Table 1 appendix A summarizes the main arguments for the assignment of the various taxes to the three main levels of government- federal, state, and local.

2.3 Principles of Expenditure assignment

The respective roles of the central and subnational governments need to be clearly defined. In the public finance literature there is a degree of consensus on acceptable criteria to give the assignment of expenditure responsibilities across the various levels of

government. These include geographical dimensions of benefits, stabilization and equity and economies of scale and spillovers.

- **Geographic Dimension of Benefit:** Traditional public finance theory suggests that an “efficient” expenditure assignment between levels of government is based on the geographic dimension of benefits. This implies that each locality or jurisdiction should provide and fund services whose benefits accrue within its boundaries, and to the extent possible, spending responsibilities should be given to the lowest level of government in a manner that is consistent with the efficient performance of that service. Thus, local governments will provide services to benefit local residents while the central government will be responsible for functions with national benefits.
- **Stabilization and Equity:** Central government is typically assigned with responsibilities for stabilization policy. Also, responsibility for income redistribution for equity, including the social safety net, should be assigned to the central government since labour and capital mobility often interfere with serious attempts by subnational governments to affect income distribution.
- **Economies of Scale Spillovers/Externalities:** Where there are important economies of scale, it may make sense to centralize the provision of such services. Further more a case is often made for central government involvement in sectors such as education and health on the grounds of “spillover effects” or “externalities”. Expenditure in these sectors is important for national economic development, national welfare and income distribution, and if left to subnational governments alone, they may not provide enough of these services because only some of the benefits will accrue to their local residents. The practice is that the federal government delegates responsibility for functions with such external benefits to subnational governments but also provides transfers to increase their supply (Anyanwu, 1999).

3.0 Fiscal Federalism in Developed, LDCs and Transition Countries

3.1 Fiscal Federalism in Developed Countries

While the theoretical justification for fiscal federalism is sound, its practicability differs in federal systems, based on historical antecedents and culture. This section provides a selective review of policy issues and recent trends in a number of different countries and regions.

Problems of fiscal centralization and decentralization by their nature tend to have important institutional and economic dimensions that vary from one country or region to another. Shifting the locus of fiscal responsibility among levels of government may occur relatively incrementally, as in stable federation like the US, or they may occur with dramatic speed, as in the disintegration of the Soviet Union or the unification of Germany (Ewetan, 2011; Tanzi 1995).

3.1.1 Australia

The practice in Australia is to concentrate financial resources at the centre and then redistribute them to states in order to minimize disparities in the provision of goods and services. The power to levy customs and excise duties is exclusively reserved for the

central government which also has monopoly over income tax. Two bodies administer and regulate intergovernmental fiscal relations, namely, the Loan Council (LC) and the Commonwealth Grants Commission (CGC). The Loan Council, on the other hand, is the body that authorizes both internal and external borrowing by the government. This body is dominated by the central government which has two votes as casting votes against one vote each for the seven states in the federation. The Commonwealth Grant Commission, on the other hand, has sole responsibility to manage intergovernmental fiscal relations in Australia. It investigates and applies for special grants for the states whenever the need arises. It also reviews the relative share of income tax revenue to states to ensure equitable distribution so that tax revenue sharing arrangements could take into account the differences in the amounts required to be spent by each state in providing comparable public goods and services (www.cgc.gov.au).

There is a constitutional provision that requires the central parliament to grant financial assistance to any state on such terms and conditions as the parliament thinks fit. Grants are made by the central government to the state and local authorities as a matter of policy. However, grants made to local authorities are paid to the states and the states are required to distribute the grants to the local authorities in a prescribed manner. Two types of grants are normally made, namely, unconditional grants in the form of tax reimbursement, and conditional grants which are financial assistance made upon conditions set by the central government. The conditional grants are usually used to implement nationwide policies in education, urban development, community health and urban transportation. The objective of this policy is to achieve a measure of reform and uniformity throughout the states and local governments.

A fixed revenue-sharing formula was fashioned out in the late 1970s in respect of revenue by the commonwealth Grants Commission. This formula allows the central government to take 64.78 per cent of the personal income tax receipts, while the state and local authorities are given 33.6 and 1.52 per cent, respectively. This relatively high concentration of finances at the centre requires considerable level of coordination and cooperation between the central and lower levels of government in the implementation of stabilization policies. Although the central government has financial power to exert considerable influence on the lower levels of government, voluntary cooperation has been achieved through sub national involvement in national policies (CGC, 2001 cited at www.cgc.gov.au).

3.1.2 Germany

The German federal system is known as an administrative fiscal federalism, and, again is highly centralized, although in 1949, primary functions were given to the states (landers). Over the years, the federal government has encroached on these functions through the establishment of the concurrent legislative list. Therefore, the powers of the landers have diminished to ordinary implementation of federal government programmes. The financial arrangement is highly centralized in terms of legislation, administration and right to collect revenue. All important revenue sources are centrally collected and shared among the levels of government (Spahn and Föttinger, 1997).

The Constitution defines revenue sharing (vertical and horizontal) and allows for negotiated changes. The distribution of income taxes (personal and corporation) is based on derivation principle. The distribution of VAT is based on population and equalization payments to the poor landers. Furthermore, several grants are made to the sub national

governments for co-financing of specific programmes. The grants are largely influenced by the principle of uniformity-of-living conditions among the citizens.

The government is prohibited from borrowing from the Central bank and whatever borrowing it makes is restricted to the amount for capital budget. The stringent borrowing criteria laid down by the federal government appears to restrict national debt. Likewise, the restrictions transcend other levels of government thereby providing a good platform for monitoring macroeconomic targets (Watts and Hobson 2009, Vincent 2001).

3.1.3 The United States of America

The major feature of the federal system in the United States is the major role played by subnational governments in shaping the political life of the country. The U.S. federal constitution “confers on the state governments reserved or residual powers, that is, powers not delegated to the federal government nor denied to the states”. Local governments holds no constitutionally guaranteed sovereign powers on their own but are subunits and administrative agencies of the states and may perform only such functions and levy such taxes as are specifically delegated to them. This constitutional arrangement, more or less, determines the intergovernmental fiscal relations among the tiers of government in the country. In practice, the U.S. combines aspects of the financial concentration of Australia with Canada’s ad hoc arrangements. While the federal government enjoys some latitude or power, as a lender of funds to state and local governments, the powers of the lower levels of government are highly restricted (Musgrave and Musgrave 1989).

Financial resources are transferred from the federal government to the lower levels of government in three ways, that is, through loans, grants-in-aid, and revenue sharing. Revenue sharing in particular is used to implement certain policies usually aimed at promoting equality among the states or jurisdictions, providing incentives for the recipient government to behave in certain ways, and making recipients adhere strictly to any conditions attached to the use of funds. Funds are first allocated among states and then within each state, using population, relative income, tax effort, urbanized population, and personal income tax collections as indices for the revenue sharing. Within the states, two-thirds of the general revenue sharing funds are passed on to the local governments and whatever remains is retained by the state governments. The indices used in allocating funds to local governments in each state are population, per capita income and tax effort. Also, it is a condition that no municipal or local government may receive more than 145 per cent or less than 20 per cent of the average state per capita entitlement, and none may receive more than 50 per cent of the sum of its taxes and intergovernmental transfers. The relationship between the state and the local government varies from state to state. Some states play a dominant role in expenditure and revenue control while others play a lesser role. The state and the local governments are largely responsible for the provision of public education, health, fire services, transportation, public works and public welfare. The responsibilities of the federal government are mainly national defence and public welfare (social security). States and local governments are required to adhere strictly to all condition stipulated for the use of revenue sharing funds. The conditions are that:

- local governments cannot use the funds for education, cash payments to welfare recipients, or for general administration;
- they cannot use the funds as matching share for a federal grant (that is counterpart fund);

- states cannot reduce net aid to local governments below a given level as may be set by the federal government;
- the recipient government of revenue sharing fund should not discriminate in employment or in the provision of services financed by the fund so received; and
- revenue sharing funds must be used within twenty-four months of collection.

The federal government may assist the lower levels of government financially through what is termed “tax expenditure”. This is done by encouraging the people to buy debt instruments issued by the lower levels of government or by making taxpayers (or debt instrument holders) forgo the interest earned on such instruments from their personal income tax base. Also, the federal tax system allows individuals to deduct certain state and local taxes from taxable income while computing their income tax liabilities. These include income, sales, property, and gasoline taxes.

Consequent upon the fiscal relationship detailed above, tax administration is also decentralized. Both federal and state governments derive their taxing powers from the Constitution. Tax sharing and surcharges are not features of the federal system. The local governments derive their taxing powers from state laws. Taxes assigned to the federal government are individual income tax, corporation/income tax, sales, gross receipts and custom duties and other charges. Similarly, states and local councils are generally assigned sales tax, gross receipts, corporation tax, charges and fees, and utilities and liquor licences.

Laws, which vary from one state to another, restrict state and local governments. Macroeconomic management rests largely on the federal government’s use of its budget to effect changes. Restrictions are, however, imposed on states and local governments not to run a deficit on a current budget. Their deficits are largely financed by draw downs on reserves except for few long-term borrowings to finance large capital projects that are self-financing.

Shifts in the balance of fiscal authority between the Federal, state, and local governments tend to mirror basic changes in domestic policy. The division of fiscal responsibilities between state and local governments has also been the subject of continuing reassessment in the US. The provision of primary and secondary education has been a principal function of local governments in the US throughout the last century, and the persistence of significant variations in levels of provision among localities testifies to substantial differences in demand for education within the population. The American intergovernmental fiscal arrangement is not static, but designed to accommodate changes in social and economic circumstances. For instance, state governments in recent years are required to take up additional responsibility especially in public education funding and social welfare payments. In return, they are granted more tax power as well as financial grants to carry out the added responsibilities, thus shifting budgetary pressures from federal to lower levels of government (Musgrave and Musgrave 1989).

3.1.4 Canada

The Canadian federal system represents a highly decentralized model of fiscal federalism. The current relationship between the central, the provincial and the municipal council governments dates back to the British North American Act of 1867. The objective of intergovernmental fiscal relations in Canada, especially since the 1960s, has been in the direction of reducing financial concentration at the centre (Moore, Harvey and

Beach 1985). Equalization of fiscal status has been a longstanding goal of Canada's fiscal system

Public sector financing is highly decentralized and this has facilitated the attainment of some degree of autonomy of the provinces. The major tax revenue sources are the personal income tax, the corporate income tax and the value-added tax (introduced in 1991 to replace manufacturers' sales tax) for the federal government, retail sales tax and resources tax at the provincial level, and property tax at the municipal level. Important features of tax assignments include the system of tax sharing and tax surcharges between the federal government and some provinces. The personal and corporate income taxes are collected by the national government but remitted in part to the provinces as agreed. Each province can set its own rate above or below the national rate while the province of Quebec collects its own personal income tax. Also, the federal government collects corporate income taxes, but the provinces set their own rates based on previous agreement.

The federal government has little access to natural resources taxes as the provinces collect them. The resources tax revenue has accounted largely for the differences in revenue per capita of the provinces and is the major problem of interprovincial relationship. Overall, the amount of money transferred from the federal government to the provincial governments is small, although increasing attention is paid to financial redistribution among the provinces. There is no permanent institution to manage intergovernmental fiscal relations in Canada as is the case in Australia. This task is done through ad hoc decisions reached at administrative conferences (France St-Hilaire, 2007).

Although a high degree of decentralization is evident in Canada, this may conflict with distributional objectives, given the size and large income disparities among the provinces. Intergovernmental grants equalize the ability to pay for public services and correct imbalances.

3.2 Fiscal Federalism in LDCs and Transition Economies

While much of the controversy in the US over the proper roles of different levels of government has revolved around issues of equity and allocative efficiency, recent trends toward fiscal decentralization in many third-world and transition economies have focused new attention on macroeconomic stability.

Nevertheless, new concern has arisen about the macroeconomic effects of fiscal decentralization, not because of new views about the effects of local or provincial government fiscal policy on the business cycle but rather because of worries that fiscal decentralization may contribute to structural deficits and fiscal imbalance (Bird et al, 2005; Prud'homme, 1995; Tanzi 1996).

A discussion of some important LDCs and transition economies will illustrate how fiscal federalism issues have become entangled in problems of overall macroeconomic performance and policy management.

3.2.1 India

India has an established federal system and highly elaborate programmes of intergovernmental revenue sharing and fiscal transfers. Both the Planning Commission and the Finance Commission provide extensive grants to state governments in order to

promote development and fiscal equalization. The system has come under criticism for creating perverse and conflicting incentives for state governments and for failing to promote equity objectives (Rao and Agarwal, 2004; Murty and Nayak, 2006). State government borrowing from the central government has created serious fiscal stress for a number of states (World Bank 2009). In part, this seems to be the consequence of increases in the interest rates at which state government are allowed to borrow from the central government. Like any reduction in central government transfers to states, this has the immediate effect of reducing the central government deficit while raising deficit at the state level. As a result state governments are compelled to strengthen their revenues and cut expenditures. One consequence has been a push toward privatization of public enterprise in the electricity, water, and transportation sectors, a move which typically allows these enterprises to restructure employment and other aspects of their operations more freely than could occur in the public sector and which allows them to raise capital more easily from market sources.

The states of India, however, continue to face many demands for public expenditures for economic development and poverty reduction. The attempt to meet these demands was a principal motivation for the establishment of the system of grants and loans to the states in the first place. While many states have strengthened their own-source revenues, substantial disparities among the states still persist. Some states face fiscal crises as they attempt to undertake expenditures in excess of their revenues, which have prompted fiscal and regulatory interventions by the central government. Other states, in cutting expenditures, for example, for basic health and education, may also produce significant political pressures for assistance from the center. In such circumstances, the question arises as to how intergovernmental transfers and borrowing arrangements can be structured so as to provide states with adequate fiscal resources without weakening their incentives for fiscal discipline? A sufficiently high level of transfers from the center to the states would obviate any need for state borrowing, but this might just shift fiscal imbalances back to the center. The resolution of these and related issues are likely to occupy a prominent place in discussions of overall macroeconomic performance, management, development, and income distribution in India for some time to come.

3.2.2 Argentina

Macroeconomic considerations have also figured prominently in discussions of fiscal federalism in several countries in Latin America. A number of Latin American countries have undergone significant changes in the structure of intergovernmental fiscal relations and in the comparative roles of different levels of government. Broadly speaking, one might characterize the region as a whole as moving toward increased reliance on lower-level governments to manage public expenditure; in some cases, this shift has been accompanied by increases in local government revenue capacity, but in other cases the increased spending by lower-level governments has been financed mainly by transfers (either through grants or through shared taxes) from higher-level governments (World Bank, 2009).

In the case of Argentina, problems of fiscal federalism are closely intertwined with the country's problems of macroeconomic and monetary stability. Throughout the 1980s the central government resorted to deficit financing of public expenditures, and the central bank, in monetizing these deficits, increased inflationary pressures to

extraordinary levels. Resolution of the fiscal crisis of the central government and the establishment of effective controls on monetary growth have thus been critical issues for recent economic policy in Argentina, and indeed the country has made substantial progress on these problems (World Bank 2006). In this environment of macroeconomic instability, there has been a significant shift of revenue and expenditures to the provincial and local governments. This shift resulted in part from reforms in the late 1980s that mandated that large fractions (over 50%) of the revenues from major central government taxes be passed along to the provinces, while discretionary grants from the center to the provinces were reduced (World Bank 2006).

Improved management of Argentina's fiscal and monetary crises has thus coincided with substantial fiscal decentralization. There is concern, however, that transfers to provincial governments have grown too quickly and that there is insufficient reliance on own-source financing to encourage accountable and responsible spending at the provincial level (World Bank 2006). In addition, provincial government deficits have been financed in part by provincial banks, many of which have gone bankrupt. The central bank's policy of managing these banks and absorbing their losses provided governments with a circuitous mechanism of inflationary finance, weakening incentives for fiscal discipline at the provincial level. Recent reforms of the financial sector and of central bank policymaking are designed in part to avoid these pitfalls. Argentina presents an interesting example of a country where financial sector and monetary reform, central government fiscal adjustment, and the restructuring of intergovernmental fiscal relations have been closely interrelated.

3.2.3 Brazil

Brazil is another country where problems of deficit finance by subnational governments have come to the fore recently. Brazil is a federation in which both state and local governments have traditionally played an important fiscal role. Substantial fiscal responsibilities are assigned to state and local governments by a 1988 constitution, which also provides for fiscal transfers from the center to the state and local governments (Prud'homme, 1994a). A significant fiscal role for lower-level governments antedates the new constitution, however, state and local government own-revenue have typically accounted for 40-50% of total government revenue since the late 1950s (Shah 2007), and a substantial share of central government revenue has been transferred to lower-level governments through grant and revenue-sharing programmes throughout this period. Interestingly, state governments in Brazil have utilized a value-added tax as a major source of own-revenue.

The recent evolution of fiscal federalism in Brazil cannot be properly assessed, however, without taking into account the relationship between lower-level governments, public enterprise, and the banking sector. Like Argentina, Brazil has experienced extraordinarily high rates of inflation in recent past. During this highly inflationary period, state governments have engaged in deficit financing while relying on the state-owned banks to purchase state debt. The Brazilian situation seems to exemplify a breakdown of fiscal incentives and constraints in the structure of intergovernmental fiscal relations, arising at least in part from the close connections between lower-level governments and key financial institutions and from the mismanagement of monetary and fiscal policy at the central government level that has contributed to a highly inflationary environment. The de facto structure of intergovernmental fiscal relations includes the use

of state banks, and their relationship to the central bank through the financial regulatory system, to shift implicit liabilities for state deficits to the central bank, a structure that distributes resources and alters incentives in ways very different from the de jure structure embodied in established programmes of intergovernmental grants and revenue sharing.

3.2.4 China

China presents a fascinating case where overall economic reform, macroeconomic and monetary policy, and problems of interregional imbalance interact with intergovernmental fiscal relations. One fundamental aspect of Chinese reform has of course been the reduction of the role of state planning and control in the operation of the economy. The fiscal arrangements that evolved during the Mao period proved to be poorly adapted to a more market-oriented economic system. A series of reforms involving changes in tax bases, tax administration, and the division of revenues between lower and higher level governments has occurred in the past decade (Bahl and Wallich, 2008; Agarwala, 2004).

Regional inequalities, uneven regional development, and internal population movements all create demands for regionally-differentiated public service provision and redistributive transfers. The central government has relied in substantial part on lower-level governments to collect taxes and to transfer resources to it while at the same time it attempts to distribute funds to lower-level governments to promote central government investment and other programmes. The weak revenue base of the center has created on the People's bank of China (PBC) to offer credit to lower level governments which can be used to finance expenditures in areas deemed important to the central government. Establishing a structure of tax sharing and intergovernmental fiscal transfers between different levels of government is thus a complex problem but one that appears to be quite important for macroeconomic stability in China's fiscal re-engineering and restructuring (Laffont, 2005).

4.0 An Overview of Fiscal Federalism Practice in Nigeria

The issue of fiscal federalism is a unique one in Nigeria. This is because it is characterized by constant struggle, clamour for change, and very recently, violence in the form of agitation for resource control in the Niger-Delta region. It is fiscal centralism instead of fiscal federalism. Calls and agitations by lower tiers of government for a more decentralized fiscal arrangement have continued to fall on deaf ears (Ewetan, 2011).

This issue has over the years engaged the attention of various commissions and committees. They include, Phillipson Commission (1946), Hicks-Phillipson Commission (1951), Chicks Commission (1953), Raisman Commission (1957), Binns Commission (1964), Dina Commission (1969), Aboyade Commission (1977), Okigbo Committee (1980), and Danjuma Commission (1988). Other laws and decrees on revenue allocation include, Decree 15 of 1967, decree 13 of 1970, decree 9 of 1971, Decree 6 of 1975, and Decree 7 of 1975 (Oyeneye, et al, 1988; Arowolo, 2011, Ewetan, 2011).

One major characteristic of Nigerian fiscal federalism has been the monolithic source of its revenue at every point in time. After the pre-independence era of massive dependence on agricultural produce, export duties and marketing board surplus funds, there emerged even a worse oil revenue dependence syndrome which destroyed other sectors. This high dependency ratio is inimical to the stability of the economy for a

number of reasons. First, the oil sector is a small sector in the Nigerian economy in terms of employment generation, sustaining less than 5% of total employment in Nigeria at present. Again, the sector has very low linkage with the domestic economy because its output is mostly exported as crude oil, and the country still depends on fuel importation a symptom of the low linkage with the domestic economy.

Second, since only a small margin of the crude oil is reserved for domestic use the economy is exposed to the shocks from the international oil market which cause volatility and macroeconomic instability. This has been demonstrated by several market shocks and policy changes following oil price falls.

The nature of intergovernmental fiscal relations in nations practicing federalism as a system of government is essential to the survival of that system. In federal states of the world, the issue of revenue sharing is always contentious in nature. According to Olalokun (1979): 'in most if not all federal countries, one of the most constant sources of intergovernmental conflicts centre on the problem of securing adequate financial resources on the part of the lower levels of government to discharge essential political and constitutional responsibilities.

From inception revenue sharing among the component units of Nigerian federation has been replete with agitations, controversies and outright rejections due to the nature of the politics that is involved in it. The process of revenue sharing is inundated with conflicting criteria that were, often times, rejected by majority of the states in Nigeria. Such contentions led to the setting up of many committees to address the grievances.

The high scale of fiscal dependence of states on the federal government is traceable to fiscal laws in Nigeria which give more tax power to the federal government than the two tiers of government. The fiscal relations as practiced in Nigeria gives weak incentives to state governments to exploit internal sources of revenue, thereby resulting in unhealthy dependence on the federal government. This allocation sharing arrangement in Nigeria inhibits initiatives, innovation and proactive ideas of generating resources, especially money, for sustainable development.

Over dependence on oil revenue has impacted negatively and posed serious challenges to the true practice of fiscal federalism in Nigeria. Also the dependence of states and local governments on the federal government for their economic development and survival has been, and will continue to fuel wrangling and controversy surrounding the issue of revenue allocation in Nigerian fiscal federalism.

Another serious challenge to Nigeria's fiscal federalism is the centralizing and hegemonic tendencies of the Federal Government. The sudden transformation from an agrarian economy to oil-driven economy accentuated centralism and hegemonic control of the central government over the states in Nigeria. The hegemonic power of the central government was consolidated by the various military regimes through series of military fiats and decrees. For instance decrees such as Petroleum Tax Decree 13 of 1970, the 1975 Amendment Decree, and Decree 13 of 1979 further undermined the principle of derivation and arrogated resource control power over mining rents, royalties from on-shore and off-shore exploration to the Federal Government (Arowolo, 2011; Sagay, 2008).

A disturbing dimension of fiscal federalism in Nigeria is the agitation for resource control by the south south states that has taken criminal dimension such as militancy,

kidnapping, and vandalism. The agitation for resource control has also pitched the south south governors against the northern governors which as further heated the polity.

In the present fiscal arrangement the Nigerian leviathan federal government, in most cases, unilaterally spends or decides the modes and methods of spending. A case in point is the excess crude account which some states are challenging as unconstitutional. 'The states are also demanding direct payment of excess crude earnings into the Federation account and a refund of about 546.37 billion naira' (Yusuf, 2008).

All these are symptoms of the faulty fiscal relation between the federal government and the subnational governments in Nigeria. This no doubt is inimical to the peace and stability of the Nigerian state, and a strong threat to the current democratic arrangement.

4.0 Lessons for Nigeria

The issue of fiscal federalism began to attract more attention in the 1980s, and by 1990s the issue had assumed a global dimension with some transition economies like China embracing decentralization. Several countries established national commissions to study decentralisation or the possibility of creating some form of fiscal federalism. Others made decentralisation or fiscal federalism the centerpiece of their political campaigns (Tanzi, 1995).

The recent trend to decentralize is attributable to a number of factors. The main economic justification for decentralisation rests largely on allocative or efficiency grounds. There can also be a political argument for decentralisation if a country's population is not homogenous and if ethnic, racial, cultural, linguistic, or other relevant characteristics are regionally distributed (as they are in Russia, Ethiopia, and Nigeria). Decentralisation may be needed to induce various regions to remain part of a federation. According to this argument, decentralisation would be more desirable in, say, Russia, Nigeria than in Japan. In democratic societies the economic and political arguments for decentralisation tend to converge, since it is argued that decentralisation strengthens democracy (Tanzi, 1995). Thus the fiscal federalism debate forced many developing countries including Nigeria to look at the fiscal institutions of countries with strong subnational governments, and at the literature to see what could be learned that could be relevant to their countries' challenges (CEPR 1993).

Another factor was the growing disenchantment with the role of the public sector. The explosive growth of the public sector in many industrial countries during the post war period, which was associated with the expansion of the central government's role in income maintenance, income redistribution, and stabilization, led to strong reactions. The view that greater reliance should be placed on the market has been accompanied by the parallel view that less power should remain in the hands of the central government. The effectiveness of government in stabilizing the economy and improving the distribution of income, thus reducing poverty and unemployment has been questioned by some influential economists. This challenge has reduced the legitimacy of the central government action and created a presumption in favour of reducing the size of the public sector while giving more power to both the market and local jurisdictions. Many countries are considering devolution of some functions to local jurisdictions. In terms of resource allocation various arguments have been advanced to support the view that privatization and decentralization would lead to greater efficiency and a leaner public sector.

Developments in specific countries, such as Canada, China, and some of the new states of the former Soviet Union, have forced a reassessment of multilevel finance. In Canada developments were driven largely by political considerations, with some provinces demanding more independence. In China they were driven by the need to reestablish some control over national public revenue. In the states that emerge from the breakup of the Soviet Union there was need to create from scratch fiscal arrangements that gave significant responsibilities to subregional governments, especially in Russia, with its regions of widely diverse cultural, ethnic, and economic composition. The interest in fiscal federalism in these countries was the logical outcome of discussions about what political organization these countries should have after the breakup of centralized policymaking. Other countries, such as India, have been driven toward decentralization by ethnic diversity and by the belief that decentralization would help hold the country together.

During the 1980s another group of countries, including Argentina, Brazil, India, and Nigeria, experienced macroeconomic problems that required major adjustments in their fiscal account, through revenue increases or expenditure cuts. These countries were often constrained in their policy choices by constitutional or legal arrangements among governments at different levels. As structural and macroeconomic problems worsened and the need for adjustment grew, so did the attention directed at the legal constraints that limited the central government's scope for policy action. Although not as significant as the factors mentioned above, the World Bank's research and lending policies, which have emphasized the benefits of decentralization, may also have contributed to the present trend.

Whatever the causes, the debate on decentralization raises serious questions about its potential impact, merits, and dangers. Whether decentralization is appropriate often depends on many country-specific factors. Still, some general issues are relevant to all countries. However there are situations in which decentralisation might not lead to the expected results unless important changes are made in the existing conditions. These important changes are areas Nigeria must draw lessons from. Tanzi (1995) notes that decentralization has worked well in some industrial countries (Germany, the Scandinavian countries, Canada, Australia, Switzerland, and the United States) and in Indonesia and perhaps Malaysia among the developing countries, and less well in others (Argentina and Brazil).

The basic presumption behind the arguments made by proponents of decentralisation is that local democracies are in place and do work. Where they do not, the case for decentralisation becomes weaker. Whether local governments are more or less likely than the central government to respond to local preferences depends of course, on the strength of various incentives and on how political decisions are made. A national government interested in local votes may have a strong interest in meeting local needs. A local government that is not democratic may have little interest in meeting these needs. It should not be automatically assumed that subnational governments are made up of democratically elected officials who necessarily have the public local interest in mind. Where they do, decentralisation has a greater chance of succeeding (Tanzi, 1995).

Existing literature on fiscal federalism identifies potential connection between decentralisation and corruption. Others have attempted to refute the existence of such a connection or even to argue that decentralisation reduces corruption (Ewetan , 2011).

According to Prud'homme (1994b) corruption is a greater problem at the local level and cites France and Italy as examples. Similarly Tanzi (1994) believes that corruption may be common at the local level than at the national level especially in developing countries. The reason is that corruption is often stimulated by contiguity, which brings personalism to relationships. The effect of this is that public interest often takes a back seat, and decisions are made that favours particular individuals or groups.

Another factor that may reduce the benefits of decentralisation is the quality of local bureaucracies relative to national bureaucracies. Prud'homme argues that: "Decentralisation not only transfers power from central to local government, but also from central to local bureaucracies, and central government bureaucracies are likely to attract more qualified people because they offer better long run career prospects". These considerations have to be qualified., of course. Where qualified individuals are abundant, as is often the case industrial countries such as Australia, Canada, Germany, and United States, subnational governments may have staff as qualified as do national government. On the other hand, where educational standards are low and there is a smaller pool of potentially efficient employees, scarcity of local talent may impede decentralisation efforts in, say Ethiopia, Nigeria, and other African countries.

Within countries there are often wide differences across regions in the quality of the personnel of local administration. In Argentina there is a huge difference between Buenos Aires and some of the other provinces, and in Colombia between Bogota or Medellin and some other provinces. These difference are partly explained by differences in available resources, but cultural factors also play a role.

The industrial countries have good and dynamic public expenditure management systems at the subnational level capable of managing larger financial resources that flow to them as a result of decentralisation. However public expenditure management systems are not very good in many countries. The skills required to perform the various tasks of public expenditure management are scarce in most countries, they are especially scarce in developing countries and transition economies, especially at the local level (Tanzi, 1995). The decentralisation of responsibilities to subnational governments that have not yet developed adequate public expenditure management structures is likely to run into difficulties. This is the case in several Latin American countries, including Argentina, Columbia and Peru, and in other regions.

Technical assistance missions often have found poor public expenditure management systems and thus a lack of local financial accounting and accountability, especially in developing countries. Thus the potential benefits of decentralisation may be reduced or even disappear if the minimum public expenditure management infrastructure is not in place. Brazil (after the 1988 Constitution decentralized spending decisions) and Italy (after the 1979 reform decentralized some spending decisions) are examples of this problem. Advocates of decentralisation in Nigeria, and other African countries should pay close attention to all these issues. In conclusion a growing body of theoretical and empirical literature confirms that decentralisation offers significant potential in bringing greater accountability and responsiveness to the public sector at the subnational level. These are vital lessons for Nigeria and other developing countries to embrace.

5.0 Conclusion

Decentralization is a kind of contract whose details and implications often are not precisely spelled out. Decentralization can live up to its promise, if the constitutional and

legal frameworks are clearly defined and enforced, if subnational governments are given access to the necessary resources, if public expenditure management systems can both monitor and control the pace and allocation of spending, and if local bureaucrats and national bureaucrats are of equal quality. Otherwise, the results tend to be disappointing. The key to successful decentralization is good planning, devolving both spending responsibilities and revenue sources, and determining the magnitude of both simultaneously and in advance.

Despite the difficulties in implementation, the arguments for decentralization are sound and powerful. The process can and does live up to its promises. Properly implemented, it provides important economic and political benefits as local jurisdictions improve the efficiency and accountability of public spending.

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Table 1: (Appendix A) Conceptual Basis of Tax Assignment				
Tax Type	Determination of Base Rate		Collection & Administration	Comments
Custom	F	F	F	International trade tax
Corporate income	F	F	F	Mobile factor
Resource taxes				
Rent(profit) tax	F	F	F	Unequally distributed
Royalties/fee				
Severance taxes	S,L	S,L	S,L	
Production taxes	S,L	S,L	S,L	Benefit taxes
Conservation charges	S,L	S,L	S,L	Environmental preservation
Personal income	F	F,S,L	F	Redistributing mobility, stabilization
Wealth taxes(capital, wealth, transfers, inheritances)	F	F,S	F	Redistributive Social programme
Payroll	F,S	F,S	F,S	Administrative costs, stabilization
Value added tax	F	F	F	
Single-stage sales				
Option A	S	S,L	S,L	Higher compliance costs
Option B	F	S	F	Harmonized
“Sin” taxes				
alcohol, tobacco	F,S	F,S	F,S	Health care shared responsibility
gambling, betting	S,L	S,L	S,L	State and local responsibility
lotteries	S,L	S,L	S,L	State local responsibility

race tracks	S,L	S,L	S,L	State local responsibility
Taxation of “Bads”				
Carbon	F	F	F	global/national pollution
BTU taxes	F,S,L	F,S,L	F,S,L	by extent of pollution
Motor fuels	F,S,L	F,S,L	F,S,L	tolls on road use
Effluent charges	F,S,L	F,S,L	F,S,L	by extent of pollution
Congestion tolls	F,S,L	F,S,L	F,S,L	tolls on road use
Parking fees	L	L	L	local congestion
Motor vehicles				
Registration	S	S	S	state revenue source
Driver’s licences	S	S	S	state revenue source
Business taxes	S	S	S	benefit tax
Excises	S	S	S	immobile base
Property	S	L	L	benefit tax, immobile
Land	S	L	L	benefit tax, immobile
Frontage/betterment	S,L	L	L	cost recovery
Poll tax	S,L	S,L	S,L	non-distorting
User charges	F,S,L	F,S,L	F,S,L	payment for services
Note: *F=Federal, S=States L=local Source: Adapted from Anyanwu (1999).				

Finishing School Helps Enhancing Graduate Employability

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Abstract

Much has been said about the quality of our local graduates which do not meet the criteria sought by employers. For a country that has set the year of 2020 to be in the league of advanced countries, Malaysia does not have plenty of time to be lackadaisical. The country needs to be in the forefront in various science and technology disciplines and in humanitarian causes. For that purpose, university is expected to produce high quality graduates. The graduates must be excellent academically and must also possess excellent human values. As such the term human capital was emphasized by the Ministry of Higher Education to public universities in the country. This broad term encompasses skills such as communication, team work, life-long learning, leadership, professional ethics and values, critical thinking and entrepreneurship. Collectively, these skills are known as soft skills. Universiti Putra Malaysia has taken the first step to respond to the call by introducing the concept of Finishing School. This is a two-day program that incorporates the seven skills mentioned and was offered to students who are in their final semester in the university.

Keywords – social capital, finishing school, marketability, softskills.

Introduction

In May 2006, Co curricular and Student Development Center, Universiti Putra Malaysia launched a program called Finishing School to graduating students . This program was carried out in response to the call of the Minister of Higher Education to produce students of great excellence. The first Finishing School in UPM has involved as many as 4154 students and 116 facilitators. This program is out on the weekends. Every student will experience fourteen hours of challenging activities that will prepare them with the skills that will make them a wholesome graduates. The medium of instruction for this program is English. At present, Co curricular and Student Development Center has conducted more than ten series of Finishing School which involved more than 20,000 final semester students.

Definition of soft skills and human capital

Soft skills are skills that are outside a persons job description. They can include personality, characteristics, ethics, and attitudes. In addition, soft skills include interpersonal skills such as written and verbal communication, sales and presentation skills, and leadership skills. They include time and resource management skills including drive, focus, decision making, planning, execution, dealing with task overload as well as self and team evaluation and improvement.

Rex Campbell in his book, *Community Organization*, has defined soft skills as anything that beyond job descriptions. Soft skills benefit everyone in the organization. For example, studies have shown that doctors with better interpersonal skills are sued less (without respect to their technical skills). Science, engineering and I.T. professionals with well developed soft skills get farther in organizations than equally or greater skilled associates who lack good soft skills. Businesses need professionals who are able to interact with other departments and to communicate effectively with outside organizations. They need people who are self starters, plan, execute, adapt to change and learn from their experiences. They need people who can manage resources and time and bring projects in successfully and on time in spite of obstacles, deadlines and various external pressures.

In short, soft skills refer to the cluster of personality traits, social graces, facility with language, personal habits, friendliness, and optimism that mark people to varying degrees. Soft skills complement hard skills, which are the technical requirements of a job. They can be divided into personal qualities and interpersonal skills. The former includes responsibility, self-esteem, sociability, self-management and integrity/honesty while the latter includes participates as a member of the Team , teaches others, serves client / customers, exercises leadership, negotiates and works with cultural diversity.

The Ministry of Higher Education (MOHE) defines soft skills as skills that complement academic achievement. In this regards, MOHE has listed at least seven soft skills needed by students. The skills are communication, leadership, critical thinking, teamwork, moral and ethics, life-long learning and entrepreneurship.

Human capital theory was developed by an American economist Gary Becker and Theodore Shultz (1964). Their theory postulates that expenditure on providing training and education to the citizen is considered human capital investment. The above qualities or soft skills will produce individuals that a country can capitalize on.

The purpose of this investment is for nation building. Investment in this area is crucial for any country to move forward. As such, the Malaysian government allocated RM33.4 billion to improve the education system and technology acquisition in this country. This plan includes providing training (RM10.1 billion) and RM10.4 billion for higher education. The Prime Minister views that this investment is important to attain a higher value added growth to the country future (Nat.Budget, 2007). Education and knowledge are valuable investment to improve the people their mindset and help our country achieve the first-class mentality. According to the latest Malaysian Plan (MP10), the government has allocated 40% of MP10 for the development of human capital.

Finishing school and Graduate Employability

Finishing School Universiti Putra Malaysia has played a very important role in helping improving graduate employability especially among the UPM students. Students who participate in this course will experience the most valuable time in their life because this course will give them real and challenging exposures about their career in the future.

There are two main components being discussed in Finishing School Universiti Putra Malaysia. There are the communication skills and the writing skills. Students will be taught those two components by using the 70-30 approach. The 70-30 approach focuses more on the practical activities (70%) than the theories and concepts (30%). Students are also being exposed to the concept of *Learn by Doing* in this course. The combination between 70-30 approach and *Learn by Doing* concept has made the course of Finishing School UPM as one of the essential tools to enhance human capital among the UPM students. The detail contents of Finishing School in UPM is shown in Table 1 below:

Table 1: Finishing School Universiti Putra Malaysia

Time	Day 1 (Saturday)	Day 2 (Sunday)
8:00 – 8:30am	Registration	----
8:30-10:30am	Ice breaking (2 hours)	Unit 3: Guide to Job Application
10:30-11:00	Break	Break
11:00 – 1:00pm	Unit 1 Group Communication (2 hours)	Unit 4: Writing Resume and Cover Letter (2 hours)
1:00-2:30pm	Lunch	Lunch
2:30 – 4:30pm	Unit 2: Presentation Skills (1 hour 30 minutes)	Unit 4: Interview Skills ((1 hour 30 minutes)
4:30- 5:00pm	Break	Break
5:00 – 6:30pm	Presentation Skills (1 hour 30 minutes)	Interview Skills (1 hour 30 minutes)

Students who have attended Finishing School have gained tremendous experiences on soft skills especially on communications and writing. Both skills are very essential for the development of human capital in a very competitive and challenging world today. The concept *Learn by Doing* that has been used in Finishing School has helped students enhance their human capital effectively. The detail of how Finishing School has helped to enhance human capital among the students who participated in the course is shown in Table 2 below.

Table 2: Graduate Employability Through Finishing School

Unit/Subject	Strategies for Graduate Employability
Ice breaking	Students are being exposed to various skills and experiences which are important for employability such as: Communication skills Self confident Moral and ethics
Group Communication	Students would experience how to communicate effectively in group setting and situation. In addition to that, students will also have the opportunities to explore their skills in the following area: Leadership skills Communication skills Self confident Moral and ethics
Presentation Skills	Students will learn how to deliver presentation effectively with or without the present of ICT. The thinking outside the box approach is being applied in this unit.
Guide to Job Application	Students are requested to search for their employment through various means such as newspapers, television, internets, and others. Students also need to present their justification why they choose the job.
Writing Resume and Cover Letter	Students are also being taught how to write a winning resume and cover letter. They are also being exposed to dos and don'ts about resume writing in this unit.
Interview Skills	Students will also have the experience to go for a mock interview conducted by professional teacher and lecturers. In this unit, students are able to show their skills and intelligent in order to get the job.

During the two day program students would experience and expose themselves to various skills which would enhance their skills in the future. The example of skills which would enhance their social capital are mainly the skills in communication, leadership, teamwork, critical thinking, moral and ethics. This skills could be considered as “must have” skills especially among the young Malaysians as the country is moving toward a developed nation by 2020.

The success of Finishing School is very promising. Based on the exit study that has been conducted by Co curricular and Student Development Center Universiti Putra Malaysia with more than twenty employers both public and private sectors, the findings shown that all of sectors involved in the study have claimed that students who have

attended Finishing School are much better compared to those who did not attend the course. The area that has been noticed as having tremendous difference between those two groups are on the communication skill, self confident and teamwork. Based on this successful and convincing findings, in 2012 Co curricular and Student Development Center UPM has increased the size of the respondents up to 150 companies both government and private sectors.

At the mean time, Co curricular and Student Development Center UPM continues its commitment to enhance human capital especially among the UPM students by introducing Finishing School Phase 2. Finishing School Phase 2 is the advanced and much improved modules for Finishing School. Instead of focusing only on communication and writing skills, Finishing School Phase 2 is offering five different packages for students to choose. The five packages are as the following:

Package A: Communicate Effectively

Package B: Powerful Writing for Success

Package C: Leadership

Package D: Event Management

Package E: Corporate Grooming and Dining Etiquette.

Finishing School Phase 2 is open to all UPM students from semester 3 onward. All students in UPM, commencing on Semester 1 200/2011, are required to take 3 packages from five packages offered. Two packages must come from package A and B, and the other package students may choose either one from Package C, D, or Package E.

Co curricular and Student Development Center UPM has conducted a pilot on Finishing School Phase 2. There were 380 students involved in the project. The findings from the pilot project were very encouraging. Students were very happy and felt very lucky for being able to attend such courses. All of them were giving a thumb up feedbacks from the project. Many of them stated that, they have learnt a lot from all packages and the skills and knowledge gathered from those packages are very useful for their successful career in the future and they also stated that they would definitely recommend the course to their friends.

Conclusion.

Unemployed among the graduates is one of the most important issues faced by many graduates today. The scenario may get even worse if there is no serious action taken by universities or higher learning institutions. One of the approaches that has been suggested to ease the problem of unemployed among graduates is by exposing students to Finishing School. Modules that have been used in Finishing School which will prepared students with all the skills required by their future employers mainly on communication, leadership, teamwork, critical thinking, problem solving, moral and ethics. All of these skills are highly needed by many employers for promising future of their organizations or companies.

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Female Serum Hormone Concentration and Anti- Microsomal Antibodies in Infertile Nigeria Women

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Abstract

OBJECTIVE: This study was carried out to determine the female serum hormone concentration and anti- microsomal antibodies levels in infertile Nigeria women.

DESIGN: A total of two hundred and four (204) Euthyroid female placed in Six (6) groups of thirty four (34) subject each, representing Nulligravida, multiparous, pregnant, primary infertile (1⁰), secondary infertile (2⁰) and recurrent spontaneous aborter (RSA) women were recruited. 10ml venous blood were collected one week after their monthly periods, from members of the groups, except the pregnant women whose blood were collected in their third trimester. Serums obtained were assayed for progesterone, estradiol, testosterone, prolactin hormones, anti- thyroglobulin and anti-thyroperoxidase levels were determined using specific ELISA kits.

RESULT: In this study the anti-Thyroglobulin (anti-TgAb) and anti-Thyroperoxidase (anti-TPO) auto antibodies concentrations obtained were higher in the primary infertile (1⁰), secondary infertile (2⁰) and recurrent spontaneous aborter (RSA) groups compared to the multiparous and pregnant groups, at $p < 0.05$. Moreover the women of the secondary infertile group had significantly higher anti-TgAb titer levels (at $p < 0.05$), over other infertile groups.

The serum hormonal concentration of testosterone and prolactin determined, showed that the mean concentration of Prolactin ($183.90 \pm 11.23\text{ng/ml}$) and testosterone

(304.43 ± 4.11ng/ml) obtained in the primary infertile women with positive anti-microsomal antibodies were significantly higher (at P<0.05), compared with the women in the multiparous and pregnant groups. The estradiol concentration in the primary infertile group was 0.22 ± 0.05 pg/ml, that of the secondary infertile group was 0.41 ± 0.07 pg/ml and the RSA group was 11.94± 2.44 pg/ml. These concentrations were significantly lower at P < 0.05, when compared with the pregnant group in the control.

The results in this study have shown that the hormonal predictive indices of progesterone for pregnancy showed possible immunological influence of Auto anti-microsomal antibodies that are equally corroborated by the pattern of prolactin and testosterone concentrations, in the infertile compared with the fertile women.

Keywords: - Female hormones, Auto anti-microsomal antibodies, infertility, black women and pregnancy.

Introduction

Hormones have been reported to influence the expression of certain autoimmune diseases. They are reported to affect the homeostasis of the lymphoid system and responses to antigens by yet to be characterised mechanisms, (Quintero, et al., 2012). The predisposing factors in these instances are the sex hormone and it has been reported that testosterone is an immuno-enhancer, but how these hormones are associated to the disease state has not been elucidated, (Anatoly, et al., 2010). Estradiol (E2) is a C18 steroid hormone with a phenolic ring, is the most potent natural estrogen, produced mainly by the ovary, placenta, in smaller amounts by the adrenal cortex, and the male testes (Ratcliffe et al., 1983; Ntrivalas, et al., 2005). Estradiol (E2) is secreted into the blood stream where 98% of it circulates bound to sex hormone binding globulin (SHBG). Estrogenic activity is affected via estradiol-receptor complexes, which trigger the appropriate response at the nuclear level in the target sites. These sites include the follicles, uterus, breast, vagina, urethra, hypothalamus, pituitary and to a lesser extent the liver and skin. In non-pregnant women of reproductive age progesterone (P4) is essentially of ovarian origin and is produced and secreted by corpus luteum, (Granner, 2000). The participation of the adrenal cortex is negligible (Bischot and Islami, 2003). P4 is largely produced by the corpus luteum until about 10 weeks of gestation (Csapo et al., 1973, Ntrivalas, et al., 2005). The biological role of P4 is to transform the uterine mucosa already stimulated by E2, into a secretory mucosa, on the receptor on which to receive a fertilized ovum (Bischoft and Islami, 2003). Progesterone inhibits uterine contractions which is useful for successful implantation (Ratcliffe et al., 1983).

In women of reproductive age, testosterone is produced by the thecal cells which surround the follicle. The androgen (T) serves as a substrate for the synthesis of E2, but it is also detected in circulation even in very low concentrations (Bischot and Islami, 2003). Clinical studies of women with low sexual interest or arousability have been demonstrated to have low testosterone levels. Bischot and Islami, (2003) found a marginally lower free androgen index (FAI) in women complaining of life long absence of sexual drive than in controls. Although Carney et al., (1978) found some significant level of testosterone, other comparable studies failed to replicate this effect, (Dow and Gallasher, 1989; Anatoly, et al., 2010). Women vary in the extent to which their sexuality is influenced by testosterone. Testosterone and sexuality was most apparent in women whose sexuality was unproblematic (Bancroft and Carwood, 1996).

Infertility in women is the inability of the women of childbearing age to get pregnant after about 12 months of regular unprotected sexual intercourse. Primary infertility is the term used to describe women that has never been able to conceive after a minimum of 1 year of attempting to do so.

The importance of thyroid hormones in metabolic regulation and control of reproduction cannot be over emphasized. A normal thyroid functioning system ie euthyroid tissue can still be subjected to stress due to derangement of immune system when auto antibodies are raised against self (auto) antigens. In the Euthyroid, the normal thyroid functioning and hormonal regulation still goes on, but the effective responses are truncated at another level, especially with immune interference (*El-Roeiy and Gleicher, 1988; Gleicher and Barad, 2007*). It has been reported that Caucasians women with auto immune disease have an increased frequency of reproductive failure (*Coulam 1992*).

This study was carried out to generate African women data by determining the progesterone and testosterone concentration in women experiencing, primary infertility that were positive to anti-thyroid antibodies (ATA) so as to establish the connection between these interacting molecules of immunological homeostasis, as potential predictive indices.

Materials and Methods

SUBJECTS: Two hundred and four (204) women that took part in this study were classified into six (6) groups, of thirty four (34) each. These women were recruited as the test subjects and grouped as diagnosed of experiencing, (1) primary infertility, (2) secondary infertility and (3) recurrent spontaneous abortion (RSA) while attending the obstetrics and gynaecology unit of Ayinke house at the Lagos State University Teaching Hospital (LASUTH). The control groups included thirty four (34) each, including pregnant women that were undergoing antenatal care at the antenatal ward of Ayinke (LASUTH), non-pregnant multiparous and thirty four (34) non-pregnant women nulligravida volunteers that were also recruited for future comparison.

Those that are hypertensive, experiencing thyroid diseases or on hormonal balancing drugs were ruled out. The control groups were pegged to thirty four (34) volunteers each to tally with the recruited test group. The study was conducted according to the ethical standard of the research and ethics committee of (LASUTH).

.BIOLOGICAL SAMPLES: Venous blood sample was collected in triplicate into plain tubes of 10 ml each from the two hundred and four (204) women recruited. The serums were obtained after samples were allowed to stand for an hour and then centrifuged at 400rpm for 10 minutes, the serum were stored at -4°C until needed for analysis.

EXPERIMENTAL PROCEDURE: The frozen serum samples were brought to room temperature and tested for positivity of Anti-thyroglobulin and anti-thyroid peroxidase (anti-TPO)), using enzyme linked immuno-sorbent assay (ELISA) Kit, in both the test group and the control groups, (*Fraser and Loso (1999)*).

Progesterone, estradiol, testosterone and prolactin concentrations were determined separately in both groups by using their individual ELISA Kit and read on the ELISA plate reader at 405nm, (*Matt and MacDonald (1984)*).

Statistical analysis was carried out using the mean and standard deviation and the analysis of variance (ANOVA) Package and the correlation analysis on the SPSS v.11 electronic statistical tools of windows www.spss.com

Results:

The bench marks for the Positive results of anti-TPO antibody concentration are defined as titers greater than or equal to the benchmark of the normal level (of ≥ 40 U/ml). The bench marks for the determination of the anti-Tg level that was above normal level, of ≥ 200 Unit/ml, according to the manufacturer's instruction (Meridan Bioscience Europe). In this study, the positive anti-TgAb titer levels presented in Table1, showed that the primary infertile was 509.59 ± 3.70 Unit/ml, the secondary infertile was 709.65 ± 3.20 Unit/ml and RSA was 400.00 ± 3.20 Unit/ml. These are statistically significantly higher than the negative anti-TgAb levels in the pregnant with 30.90 ± 2.70 Unit/ml and non-pregnant multiparous with 32.02 ± 2.80 Unit/ml, at $p < 0.05$. The positive anti-TPOAb concentrations showed that the primary infertile was 1203.50 ± 1.10 Unit/ml, the secondary infertile was 600.39 ± 0.90 Unit/ml and RSA was 707.41 ± 0.90 Unit/ml. These are significantly higher than the levels in the pregnant with 60.50 ± 0.90 Unit/ml and non-pregnant multiparous with 70.01 ± 0.90 Unit/ml at $p < 0.05$.

The serum hormonal concentration profiles of the women in the control and test groups were presented in Tables 2-5. The normal progesterone range for adult female was given as 10.3 – 229ng/ml by the kit manufacturer (Diagnostic Automation Inc). The progesterone concentration in Tables 2, of the women in primary infertile group was 2.93 ± 1.76 ng/ml and that of the secondary infertile group was 0.29 ± 0.24 ng/ml, these were significantly lower than, the RSA group with 16.88 ± 0.83 ng/ml. Further still the progesterone concentration of 0.47 ± 0.15 ng/ml obtained in the multiparous group were significantly much lower than that of the pregnant group concentration of 40.25 ± 1.28 ng/ml compared to that of the RSA at $P < 0.05$. The mean serum progesterone concentration of the women in the primary infertile group, with anti-Tg (was 3.02 ± 0.86 ng/ml for the anti-Tg positive and 2.85 ± 0.34 ng/ml for the anti-Tg negative at $P < 0.05$). The secondary infertile women mean serum progesterone concentration was 0.29 ± 0.24 ng/ml, with anti-Tg positive of 0.26 ± 0.08 ng/ml and 0.33 ± 0.05 ng/ml for anti-Tg negative at $P < 0.05$. These titer values within the test group when compared with that of the RSA of 16.88 ± 0.83 ng/ml were significantly lower (at $P < 0.05$).

The mean serum concentration of progesterone in the primary infertile was significantly lower than the mean serum concentration of progesterone of the pregnant women that was 40.25 ± 1.28 ng/ml, representing the marginal mean serum concentration of progesterone in the women with anti-Tg and anti-TPO (made up of 40.75 ± 0.88 ng/ml for the anti-TPO positive and 39.75 ± 2.41 ng/ml for the anti-TPO negative value at $P < 0.05$). Moreover the values were significantly higher when compared (at $P < 0.05$) against the mean serum concentration of progesterone of the multiparous women with the value of 0.47 ± 0.15 ng/ml, representing the marginal mean serum concentration of progesterone in the women with anti-Tg and anti-TPO (made up of 0.53 ± 0.09 ng/ml for the anti-TPO positive value and 0.41 ± 0.28 ng/ml for the anti-TPO negative with no significance difference between the values at $P < 0.05$).

The mean serum concentration of estradiol presented in Table 3, for the women in the control group showed that, the nulligravida women mean serum concentration of estradiol was 19.08 ± 2.44 pg/ml, representing the marginal mean serum estradiol

concentration in the women with anti-Tg and anti-TPO (made-up of 19.01 ± 3.56 pg/ml for anti-TPO positive and 19.14 ± 3.35 pg/ml for anti-TPO negative with no significance difference between these values at $P < 0.05$). The mean serum concentration of estradiol of the multiparous women was 6.71 ± 0.43 pg/ml, representing the marginal mean serum estradiol concentration in the women with anti-Tg and anti-TPO (made up of 5.48 ± 2.55 pg/ml for anti-TPO positive and 7.93 ± 0.82 pg/ml for anti-TPO negative with no significance difference between these values at $P < 0.05$). When the two groups above were compared, both were significantly lower (at $P < 0.05$) than the mean serum concentration of estradiol in the pregnant women with 197.12 ± 3.78 pg/ml, representing, the marginal mean serum estradiol concentration at $P < 0.05$. The mean serum estradiol concentration for the primary infertile women was 0.22 ± 0.05 pg/ml, representing the marginal mean serum estradiol concentration in the women with anti-Tg and anti-TPO (made-up of 0.30 ± 0.25 pg/ml for anti-TPO positive and 0.14 ± 0.10 pg/ml for anti-TPO negative values at $P < 0.05$). The mean serum estradiol concentration in the secondary infertile women was 0.41 ± 0.07 pg/ml and the mean serum estradiol concentration in the RSA women was 11.94 ± 2.44 pg/ml representing the marginal mean serum estradiol concentration in the women with positive anti-Tg and anti-TPO. The titer value of the test group for the RSA women was significantly lower at $P < 0.05$, when compared with that of the pregnant women in the control group. There was no significant difference between the estradiol concentrations in the women with negative anti-TPO within the test group except for the RSA women mean values, also there was no significance difference between the non- pregnant nulligravida women and multiparous women except with the pregnant women within the control group.

The mean serum concentration of testosterone obtained is as presented in Table 4. Testosterone range for adult female is $0.2 - 0.8$ ng/ml as given by the manufacturer of the kit (Diagnostic Automation Inc). The mean serum concentration of testosterone in the primary infertile women was 315.96 ± 8.48 ng/ml, representing the marginal mean serum concentration of testosterone for women with anti-TPO and anti-Tg (made up of 304.43 ± 4.11 ng/ml for anti-Tg positive and 327.50 ± 16.46 ng/ml for anti-Tg negative at $P < 0.05$). This marginal mean value was significantly higher than the mean serum concentration of testosterone for the secondary infertile women with 1.90 ± 0.12 ng/ml and the testosterone of the RSA women was 14.20 ± 3.99 ng/ml.

In the multiparous women the mean serum testosterone concentration was 4.10 ± 0.70 ng/ml, the pregnant women the mean serum testosterone concentration was 0.50 ± 0.06 ng/ml, compared to the values obtained for the primary infertile women was significantly higher than the values in the women of the control groups (at $P < 0.05$). With the nulligravida women in the control group, the mean serum testosterone concentration, for future reference, was 1.43 ± 0.40 ng/ml, representing the marginal mean serum testosterone concentration in the women with anti-Tg and anti-TPO (made up of 1.44 ± 0.58 ng/ml for anti-TPO positive and 1.41 ± 0.55 ng/ml anti-TPO negative with no significance difference at $P < 0.05$).

The mean serum prolactin concentration obtained is as presented in Table 5. This showed that in the primary infertile women, the mean serum prolactin concentration was 196.95 ± 23.16 ng/ml, representing the marginal mean serum prolactin concentration in the women with anti-TPO and anti-Tg (made up of 183.90 ± 11.23 ng/ml for anti-Tg positive and 210.00 ± 4.49 ng/ml for anti-Tg negative, here the value for anti-Tg positive was significantly lower than that for the negative at $P < 0.05$). In the secondary infertile

women, the mean serum prolactin concentration was 186.06 ± 32.25 ng/ml, representing the marginal mean serum prolactin concentration in the women with anti-TPO and anti-Tg (made up of 161.13 ± 11.06 ng/ml for anti-Tg positive and 211.00 ± 6.35 ng/ml for anti-Tg negative, here the value in the anti-Tg was significantly lower in the positive than in the negative at $P < 0.05$). In the RSA women the mean serum prolactin concentration was 279.80 ± 10.90 ng/ml, representing the marginal mean serum prolactin concentration in the women who were both anti-TPO and anti-Tg positive. The serum prolactin concentration in the test group were all significantly higher (at $P < 0.05$), compared with the mean serum prolactin concentration in the multiparous women with 32.83 ± 19.21 ng/ml and the pregnant women's mean serum prolactin concentration of 15.81 ± 1.69 ng/ml, at the $P < 0.05$).

The Pearson (2 – tailed) correlation between each of anti -TPO and the anti -Tg with all the hormones concentration determined showed significance correlation at 0.01 level. There was also significance correlation at 0.01 levels, between serum concentration of testosterone and estradiol.

Table 1 : Comparative Analyses Of Serum Thyroglobulin And Thyroperoxidase Auto Antibody Elisa Values Of The Women Studied.

RS	PARAMETE	Mean TgAb (unit/ml)			Mean TpoAb (u
		Anti-Tg(-)	Anti-Tg(+)	Anti-TPO(-)	x + S.E.
	N=204				
Control group	Nulligravida Women n=34	40.48 ± 3.10^b	0	20.48 ± 1.40 n=15	80.88 ± 1.30 n=19
Multiparous Women	n=34	30.02 ± 2.80^b	0	30.60 ± 1.30 n=10	70.01 ± 0.90 n=24
Pregnant Women	n=34	30.90 ± 2.70^b	0	30.50 ± 3.30 n=4	60.50 ± 0.90 n=30
Test group	Primary Infertile Women n=34	$104.00 \pm 15.10^{a,b}$ n=.2	509.59 ± 3.70^a n=32	0	1203.50 ± 1.10^a
Secondary Infertile Women	n=34	$108.00 \pm 15.10^{a,b}$ n=2	709.65 ± 3.20^a n=32	0	600.39 ± 0.90^a
Recurrent Spont. Aborter	n=34	$102.00 \pm 21.40^{a,b}$ n=1	400.00 ± 3.20^a n=33	0	707.41 ± 0.90^a

Data are expressed as mean \pm SE and analyzed by ANOVA (Two-way test)

P<0.05 – significant ^aP<0.05 comparing Anti-Tg/ Anti-TPO positive vs negative,
^bP<0.05 infertile women vs control group.

Table 2: Comparative Analyses of Serum Progesterone- Female Hormonal Concentration Profile in The Studied Euthyroid Women With and Without Anti-Microsomal and Anti-Thyroglobulin Antibody.

PARAMETER	Progesterone (ng/ml)	Progesterone (ng/ml)		Progesterone (ng/ml)	
		Anti-TPO(-)	Anti-TPO(+)	Anti-Tg(-)	Anti-Tg(+)
SUBJECTS	Marginal mean value				
Nulligravida Women n=34	6.66 +0.83 c	6.19 +1.14 n=18 a	7.13 + 1.21 n=16 a ,b	6.66 +0.83 c n=18 b	- n=16 a ,b
Multiparous Women n=34	0.47 + 0.15 c	0.41 + 0.28 n=3 a	0.53 + 0.09 n=31 a, b	0.47 + 0.15 c n=3 b	- n=31 a ,b
Pregnant Women n=34	40.25 + 1.28 c	39.75 + 2.41 n=4 a	40.75 + 0.88 n=30 a ,b	40.25 + 1.28 c n=4 b	- n=30 a ,b
Primary Infertile Women n = 34	2.93 +1.76 c	- n=2	2.93 +1.76 c n=31 b	2.85 + 0.34 n=2 a ,b	3.02 +0.86 n=31 a
Secondary Infertile Women n =34	0.29 + 0.24 c	- n=1	0.29 + 0.24 c n=33 b	0.33 + 0.05 n=1 a ,b	0.26 + 0.08 n=33 a
Recurrent Spont. Aborter n=34	16.88 + 0.83 c	-	16.88 + 0.83 c n =34 b	-	16.88 + 0.83 n =34 a

Data are expressed as mean \pm SE and analyzed by ANOVA (Two-way test),
P<0.05 – significant

^aP<0.05 comparing positive (+) and negative (-) Anti-TPO /Tg ^bP<0.05 test
vs. control group. c=marginal mean value

Table 3: Comparative Analyses of Serum Estradiol Female Hormonal Concentration Profile In The Studied Euthyroid Women With And Without Anti-Microsomal And Anti-Thyroglobulin Antibody.

PARAMETER	Estradiol (pg/ml)	Estradiol (pg/ml)		Estradiol (pg/ml)	
	Marginal mean value	Anti-TPO(-)	Anti-TPO(+)	Anti-Tg(-)	Anti-Tg(+)
Nulligravida Women n=34	19.08 + 2.44 c	19.14 + 3.35 n=18 a	19.01 + 3.56 n=16 a ,b	19.08 + 2.44 c n=18 b	- n=16
Multiparous Women n=34	6.71 + 0.43 c	7.93 + 0.82 n=3 a	5.48 + 2.55 n=31 a ,b	6.71 + 0.43 c n=3 b	- n=31
Pregnant Women n=34	197.12 + 3.78 c	192.75 + 7.11 n=4 a	201.48 + 2.60 n=30 a ,b	197.12 + 3.78 c n=4 b	- n=30
Primary Infertile Women n = 34	0.22 + 0.05 c	- n=2 a ,b	0.22 + 0.05 c n=32 b	0.14 + 0.10 n=2 a ,b	0.30 + 0.25 n=32 a
Secondary Infertile Women n =34	0.41 + 0.07 c	- n=1 a ,b	0.41 + 0.07 c n=33 b	0.41 + 0.14 n=1 a ,b	0.40 + 0.25 n=33 a
Recurrent Spont. Aborter n=34	11.94 + 2.44 c	-	11.94 + 2.44 c n=34 b	-	11.94 + 2.44 n=34 a

Data are expressed as mean \pm SE and analyzed by ANOVA (Two-way test),
 $P < 0.05$ – significant

^a $P < 0.05$ comparing positive (+) and negative (-) Anti-TPO /Tg ^b $P < 0.05$ test vs. control group. c=marginal mean value

Table 4: Comparative Analyses Of Serum Testosterone (Male Factor) Hormonal Concentration Profile In The Studied Euthyroid Women With And Without Anti-Microsomal And Anti-Thyroglobulin Antibody.

PARAMETER	Testosterone (ng /ml)	Testosterone (ng /ml)		Testosterone (ng /ml)	
	Marginal mean value	Anti-TPO(-)	Anti-TPO(+)	Anti-Tg(-)	Anti-Tg(+)
Nulligravida Women n=34	1. 43 + 0.40 c	1.41 + 0.55 n=18 a	1.44 + 0.58 n=16 a ,b	1. 43 + 0.40 c n=18 b	- n=16 a ,b
Multiparous Women n=34	4.10 + 0. 07 c	5.07 + 1.34 n=3 a	3.13 + 0.42 n=31 a ,b	4.10 + 0. 07 c n=3 a	- n=31 a ,b
Pregnant Women n=34	0.50+ 0.06c	0.47 + 0.11 n=4 a	0.53 + 0.04 n=30 a ,b	0.50+ 0.06c n=4 a	- n=30 a ,b
Primary Infertile Women n =34	315.96 + 8.48 c	- n=2	315.96 + 8.48 c n=32 b	327.50 + 16.46 n=2 a ,b	304.43 + 4.11 n=32 b
Secondary Infertile Women n =34	1.90 + 0.12 c	- n=1	1.90 + 0.12 c n=33 b	2.30 + 0.23 n=1 a ,b	1.49 + 0.04 n=33 b
Recurrent Spont. Aborter n=34	14.20 + 3.99 c	-	14.20 + 3.99 c n=34 b	-	14.20 + 3.99 n=34 b

Data are expressed as mean \pm SE and analyzed by ANOVA (Two-way test),
 $P < 0.05$ – significant

^aP<0.05 comparing positive (+) and negative (-) Anti-TPO /Tg vs. control group. c=marginal mean value ^bP<0.05 test

Table 5 : Comparative Analyses Of Serum Prolactin (Male Factor) Hormonal Concentration Profile In The Studied Euthyroid Women With And Without Anti-Microsomal And Anti-Thyroglobulin Antibody.

PARAMETER	Prolactin (ng /ml)	Prolactin (ng /ml)		Prolactin (ng /ml)	
		Anti-TPO(-)	Anti-TPO(+)	Anti-Tg(-)	Anti-Tg(+)
SUBJECTS	Marginal mean value				
Nulligravida Women n=34	13.72 + 1.11 c	14.45 + 1.49 n=18 a	12.98 + 1.59 n=16 a ,b	13.72 + 1.11 c n=18 b	- n=16
Multiparous Women n=34	32.83 + 19.21 c	30.33 + 3.37 n=3 a	35.32 + 1.14 n=31 a ,b	32.83 + 19.21 c n=3 b	- n=31
Pregnant Women n=34	15.81 + 1.69 c	14.13 + 3.77 n=4 a	17.49 + 1.17 n=30 a ,b	15.81 + 1.69 c n=4 b	- n=30
Primary Infertile Women n = 34	196.95 + 23.16 c	- n=2 a ,b	196.95 + 23.16 c n=32 b	210.00 + 4.49 n=2 a ,b	183.90 + 11.23 n=32 a
Secondary Infertile Women n =34	186.06 + 32.25 c	- n=1 a ,b	186.06 + 32.25 c n=33 b	211.00 + 6.35 n=1 a ,b	161.13 + 11.06 n=33 a
Recurrent Spont. Aborter n=34	279.80 + 10.90 c	-	279.80 + 10.90 c n=34 b	-	279.80 + 10.90 n=34 a

Data are expressed as mean ± SE and analyzed by ANOVA (Two-way test), P<0.05 – significant

^aP<0.05 comparing positive (+) and negative (-) Anti-TPO /Tg vs. control group. c=marginal mean value ^bP<0.05 test

Discussion

This study has shown that, high titers of this auto-thyropoxidase in Euthyroid patients (i.e. without clinical evidence of thyroid dysfunction), is a positive phenomenon, in association with recurrent pregnancy loss. In this study the anti-Thyroglobulin (anti-TgAb) and anti-Thyropoxidase (anti-TPOAb) auto antibodies mean titer levels showed that the anti-TgAb and anti-TPOAb were higher in test groups compared to the control groups. The anti-TgAb levels of the three tests group were significantly higher than the control groups. Whereas it was in only the secondary infertile women group was the anti-TgAb titer levels, significantly higher within the test group. The anti-TPOAb mean titer levels in secondary infertile, the spontaneous aborter and primary infertile women in this study were significantly higher compared with the control groups thus providing the primary marker for the reproductive failure. In Table 1, the positive anti-TPO-Ab titer mean levels in the pregnant group and, multiparous group were significantly high within the control groups, this suggest that low levels of anti -Tg-Ab may not hinder reproductivity, (Smith-Bouvier, et al., 2008).

Thyroid auto-antibodies have been predicted to be independent markers for pregnancies at risk for loss. The women who have significant anti-thyroid antibodies

levels miscarry at approximately twice the rate of women who have no anti-thyroid antibodies, therefore history of two or more pregnancy losses or unexplained infertility was recommended to be investigated for the presence of anti-thyroid antibodies (*Hill and Chol, 2000*). The etiology of reproductive failure has severally been implicated in the disturbance of thyroid homeostasis and attempt has been made to control it with the targeted treatment of the disease condition identified during investigations (*Di-Siomone, et al., 1999*).

The importance of thyroid hormones in metabolic regulation and control of reproduction cannot be over emphasized. A normal thyroid functioning system ie Euthyroid tissue can still be subjected to stress due to derangement of immune system when auto antibodies are raised against self (auto) antigens, but the effective responses are truncated at another level, especially with immune interference (*El-Roeiy and Gleicher, 1988; Lee and Chiang, 2012*). It has been reported that Caucasians women with auto immune disease have an increased frequency of reproductive failure (*Coulam 1992 ; Bustos, et al., 2006*).

The biochemical steroid hormones indices were determined in the Nigerian women studied, this was evaluated alongside the obtained immune species parameter determined, which may be involved in the lymphoid homeostasis. The hormonal concentration determined showed a significance correlation with the anti-Tg and anti-TPO titer obtained in this study. The pregnancy hormones were higher in the pregnant women but were highest in the recurrent spontaneous aborter among the test group, which is one of the indices suggestive of the patho-physiology mimicking state of pregnancy. The pregnancy negative indices hormones concentration, determined, in the primary and secondary infertile women were higher than in the control women, which showed that the women body system was responding to increase characteristic of immunological stress responses.

The physiological parameters and hormonal profiles of the various categories of Euthyroid women were expected to further corroborate the lymphoid homeostasis being determined in the levels of anti-Tg-Ab and TPO-Ab. The progesterone titer value of the early follicular phase of all the women in the study group except the pregnant women in their first trimester stage showed that, the hormonal concentration, is in synergism to the lymphoid homeostasis. The mean concentration of progesterone in pregnant women was significantly higher compared to that in the spontaneous aborter. In pregnancy the placental continue to produce more progesterone, such that at the point of abortion the level would be higher than in non-pregnant. The mean serum estradiol concentration in the pregnant women studied and that in the spontaneous aborter was also significantly higher than the other test group .Whereas the mean values of testosterone and prolactin in the test groups were significantly higher when compared to the control groups. This study to some extent agrees with other results that indicate that women with unexplained infertility secrete less progesterone in the early follicular phase than fertile women, (*Fairweather, et al., 2012 ; Nussinovitch and Shoefeld, 2012*). *Radwanska, et al., (1976)* found lower plasma progesterone concentrations in patients whose infertility was explained by male factors or tubal occlusion.

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Budgetary Participation and Gaming in Nigerian Quoted Companies

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Abstract

Evidence of positive consequences of budgetary participation abounds in literature. Although, authors have noted negative consequences arising from budgetary participation which might hamper the process, empirical evidence of such is scanty especially from the developing countries. The purpose of this study therefore, is to provide empirical evidence of the relationship between budgetary participation and gaming from Nigeria. Data were collected from three hundred and eleven (311) managers of selected companies quoted on the Nigerian Stock Exchange, through a questionnaire survey. Statistical tools of analysis consisted of arithmetic means, independent sample t-tests and Pearson correlation analysis. The findings indicated that to a high extent gaming takes place in Nigerian quoted companies with “ignoring certain job related activities when not monitored” recording the highest mean score of 3.88. Results also showed that budgetary participation has a statistically significant positive relationship with gaming ($r = 0.541$). Significant differences were found in the extent of gaming exhibited by managers under high and low budgetary participation setting with higher level of gaming reported for higher participation. The study recommends greater monitoring of job related activities in a budgetary participative setting.

Key words: budgetary participation, gaming, dysfunctional behaviour.

1. Introduction

The budgetary system is still a core element of many organisations' management control systems (Drury, 2002; Otley, 2005), which are used to facilitate the monitoring and regulating of the behaviour of managers in the organisation for the attainment of organisational objectives. The success of the budgetary system is argued to be determined by the way in which the budget is developed (Brewer, Garrison and Noreen, 2006). Behavioural studies of the budget process in their bid to identify factors which improve or inhibit budget performance have suggested that establishing budgets through a process of participation is an important way of enhancing the success of the budgetary system. Positive behavioural consequences of budgetary participation have therefore been extensively studied. Such outcomes linked with budgetary participation include managerial performance, job satisfaction, organisational commitment and trust in superior, although the results have been equivocal. While some studies suggested a significant positive relationship with performance (e.g. Merchant, 1981; Brownell, 1982a), some reported only a weak relationship (e.g. Milani, 1975) and yet others reported a negative relationship (e.g. Cherrington & Cherrington, 1973). The relationship between budgetary participation and satisfaction has also produced similar results. Some studies indicated significant positive relationship (Cherrington & Cherrington, 1973; Milani, 1975; Chenhall, 1986; Chenhall & Brownell, 1988) while others found no significant relationship (Brownell 1981, 1982b). Research evidence of positive relationships were also provided for job related information (Parker & Kyj, 2006), trust in superior (Magner, Welker, & Campbell, 1995) and organisational commitment (Nouri & Parker, 1998).

However, because control systems are used for establishing performance expectations as a basis for evaluating managers' performance, it would appear that managers have a motive to manipulate elements of such controls to ensure that the desired picture on their performance is presented whether or not it represents actual. Such behaviour can have dysfunctional effects on the decision making and evaluation processes at various levels of management, hence, it would be critical in today's business competitive environment for business management to understand the relationship between these negative consequences of the use of control systems/devices (Soobaroyen, 2007).

The focus of many researchers in the study of dysfunctional behaviour has been on the concept of budgetary slack, Although researchers have outlined various forms of dysfunctional behaviour; Bimberg et al. (1983) identified biasing, filtering, falsification and smoothing while Jaworski and Young (1992) grouped these into strategic information manipulation and gaming of performance indicators, research on budgetary slack has dominated. A major concern in such research has been that participation by subordinates in the budgetary process may result in the generation of slack (Antle and Eppen, cited in Dunk, 1993). Results of such research linking participation and slack have however not been consistent. While some researchers (e.g Lukka, 1988) argued that a high degree of participation gives subordinate managers the opportunity to contribute directly to the creation of slack and vice versa, Camman (1976) and Merchant (1985) provided empirical evidence that participation may lead to reduction in slack which may be attributed to positive communication between managers so that subordinates feel less pressure to create slack. Studies on the relationship between participation and other dysfunctional behaviour such as gaming remain scant especially from the developing

countries. Yet, the effectiveness of management planning and control systems in developing countries remains an important issue given that many local firms may import these systems and techniques from the developed world without considering the impact of their environment on the success of such systems (Frucot and Shearon 1991)

As far as we are aware no behavioural studies from Nigeria has attempted to address the problem of gaming as a consequence of the budgetary participation process in Nigerian companies. This study, as an initial attempt to fill this gap, seeks to provide empirical evidence of the existence and extent of gaming and the existence of any significant relationship between gaming and budgetary participation in companies listed on the Nigerian Stock Exchange (NSE).

Three research questions were addressed, namely: To what extent do managers in NSE listed companies engage in gaming as a form of dysfunctional behaviour?; to what extent does budgetary participation relate to differences in level of gaming displayed?; and does higher participation decrease the possibility of gaming in Nigerian companies? In order to provide answers to these questions the following two hypotheses stated in their null forms were tested:

- H₀₁: Budgetary participation has no significant relationship with gaming.
- H₀₂: There is no significant difference between the level of gaming in companies with high budget participation and those with low budgetary participation.

The rest of the paper proceeds with four subsequent sections covering prior research; research methods; results; and conclusion.

2. Prior Research

Budgetary participation refers to the extent to which managers participate in preparing the budget and influence the budget goals of their responsibility centre (Kenis 1979). Management accounting research has paid great attention to the issue of budgetary participation. Several behavioural consequences linked to the process have emerged from such research, some of which are considered positive while others are said to have dysfunctional effects on decision making and performance measurement in the organisation.

2.1 Behavioural consequences of budgetary participation

The overall goal of participation is to reach agreement on a budget that the managers consider fair and achievable but which also meets the corporate goals set by top management. Motivation is believed to be generally higher when individuals participate in setting their own goals (Brewer et al. 2005). Given that motivation was one of the main objectives underlying budgetary participation, earlier studies have considered direct relationships between the extent of participation and motivational-led variables (Soobaroyen, 2007).

Some studies proposed that budgetary participation is positively linked to employee performance. A large number of studies have reported findings in support of this proposition (e.g. Becker & Green, 1962; Brownell, 1982a; Gul et al. 1995; Hofstede, 1968; Lau et al. 1995; Libby 1999; Merchant, 1981; Mohd, Nik & Abdul, 2008). Some have however reported a significant negative association (e.g. Bryan & Locke, 1967; Kenis, 1979) and others a weak positive relationship (Milani, 1975)

Other positive behavioural variables, linked with budgetary participation include satisfaction (Chenhall and Brownell 1988; Chong 2002; Frucot and Shearon 1991; Lau and Tan 2003); gathering of job-relevant information (Kren 1992; Magner et al. 1996; Chong and Chong 2002); organisational commitment (Meyer, Allen & Gellatly 1990), trust in superior, (Lau and Buckland, 2001; Magner et al. 1995; Lau and Tan 2006), procedural fairness and goal commitment (Libby, 1999; Magner et al., 1995; Wentzel, 2002; Sholihin, Pike, Mangena and Li 2011).

However, while these various positive outcomes have been linked with budgetary participation, researchers have noted several short-comings of the process. Drury (2005) argued that the fact that performance is measured by the same standards that the budgetee has been involved in setting, gives the budgetee the opportunity to negotiate lower targets that increase the possibility of target achievement and the accompanying rewards. Other studies have suggested that other dysfunctional behavioural outcomes which may hamper the process may arise from budget participation (e.g., Hope & Fraser, 2003).

2.2 Dysfunctional behavioural consequences of Budget Participation

Dysfunctional behaviour refers to actions in which a subordinate attempts to manipulate elements of an established control system for his own purposes (Jaworski and young 1992). Joshi and Abdulla (1995) noted that empirical studies carried out in developed economies have indicated that participation in the budget setting process could engender such behaviour largely traced to how slack is built into the budget by subordinate managers.

There are various forms of dysfunctional behaviour that can occur in an organisation but with one common and underlying objective: to use the rules and procedures to one's advantage (Sooderroyen 2007). However, research attention has been to a large extent directed towards the concept of budgetary slack. Budgetary slack has been described in Webb (2002, p. 362) as "intentional biasing of performance targets below their expected level". Young (1985, p. 829) also defined budgetary slack as "how much managers intentionally build excess requirements for resources into the budget, or knowingly understate productive capability.

One fruitful area of research on budgetary systems and dysfunctional behaviour has been the link between participation in budget setting and budgetary slack. For example, Lukka (1988) argued that the higher the level of budgetary participation, the more opportunity is created for employees to create bias, thus provoking some control problems such as extent to which subordinates can be controlled by their various supervisors. Lal et al. (1996) also suggested that budget participation provokes higher slack. Christensen (1982) also argued that when participation occurs between the better informed subordinates and less informed superiors, and the subordinates' information is used as a basis for their performance, the subordinate has the chance to take advantage of his involvement in setting the budget. This may perhaps create budgetary slack. On the contrary, Cammann (1976); Merchant (1985); Onsi (1973) provided evidence that participation might lead to a reduction in slack due to the possible communication between managers, in which case subordinates felt less pressure to create slack; and that slack is not necessarily dysfunctional (Davila & Wouters, 2005; Jaworski & Young, 1992).

Apart from budgetary slack as an outcome of the budgetary process, several studies have called attention to the existence of other forms of dysfunctional behaviour.

Bimberg et al. (1983) has identified smoothing, biasing and focusing, filtering and falsification. Jaworski and Young (1992) grouped these into two; gaming of performance measurement and information manipulation and focused on how three contextual variables (goal congruence, perceived peer dysfunctional behaviour and information asymmetry) ultimately affect the dysfunctional behaviour. Chow, Kato and Merchant (1996) identified data manipulation and “management myopia” and examined the effects of organisational controls on these behaviours in Japanese and U.S. managers. Findings from the study showed that when Japanese managers are faced with the same control tightness as their U.S. counterparts, the Japanese managers would not be as short-term oriented or as prone to manipulation of performance measure as the U.S. managers. Van der Stede (2000) also explored the link between budgetary controls and two negative outcomes of the budgetary process; budgetary slack and managerial short-term orientation and concluded that poor past performance led to the use of more rigid controls and reduced slack thereby causing short-term orientation.

However, despite the abundance of reports of subordinates who game performance indicators, strategically manipulate information flows and falsify information (Jaworski and Young 1992), evidence on the role of participation in these dysfunctional behaviours is limited in literature. The role of participation in gaming of performance measurements is of particular interest in this study as according to Soobaroyen (2007) gaming has perhaps more fundamental implications for the organisation than those caused by strategic information manipulation. Gaming may threaten the long-term goals of the organisation such as profitability, or market share

2.2.1 Gaming of performance indicators

Gaming involves selection of actions which will achieve the most favourable personal outcome for the subordinate regardless of which action the superior prefers (Birnberg et al.; Ridgway, cited in Jaworski and Young 1992). Whilst many organisations today use budget targets for evaluation of performance (Ajibolade 2008; Libby and Lindsay 2011), having fixed targets can cause undesirable behaviour such as gaming (Libby and Lindsay 2011). For instance managers may focus on activities aimed at cost reduction rather than value creation (Hope and Fraser, 2003) for fear of not meeting short-term targets especially when such targets are imposed by management. Jaworski and Young (1992) noted that gaming is a form of resistance to the control system by subordinates since the system measures performance only on a limited number of the subordinate’s required tasks or measures performance on the wrong tasks. Thus, subordinates knowingly select their activities so as to achieve a favourable evaluation from the superior with inherent biased information or smoothed data. Soobaroyen (2007) noted that because subordinates may focus on tasks which may achieve their short-run objectives of meeting targets, ignoring tasks which would further the long run objectives of the organisation, gaming has more direct economic consequences for an organisation.

Studies based on agency theory have argued that subordinates’ (agents) participation gives the principal (superior) an opportunity to access information which allows agents to communicate or reveal some of their private information that may be incorporated into the standards or budgets against which their performance would be evaluated (Magee, 1980). Participation provides an opportunity for subordinate managers to influence the budget before it is finalised. Participating managers are argued to be more involved in considering and evaluating alternative budget goals (Lawrence and

Lorsch cited in Kren, 2003). Under participative budgeting, performance is measured by precisely the same standards/objectives that the budgetee has been involved in setting (Drury, 2002). Since gaming involves the selection of actions and processes with a view to generating favourable reports and feedback for the subordinate, the pressure to game performance indicators is expected to reduce when the subordinate has exerted some degree of influence on target set.

4. Research Method

A cross sectional survey of companies listed on the Nigerian Stock Exchange (NSE) was carried out. A sampling frame consisting of one hundred and fifty-eight (158) quoted companies which have their detailed information available on the NSE Fact-book (2010/2011) was constructed from which a random sample of one hundred and twelve (112) companies was selected.

4.1 Research Instrument

The research instrument comprised a questionnaire consisting of items adapted from prior studies. Two variables; budget participation and gaming were measured in the instrument using composite measures as follows:

i. Budget Participation

This was measured in terms of extent of managers' involvement in securing a budget for the organisation using a six- item measure adapted from Nouri and Parker (1998) based on Milani (1975) and Mia (1988). This study adopted a five-point Likert-scale measurement ranging from strongly disagree to strongly agree. The scores obtained on the six (6) items were summed up and averaged to obtain a summary score for budget participation.

ii. Gaming

This was measured in terms of the extent to which subordinates select their actions and processes with a view to generating favourable reports and feedback for themselves. The study adopted Soobaroyen's (2007) three-item measure of gaming based on adaptations of Jaworski and Young (1992). This measure was considered appropriate for the Nigerian environment because it had taken care of Merchant's (1990) observation of reluctance in answering questions relating to dysfunctional behaviour, by ignoring the active tense and adopting the use of non-active tenses. This was in order to elicit candid opinion and reduce the reluctance of respondents to give answers on dysfunctional behaviour. A five-point Likert-scale ranging from strongly disagree to strongly agree was also adopted. The scores obtained were summed up and averaged to obtain a summary index. An index of above 3.0 was considered high while a score of 3.0 and below was considered low.

4.2 Reliability of Research Instrument

The Cronbach alpha test was adopted for testing construct reliability of the instrument. Results suggest a satisfactory internal reliability above 0.70 for the measures of the two variables: Budgetary Participation (0.818); Gaming (0.736).

4.3 Data collection

Four copies of the questionnaire were given to managers in the accounting/finance function and other operating units such as production, sales or marketing of each of the one hundred and twelve companies sampled making a total of four hundred and forty-eight copies of the questionnaire administered. Out of these a total of three hundred and thirty-two copies were returned representing seventy-four percent (74%) response. However, twenty-one were found not usable. A total number of three hundred and eleven (311) copies of the questionnaire were used for data analysis representing an effective response rate of sixty-nine percent (69%).

4.4 Data analysis

The data collected were analysed using both descriptive and inferential statistics. The descriptive methods used were the arithmetic mean and standard deviation while correlations and independent samples t-test were the inferential statistics used.

5. Results

5.1 Descriptive statistics

All budget participation statements as a single measure recorded a mean score of 3.63, shown in Table 1 suggesting a high level of respondents' participation in budget setting with managers' involvement in securing the final budget figures for their department (Item 6) having the highest mean score of 3.83. Results as shown in Table 2 also indicate a high level of gaming in the companies studied, an overall mean obtained for gaming is 3.71 while ignoring job related activities when not monitored recorded the highest mean of 3.80.

Table 1: Descriptive Statistics of Budget Participation

Item	Budget Participation Statements	Mean	Std. Dev.
1	My contribution in securing an appropriate budget for my department is very important.	3.54	.939
2	My supervisor provides highly convincing reasons for budget revisions concerning my department	3.66	.722
3	I often freely state my opinion concerning the departmental budget to my supervisor.	3.54	.680
4	I am actively involved in the budget setting process of my department.	3.58	.923
5	My supervisor regularly seeks my opinion when there is the need for budget setting or revision of budgets for my department.	3.65	.711
6	The final budget figures secured for my department is derived to a high extent from my involvement.	3.83	.883
	Overall	3.634	.57072

Table 2: Descriptive Statistics of Measures of Gaming

Item	Managerial Dysfunctional Behaviour	Mean	Std Deviation
1	Certain job-related activities can be safely ignored when they are not monitored by a supervisor.	3.80	.949
2	Managers can slightly adjust tasks to reflect performance with organisational goals.	3.79	.928
3	Control systems do not cause managers to be particularly concerned with improving efficiency in their area of responsibility.	3.54	.680
	OVERALL	3.7128	.57706

5.2 Results of Tests of Hypotheses

5.2.1 Results of Test of Hypothesis 1

H_{01} : Budget participation has no significant relationship with gaming in Nigerian quoted companies.

Correlation analysis was used to determine the existence and strength of relationship between budget participation (BP) and gaming (BG). The results of correlation analysis indicated that BP has a significant positive relationship with gaming ($r=0.541$) at $p < 0.01$. Hence, the null hypothesis of no significant relationship between BP and BG is rejected.

5.2.2 Results of test of Hypothesis 2

H_{02} : There is no significant difference between the level of gaming of companies with high level of budget participation and those with low budgetary participation.

In testing this hypothesis we conducted the Levene's test to confirm that the assumption of homogeneity of variance has not been violated, a t-test was then carried out. The results also showed that the level of gaming in high BP setting is different from level of gaming in companies having low BP. This difference was found to be statistically significant at $p < 0.05$. Hence, the null hypothesis of no significant difference was rejected. Since the Panel for the group statistics revealed that the mean BG in high BP setting was greater than the mean BG in low BP setting, we can conclude that companies with high BP engaged in gaming to a higher extent than participants with low BP ($t(309) = -8.568, p < 0.05$) as shown in Table 5. Overall, high BP is associated with high gaming practices.

Table 5: Summary of Difference between Means of Bg of Companies Based on Low or High Bp

Panel a: Group Statistics									
	BP		N	Mean	Std. Deviation	Std. Error Mean			
Gaming (BG)	Low		28	2.9796	.41279	.07801			
	High		283	3.6830	.41453	.02464			

Panel b: Independent Samples Test									
	Levene's Test		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Upper	Lower
BG	.047	.829	-8.568	309	.000	-.70340	.08290	-.86493	-.54187

6. Conclusion and Recommendations

This study has provided empirical evidence of a positive relationship between budget participation and gaming using data from companies in Nigeria. The results showed that there is a significant difference between the levels of gaming under high and low budgetary participation. The finding which suggests that managers of companies with high budgetary participation engaged more in gaming is contrary to expectation in the study that budget participation should reduce the extent of gaming performance indicators by managers. This could be as a result of other variables which might affect the relationship but which were not studied. The results are however compatible with research findings in the developed countries including Lu (2011); Sobarooyen (2007); and Young (1985).

The study recommends that budgetary participation where used should be complimented with efficient monitoring systems. Managers in a high budget participation environment should place emphasis on efficient monitoring of the activities of subordinates during the budgetary process as this should reduce the gaming practices which their involvement may engender. The study recommends that variables which could moderate this relationship in Nigerian companies be explored.

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Crisis Communication on Electronic Platform

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Abstract

Crisis's emerging unexpectedly and which have serious effects on the future of the companies, brings opportunities and threats along with them. In the 21. Century, emerging of the new media channels altered the scope of the crises. The solution for the crises arising on the electronic platforms is to employ correct form of communication strategies. The crises which are managed professionally by the public relations experts can easily be solved. In this study, crisis communication subject was emphasized with literature search method. Also, how the form of communication should be for the crisis communication that takes place or be transferred into the electronic platform was emphasized. In this context, it was also tried to be answered that how the crisis communication should be managed for the crises likely to occur in the virtual environment.

Keywords: crisis, new media, electronic platforms, crisis and communication, internet

Introduction

Day by day the number of consumers using Internet increases. Firms are expressing themselves in the Internet environment. With the help of Internet, companies reach their customers more easily. Whilst crisis's arising in Internet environment involving institutions sometimes there are crises that may start other than Internet and reflect in social media. Any kind of statement which may effect the identity and reputation of a brand can be spread out quickly on the Internet. Social networks as being followed by users continuously, firms need to assign experts to follow social media.

Institutions has to know how to use the Internet if they want to survive in the digital age. Both the person and the most senior managers should take the time to familiarize themselves with the new technologies and obtain the necessary information for the implementation of the right policies (Gates, 1999: 79). In respond to crises arising or be carried onto the Internet, institutions generally choose to appoint public relations employees as experts. The reason for this is the public relations experts are being capable of solving crisis which involves the firms. Experts who know what sort of communication to be employed in solving the crisis, may direct any sort of media channel to solve the crisis.

Information which reaches out to millions of people in seconds may be of a threatening scale from time to time. Public relations professionals who has to respond to the situation immediately, may conduct their works more easily by following and getting to know the digital environment better.

Crisis and Communication

Crisis is usually an unexpected situation. Decisions need to be taken urgently in case of a crisis. Crisis, emerging unexpectedly and as being a negative situation to which precautions are taken late have considerable effects on the future of the firms. The crisis period is a tense and also an ominous period and in this period obscurities may arise. Due to the possibility of damage to the institution may be enormous, it must never be forgotten that crisis is a period to which the professionals need to respond carefully.

The meaning of the word 'Crisis' is derived from the word 'Krisis' in Greek language when etymologically examined and as a remarkable feature, 'Crisis' is expressed with two symbols in Chinese inscription, These two symbols express the meanings 'Opportunity' and 'Danger' so that impose both positive and negative associations (Kadıbeşgil, 2002: 46). According to the science of psychology, crisis can be defined as being "the individual himself to feel under threat, fear, panic, over-exertion or stress of the workload (Bozgeyik, 2004: 38). Panic, horror, anxiety are the basic feelings that effect human beings during crisis. These feelings may emerge in individuals and institutions at the time of a crisis

Increase of rate has been observed in crises in comparison to past. According to Cantor, among the reasons for these are; development in the communication technologies, individuals to be able to reach information easily, the changes in the contents of the news published in media (Stand-out of the dramatic news), increase of the activists who watch firms and their operations closely, and these groups being shown in media so often (Mogel, 2002:217).

Especially, today, as the probability of encountering crisis for every institution has increased it enhances the corrective efforts towards crisis. The crisis communication to be

conducted in order to respond to crisis gains more importance issue each day that goes by.

Crisis communication is based on the tactics and communication strategy to follow during the periods of crisis. Precautions to be taken before crises occur, producing solutions, clearing away of the elements that may cause crisis, sharing the solutions and developments with targeted groups constitutes the subject of crisis communication (Peltekoğlu, 2007: 450). Crisis communication should also be assessed along with communication efforts during the period of crisis, before crisis and after crisis sections.

In the notion of crisis management the importance of crisis communication “is depended on decreasing the damage to the image of the institutions to a minimum level by following reasonable communication policy” (Narbay, 2006: 109).

For crisis communication in order to be successful, experts must pay attention to some basic rules. Thus, with the compliance to rules, crisis communication can be more easily managed. Some of the rules to be complied with are as follows:

1) *Moving quickly*: crisis situations, imposes on institutions a responsibility of reaching the public as quickly as possible with accurate and complete information. It is expected from the institutions that they must respond to the crisis in two hours (Wilcox, et al, 2001:154).

2) *Information to be based on a reliable source*: The communication activities being conducted at the times of crisis should be of assistance in giving satisfying, clear and correct information to the public through media channels regarding the effects of crisis on the firm, and precautions being considered to be taken. In the event of official information is not made public, it is likely to obtain information of which the authenticity is not clear. In periods like these, the correct information needed to be made public through media considering the probability of exaggerated news to be spread out through rumors and other communication channels (Narbay,2006: 103).

3) *Taking into account the core values of the institution*: In times of crisis, institutions need to act on taking into consideration of core values. Institutions, in times of crisis needs to act towards ethical values and send out a clear message to public regarding the situation they are in and their priorities (Ogrizek & Guillery,1997: 56).

4) *Giving victims of the crisis a prominence instead of financial worries*: The shareholders of the institutions and their worries regarding their investments should not be the priority while people’s lives were affected. Showing interest and empathy to those who are affected by the crisis, providing them and their families livelihood, showing them that providing their needs come first, strengthens the rhetoric of crisis regarding how to deal with it (Stanton,2002:19).

5) *Appointing public spokesman*: After the crisis management team was established, the first thing to think of is the determination of the public spokesman. Only one person should have authorization to make a statement and that person is the CEO in general. When the crisis is transferred onto technical issues, the statements are to be made by the relevant unit manager for technical details (Crisis Management, 2004: 98).

6) *Establishing of Crisis Communication Center*: Communicators must establish a crisis center as a platform for all the communication operations. Providing a place for media for them to move freely at the time of a crisis is crucial. In this centre, computers,

telephone services, fax machines and etc must be at their disposal. All the communications regarding the crisis must be managed from here (Argenti,1998: 230).

7) *Utilizing Internet environment in the most effective way:* At the time of a crisis, maximum level of utilization of the web environment is necessary. E-mail accounts of all social sharers, must be in the hands of the crisis committee. Should the website be constructed in 24 hours, If the institution has not one available. If it has got one, the decisions that were taken must be published on the home page and the additions should be placed where it can be easily viewed. A mechanism should be set up to send e-mails to the crisis committee from the website (Narbay, 2006:86).

8) *Giving importance to in-house communication:* At the time of a crisis, the first side to be notified is the members of staff. In - house communication puts an end to the rumors arising in every serious crisis as well as raising the morale of the members of staff. Members of staff must be given an update regarding the developments (Crisis Management, 2004: 41).

9) *Acting according to the crisis plan:* The effective way of handling crises is to prepare various crisis scenarios and creating communication plans accordingly. Institutions which are already prepared to a crisis are known to be subjected to the negative effects of it (Public Relations Theory and Practice, 2004:317).

10) *Encouraging the actions that may effect the flow of the crisis positively:* At the time of a crisis, communication consisted of simple explanations which only based on some truths is not sufficient. What is important is to contemplate and encourage the actions that may effect the crisis positively. Because these actions might be responsive to uncertainties and doubts or the firm might have symbolic values showing its credibility, clearness and its responsible actions (Orgizek & Guillery, 1997: 58).

For the crisis communications to be successful the rules that are mentioned above can be developed more. The more effective result to be obtained if these rules are exercised with a good manner.

The plan for the crisis communication must surely be devised. Especially, the plans which are prepared and managed by public relation experts, may help to get easily over with the crisis. Crisis communication plans must contain various information. Within this plan, experts must establish a regular and sincere communication with media staff who were previously chosen. Thus, in the event of a crisis their assistance can be requested.

Contact details of the necessary people in urgent cases must be formed beforehand. In crisis communication, one of the elements that the institutions ignore is the members of staff. The information must be shared with the members of staff. Therefore, in the event of a crisis, every material to inform the members of staff must be included into the crisis plan.

Crisis on the Internet

Internet is a system in which the information roads are connected to each other. Within this system everyone can obtain every sort of information at every hour of the day, at any place in the form they desire. Everything on the Internet takes place at a lightening speed. Therefore, the reputation of brand values of the institutions might sustain a huge blow on the Internet platform in a very short period of time. The identity of the institutions might be shattered. Negative news about the institutions can be reached by a

millions of people in a relatively fast manner through social networks such as Facebook, Twitter and etc.

Internet is almost at everyone's service with no limits as well as being international. Under these circumstances the fact that Internet does not recognize national boundaries is inevitable. Through Internet, people who share their common field of interests regardless of the national discrepancies, are gathered under a virtual roof in a country that does not exist. In this sense, it would not be wrong to say that Internet is the biggest civil movement. At this particular point, we must understand that Internet may be destructive and devastating in some ways (Tanyol,2002: 207). Due to its destruction power being great and deep, the crisis on the Internet to be approached with a much more rigorous manner.

Communication strategies to be developed for the electronic platform must constitute one of the most important elements of crisis management. In the crisis communication designated for the electronic environment, being aware of the information flow which would create crisis, making necessary statements and taking precautions before the crisis emerges must be the primary objectives (Kırdar:98). Monitoring the news group constitutes the most important task of the crisis strategy. Therefore a continuous follow-up of these groups is needed.

News groups such as WWW and Usenet became important places for people to update information and their speeches regarding crisis. Web, in any case, transformed into a cultural tool into where the interests, feelings and attitudes are transferred(Kırdar : 99).

In addition to the statements made by Kadıbeşgil regarding the necessity of the use of Internet in times of crises, Internet crisis planning directive developed by Holtz is consisted of the following steps (Holtz, 1999: 218- 221) :

1) *General Planning*: Internet communications must be co-ordinated together with general crisis plan. If a plan was devised, a siege mentality intended to suppress the thoughts of an institution might be avoidable and strategies based on the available data regarding how the public would react during crisis, can be developed.

2) *Monitoring (Inspection)*: In case of affection by the crisis, it is necessary to have the capability of doing the following immediately. To commence inspection, the external sources has to be informed or the existing effort has to be strengthened. Time is to be re – allocated to previously known sources, by doing so, the necessary proper and deep Internet search must be conducted. An online report has to be prepared summarizing the pile of information regarding the steps to be taken by the company.

3) *Using the website of the institution*: Home page of an institution is the first place to be checked by the representatives of the masses regarding the respond of an institution. A home page model in the form that information is enabled to be reached regarding the crisis should be taken.

4) *Using e-mail*: Ideally, an e-mail address must be set up in order to establish a link with the public during crisis. When the online access is provided, the number of telephone conversation that the company faces might be decreased.

5) *Monitoring and use of the discussion groups*: The company must be sure with which discussion groups it would be confronted and which ones favour the most of the

forums. A monitoring system should be available such as a legal agreement, a ready to operate public relations agency or in-house sources as mentioned above.

6) *Getting in touch with assaultive sites*: Efforts put into monitoring would produce better results than the discussions regarding crisis. Internet sites focusing on the situation may emerge suddenly and sometimes these internet sites may request additional information.

In the Internet crisis communication, the expert teams to manage the crisis must be determined in advance. Especially, the public relations experts may be much more successful due to having had experience in communication strategies. The team which is formed with the leadership of public relations experts must develop themselves in the subject of social media. Before a crisis that may arise on Internet, the e-mail accounts of all the social sharers such as the member of staff of an institution particularly, then the suppliers, branches and members of media, must have at crisis committee's disposal. Thus, necessary notifications can be made without losing time.

Institutions must place adverts on various blogs and social networks at various times with the help of public relations experts. By doing so, a more sensible approach can be expected from the sites on which adverts had been placed. Again, every sort of close relationship must be established with internet blogs and social sites in the crisis communication before the crisis. News channels on Internet must be monitored continuously and a reaction needs to be shown quickly through these channels in the event of any crisis.

When the crisis starts on Internet, that is to say as soon as it is heard, it must be claimed and must be transparent. In the management of Internet crisis communication, as of the time the crisis takes place, a quick communication needs to be established. Therefore, the reaction of the institution to a crisis must immediately be delivered to the consumers on corporate blog, facebook, twitter and youtube. In all the social media channels, especially on Twitter and Facebook active accounts must be set up. Institutions must publish the same messages through all social media channels and this message must be clear, simple and straightforward in the event of a probable post-crisis situation.

Institutions must establish dialogues with the sites that damage their reputation. Crisis message is to be made public on social platforms at every channel. Institutions must respond to criticism maturely and negative comments and reactions must be handled softly.

Websites, as being the first place where the answers would be made public, has the distinction of also being the first place to be checked by those who are interested in times of crisis. Crisis-related information on the website being ready gains importance in connection with the information to be transferred by the relevant institution. Statements made towards crisis and details must appear in the links provided on the home pages of the websites. Websites should allow a simple way for forwardings regarding the crisis. Informing of the crisis must be clear and easily reachable for website visitors. Websites apart from providing forwardings for more details and information, must as well provide e-mail utilities for those website visitors who wish to reach the organization and forwardings to relevant discussion groups (Kirdar&Demir:99). In addition to those messages must be published on the websites of an institution. These messages must have been published by the senior executive itself and must be under the control of the public relations expert. The text must be composed of rich contents and as well be sincere as

possible and to be announced from the website. In the event of crisis taking place with the available media monitoring reports, the general course of the crisis must be monitored daily, weekly or monthly.

Members of media may head towards uninformed, insufficient and unreliable sources to obtain information if they were not informed or if they think to be not informed well enough by the organization (Pira & Sohodol, 2004:223). The sources that electronic platforms provide, must be used intensively in crisis communications. In providing the flow of information regarding media, the tools of electronic platforms must be employed. For the communication to be established with members of media, e-mails, online conference bulletins and online announcements can be employed. For the flow of information to be provided via e-mails, e-mail addresses of the members of media are needed for the preparatory Works (Kırdar&Demir: 99). Every crisis is different in their characteristics and executives must make their decisions according to the development of events, however, the starting point for all crisis managements is consisted of particular elements.

Conclusion

In the new media order, the contents that are produced and distributed by the users uncontrollably revealed the online crisis problem of the brands. The institutions must form effective crisis communication plan towards various crises arising on Internet. Crises are chaotic situations for organizations and communities to be confronted in their lives and they create chaos. Therefore, in situations like this, experts are needed to approach professionally to the problems. Institutions, in general, chooses these experts among the public relations experts who have broad experience on communication.

Public relations experts must be ready for any sort of crisis to take place on Internet in the name of their institutions. Therefore, the problems that may occur at the time of a crisis, must be solved in advance by forming a crisis plan beforehand. Because of that good relations must be established beforehand with the news sites, blogs and social media channels on Internet platform and at the time of a crisis utilization of these relationships is needed. The contact details of the opinion leaders must be taken beforehand and at the time of a crisis, assistance from these people must be requested.

The crisis that the institutions are confronted on Internet is quite big and destructive. Because the chaotic situation emerging for the institution can be easily accessible in a very short period of time to almost every corner of the world with a single click. Therefore, it is crucial to move quickly at the time of a crisis. By claiming the crisis, further expansion of the scope of the crisis should be stopped. The team who would manage the crisis, should share information clearly with Internet users and with their customers, members of staff and stakeholders.

Aggressive attitude should not be displayed. The more open attitude adopted towards dialogue, the more success to be gained. The information bulletins explaining the content of the crisis must be prepared by professionals and should be transmitted to everyone. The website of an institution should keep the press releases of the news bulletin and visual information permanently. By placing advertisements on important sites, they must be ensured of taking a side. Information regarding the general course of the crisis must be obtained through monitoring of the news sites. As none of the crisis is being similar to another, careful steps must be taken towards the crisis that is to be confronted.

Therefore, a careful approach is needed to the situations which would cause a sudden loss in the reputations of institutions or to the situations that would affect the brand values . The situation of crisis must be transformed into an opportunity.

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The Effectiveness of PBL Online on Students' Creativity: A Case Study at the Universiti Malaysia Sabah, Malaysia

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Abstract

This paper aims at finding out the effectiveness of PBL Online on students' creativity. A cohort of 61 Physics with Electronic science undergraduate physics students from the School of Science and Technology (SST) comprised the sample. The sample was separated into experimental and control groups, with the experimental group using PBL online learning activities, and the control group more traditional learning activities. Both groups were supported via an online learning environment, which acted as the main medium for learning. Participants' creativity was evaluated using a previously validated instrument, the Torrance Test of Creativity Thinking (TTCT) administered before (pre-test) and after (post-test) the intervention. Examination of these data, points to statistically significant differences between the traditional and PBL groups in creative thinking. Therefore the research findings suggest that students' creative thinking can be improved by PBL online.

Keywords: problem-based learning; online learning; creative thinking.

Introduction

Unlike the past graduation from university is no guarantee of employment. This is particularly so in the case of Malaysia, the focus of this inquiry. The fact that ca. 70 percent of the graduates from public universities in Malaysia cannot secure employment is a cause of considerable anxiety. Local commentators say that these graduates remain unemployed because they lack creativity (Nain, 2010). The President of the Malaysian Association of Creativity & Innovation (MACRI), Datuk Ghazi Sheikh Ramli, claims that the creativity of Malaysians is suppressed by the education system, and a perceived need to follow societal norms. He adds that Malaysian society generally constrain children's learning, arguing that children need space to grow, and when this space is not given, it kills their natural creativity. This is also reported in other cultures such as in Pacific Island nations (Sade & Coll, 2003; Coll, Ali, Bonato & Rohindra, 2006). Ghazi claims that in more open societies such as Western nations, students are encouraged to challenge the opinions of their lecturers and elders.

Creative Thinking and Learning Science

'In the Malaysian compulsory education system, education about thinking emphasizes skills such as analysis, teaching students how to understand claims, teaching them how to follow or create a logical argument, how to figure out the answer, eliminate incorrect ideas, and focus on the 'correct' answer. This is a very traditional approach to learning science, one that suggest to students that science is a codified body of factual knowledge; a body of content that must be learned and repeated verbatim upon request (Millar, 1989). Harris (1998), however, suggests there is another kind of thinking we should foster; one that focuses on exploring ideas, generating possibilities, and looking for many right answers rather than seeking the one 'correct' answer. We suggest here that both ways of thinking are useful in working life after graduation, yet it seems the latter tends to be ignored until after college in many countries including Malaysia. According to Chua (2004), there are four main steps that we need to take in order to foster creative thinking: remove barriers to creative thinking; make students aware of the nature of the creative process; introduce and practice creative thinking strategies; and foster a creative environment.

In Malaysia, efforts are now being made to encourage creativity through both curricular and co-curricular activities (see, e.g., Utusan Malaysia, 2008; Yong, 1987, 1993). As noted recently by the Deputy Prime Minister of Malaysia, Tan Sri Muhyiddin Yassin (also the Minister of Education), Malaysian education urgently needs to be transformed if we are to enhance economic development by application of creativity and innovation (Coll & Taylor, 2008; Zakaria, 2010). Thus, in Malaysia teachers are encouraged to use pedagogies to promote creativity, and students are likewise encouraged to be innovative and come up with new ideas. Students are encouraged to participate in creative activities, allowing them to become conscious of the ways in which they think and learn.

Fostering Creative Thinking

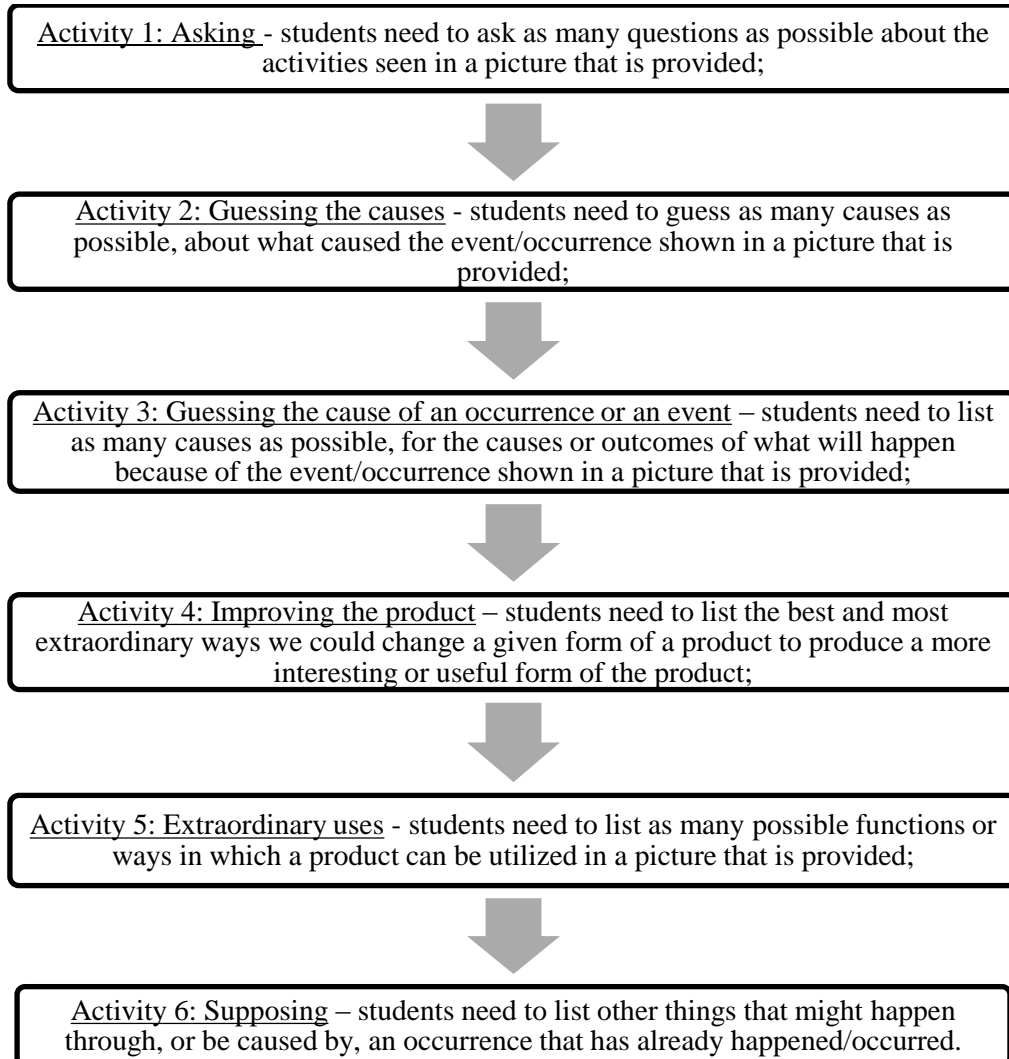
Creativity or creativeness is a mental process or mental activity involving the generation of new concepts or theories, or new associations between existing concepts or theory (Cowley, 2005; Harris, 1998). An everyday conceptualization of creativity is that it is simply the act of creating something new (Awang & Ramly, 2008). However, according to Torrance (1984), creativity comprises four elements; *fluency*, *flexibility*,

originality, and *elaboration*. Guilford (1964) says creativity involves ‘divergent thinking’, engaging in a process of creating many new and different thoughts about a topic over a short period of time.

Measuring Creative Thinking

It is not obvious how one could measure such an holistic construct like creativity. Based on the literature, it seems creativity is usually measured by means of survey instruments. The main instrument reported in the literature used to measure creative thinking is *Torrance Test of Creative Thinking* (TTCT, Forms A & B) (Torrance, 1990). Torrance (1966, 1990) suggests that creative thinking means to generate new ideas, the student must produce more and more ideas (i.e., be fluent), and include a variety of different ideas (i.e., be flexible), ideas that are unique (i.e., original ideas), and that such ideas need to be specific, detailed and useful (i.e., they are valuable). To measure these skills, the TTCT in Form A (for pre-test) and Form B (for post-test) are used. There are no major differences between the tests since the questions in each form revolve around six activities:

Flow-chart 1 The creative thinking activities that implemented in this study.



Each answer in this instrument is scored using the following criteria (i) fluency, (ii) flexibility, (iii) originality, and (iv) elaboration. Juremi (2003) reported good construct and criterion validity, for both versions of the TTCT in the Malaysian context, suggesting they would likely be suitable for use in the present inquiry (see below for validation of instruments). Additionally, work by Ghouse (1996), supports the construct validity of the TTCT for two cohorts of students, who were taught how to think creatively, compared with a group taught traditionally.

Problem-Based Learning

Problem-based learning (PBL) is a pedagogical approach to science education that focuses on helping students develop self-directed learning skills (Barrows & Tamblyn, 1980; Boud & Feletti, 1991). PBL has its origins in the Medical School of McMaster University (Rideout & Carpio, 2001), but has since been used in a variety of other contexts. It derives from the idea that learning is a process in which the learner actively constructs new knowledge on the basis of current knowledge. Unlike traditional teaching practices in higher education, where the emphasis is on the transmission of factual knowledge, PBL consists providing students with a set of problems that are carefully sequenced to ensure the students are taken through the curriculum in a measured fashion. The students encounter problem-solving situations in small groups guided by a tutor, who facilitates the learning process by asking questions and monitoring the problem-solving process. The ability to solve problems here is more than just accumulating knowledge and rules; it is the development of flexible, cognitive strategies that help analyse unanticipated, 'ill-structured' situations with an end result of producing meaningful solutions. Even though many of today's complex issues are within reach of student understanding, according to the literature the skills needed to tackle these problems are often missing in our pedagogical approaches (Hitchcock, 2000; Hmelo-Silver & Lin, 2000).

Research points to positive feedback from students engaged in PBL, with a number of self-reported benefits identified: having fun learning; learning from each other; not falling behind as everyone is constantly learning; more effective learning as PBL enables students to remember better; students having to interact; and, real-life problems seen as more interesting and challenging (Dublin Institute of Technology, 2005). However, PBL is not just about problem solving, and it is important to distinguish between PBL and learning *via* problem-solving. In physics, the use of learning problem-solving is well established, and in this students are first presented with content, in the form of a lecture, and are then given problems to solve which are typically 'solved' via the use of algorithms or comparison with worked examples. These 'problems' are typically narrow in focus, test a restricted set of learning outcomes, and usually do not assess other key skills. This type of drill work is not problem solving in the sense that scientists view problem solving; it is rather learning how to solve numerical problems. When learning in this way, students do not get the opportunity to evaluate their knowledge or understanding, to explore different approaches, or to link their learning with their own needs as learners. They have limited control over the pace or style of learning, and according to the literature this method tends to promote surface learning (Woods, 1994). Surface learners concentrate on rote memorisation (Araz & Sungur, 2007); this often arises from the use of didactic 'spoon-feeding', which does not encourage students to adopt a deep approach to learning (Kember, 2000; Kit Fong,

O'Toole, & Keppell, 2007). Deep learners, in contrast, use their own terminology to attach meaning to new knowledge (Rideout & Carpio, 2001). In PBL, students determine their learning issues, and develop their own unique approach to solving problems. The members of the group learn to structure their efforts and delegate tasks, and peer teaching and organisational skills are critical components of the process. Students learn to analyse their own and their group members' learning processes and, unlike problem-solving learning, must engage with the complexity and ambiguities of real life problems. PBL is thus well suited to the development of key skills, such as the ability to work in a group, problem-solving, critiquing, improving personal learning, self-directed learning, and communication.

Despite these potential advantages, there is some reluctance about using PBL in physics because of view that students require a sound body of content and good mathematics skills before they can engage with this type of approach (McDermott & Redish, 1999). It has been reported that first year students tend to rely more on lecture notes than students in later years, and that first year students tend to be assessment driven (Dublin Institute of Technology, 2005). However, it also has been reported that PBL can be introduced successfully into first year, if it is facilitated correctly and the tutors are aware that the students are only in the early stages of developing as self-directed learners (Dublin Institute of Technology, 2005).

PBL appears, to at least in part, address concerns about other educational methods noted in the literature, such as how to enhance creative and critical thinking (Ward & Lee, 2002). According to Meier, Hovde, and Meier (1996), students taught within a teacher-dominated, lecture-based system are not able to solve problems that require them to make connections and use relationships between concepts and content. Only emerging scientists who are trained and taught to think creatively are likely to be able to solve real life problems. The literature thus suggests if we want our future scientists to be capable of solving some of the problems facing society, then we need to find ways to develop creative thinking skills in our students.

The research reported in this inquiry seeks to investigate the effectiveness of PBL in enhancing students' creativity skills in Malaysia, and at to see whether or not there is any positive impact on students' critical thinking.

PBL online

There is now a substantial literature on how PBL and online learning can be combined (see, e.g., Candela et al., 2009; Cheaney & Ingebritsen, 2005; Jennings, 2006; Lee, 2006; Lim, 2005; Savin-Baden & Gibbon, 2006; Savin-Baden & Wilkie, 2006), a combination that is often called *PBL online*. The argument in favour of this combination is that PBL online is capable of promoting both the development of problem-solving, and students' ability to use information technology; emphasizing the advantages of PBL as a promoter of process, as opposed to content (Watson, 2002). At first, technology was only used by teachers for administrative purposes, or for information dissemination (Lim, 2005), but as teachers became more familiar with such technologies, they sought to explore the potential of ICT in delivering collaborative inquiry through online forums (Lim, 2005). Some authors report integrating constructivist-based education of practical work such as PBL with online learning (Lim, 2005).

Integrating PBL with online learning consists of merging the pedagogy (in this case PBL) and delivering the content partly, or entirely, online via the Web. A key

feature of PBL online is the online collaboration that occurs as part of the learning activities (Savin-Baden & Wilkie, 2006), and this focuses on team-oriented knowledge-building discourse, and reduced teacher-centred learning (Savin-Baden, 2006). Savin-Baden also note that PBL online involves students working collaboratively in real time, or asynchronously, and collaboration tools such as shared whiteboards, video conferencing, group browsing, e-mail, and forum rooms are important for the effective use of PBL online. Students can learn through the use of Web-based materials such as text, simulations, videos, and demonstrations (Savin-Baden & Gibbon, 2006). In some cases, no print materials are provided, and students only can access materials directly from the course website (see, e.g., Yong, Jen, & Liang, 2003). In other cases there is a focus on a particular website, through which students are guided by the use of strategy problems, online material and specific links to core material, rather than delivery of PBL solely online (e.g., Savin-Baden & Gibbon, 2006). In both cases, use of websites is mostly student led/driven, and the materials provided support the learning undertaken in face-to-face PBL groups. An example of such a site is that for the SONIC project (Student Online in Nursing Integrated Curricula) (Savin-Baden & Gibbon, 2006), which used PBL in an interactive environment using FlashPlayer-based physiology resources in order to improve students expertise in nursing. Savin-Baden and Gibbon in an investigation of the interrelationship of PBL and interactive media, report that the assessment of PBL combined with interactive media to date has not fully considered the difficulties of combining these two approaches.

It is reported that PBL online has many of the trademarks of traditional PBL models developed in 1960s at McMaster University, and delivered through face-to-face pedagogy. PBL online, like traditional PBL, is more than a linear approach to problem solving, where problem scenarios are used as key learning or key issues in online learning environments. However, Savin-Baden and Wilkie (2006) say that many practitioners, educators and researchers hold concerns about whether PBL online might adversely affect the existence of face-to-face PBL, because PBL online may be seen as being more cost effective. One concern here is practitioner anxiety that PBL online may conflict with intentions of PBL generally, since some forms of PBL online tend to put more emphasis on solving closely defined problems, meaning PBL online may be less successful in encouraging students to become independent inquirers. A second concern is that learning in groups online may inhibit students' capacity to work through team difficulties and conflicts in the way this occurs in face-to-face PBL (Savin-Baden & Wilkie, 2006). Nevertheless, PBL online is an approach that stresses complementing, constructing, and improving what is already in existence, rather than trying to replace face-to-face learning pedagogies (Gossman, Stewart, Jaspers, & Chapman, 2007; Savin-Baden & Wilkie, 2006), and it is reported that PBL online promotes good cognitive engagement among students (Gossman et al., 2007).

There is little in the literature about integrating PBL online and creative thinking in non-Western settings such as Malaysia. Thus, this study seeks to contribute to the literature by considering how we might foster creative thinking amongst science students and pre-service science teachers' using PBL online for physics.

Methodology

The study was conducted in Semester II during the 2008/2009 academic year at the University Malaysia Sabah (UMS), Malaysia. A cohort of 61 science physics students

from the Physics and Electronics Program in the School of Science and Technology (SST), and a second cohort of 41 pre-service science teachers from the Science With Education Program from the School of Education and Social Development (SESD) were involved. The student cohorts were separated into experimental and control groups. The experimental group pursued all the PBL learning activities (i.e., collaborative learning, independent learning, self-directed learning, and reflective learning), while the control group were taught in a traditional lecture based learning manner. Both groups were provided with an online learning environment (i.e., using the same learning management system - Moodle).

For the PBL group, the students were divided into 10 groups of 4-6 students. Whilst for the traditional group, there were no groups involved, and they studied individually (Table 1).

Table 1. Sample used for the study

Group	Problem-Based Learning	Traditional
Science Physics Students (SST)	30 students (6 groups)	31 students

The intervention was conducted over 16 weeks. The TTCT instrument was administered one week before classes as a pre-test, and one week after the intervention as a post-test. During the intervention, all the teaching and learning assessment was delivered using the learning management system (LMS) organized by the Educational Technology and Multimedia Unit (ETMU) of the Universiti Malaysia Sabah. The LMS was developed in 2007, and the first author and lead researcher prepared the LMS following PBL and traditional approaches.

For the PBL groups the learning activities started with problems. After they were introduced to the problem, the students had to find their own sources of information in order to develop an appropriate solution. They could find solutions via the Internet, from interviews with their lectures or tutors, from textbooks, observations, or any method they felt would provide relevant information to help them solve their problems. The students in the PBL group also had to access to the LMS to engage in chat rooms at least once in a week – this was monitored by a facilitator. In these chat rooms they could argue, share thoughts, and start to construct solutions to the problems posed. They also could enter a forum room to post any inquiries or any ideas asynchronously. Additionally, some linkages, sources and lecture notes were uploaded by the facilitator to ensure the students did not lose their way when trying to find suitable solutions. They were given two weeks to solve each problem, and they had to solve five problems over the semester. In PBL online approach, students separated into 10 groups (6 groups from SST; 4 groups from SESD) as it consist of 4-6 members. Before they started with the intervention they had been given with a series of daily life situation problems that related to the Modern Physics's syllabus. In the first week they distributed the task among group members. Before go on to their further research, they discussed about their hypothesis and prior knowledge about the issues either online or by conventional method. The following task is the individually independent research to find any related information, ideas, knowledge, or notes to support their explanations about the issue. The following weeks they meet up again via online to discuss, analyse and synthesize their information whether it will be the best solution. If not, they will do the same process in finding the information individually and will come up ones again in a group discussion through

online and continue discussing on their matter. The process will continue until the group come up with the best solution for each daily live problem given.

For the traditional group, no major differences were made in terms of their learning activities compared with their usual face-to-face traditional teaching approach. The students in both cohorts were familiar with the LMS, where they already had experience in downloading and reading lecture notes online, accessing tutorial questions and assignments. They were required to submit all answers to tutorial problems and assignments via the LMS, but received no additional learning activities. This use of the LMS, Moodle 2007, followed the suggestion of Jayasundara et al. (2007) that PBL online is easier if it is incorporated into existing learning management systems such as Moodle and Blackboard.

In summary, in this inquiry the intention was to improve students' creative thinking via a PBL online intervention. The data were collected through a creative thinking test - the Torrance Test of Creative Thinking, which as noted above contains four criteria used to evaluate creative thinking. There were two versions of the creative thinking test employed, a pre-test (Form A) and post-test (Form B). The purpose of conducting the pre-test was to make sure the students from the two cohorts were comparable in term of their creative thinking, and the post-test are intended to see if there were any significant differences in creative thinking after the intervention. The tests were administered in Week 1 and Week 16 of the semester (Appendix 1).

Content validity in this administration was checked by a lecturer in the area of creative thinking (at another university form that where the survey administration occurred) who checked the instrument for suitability in evaluating creative thinking skills, and an English language teacher checked the instrument for clarity of English language. The instruments for the present study also validated from a pilot study, where a group of students answered the questions and gave feedbacks. This resulted in minor linguistic modifications for clarity.

Creative thinking was evaluated using the four elements that form the basis of the instrument described above; viz., *fluency* (i.e., students give as many answer as they can), *flexibility* (i.e., students give as many themes of answers as they can), *originality* (i.e., students give authentic answers that are different from others), and *elaboration* (i.e., students give cause and effect for each answer).

Research Findings

The performance of Physics students from the program in the Torrance Test of Creative Thinking is provided in Table 2 *Report of Physics Students' mean marks for creative thinking pre- and post-test by criterion*. These data suggest that the students who took part in the intervention performed about the same as the traditional group prior to the intervention. After the intervention, both groups performed better in a way that was statistically significant (PBL mean = 135.04, SD = 63.41; traditional mean = 110.23, SD = 47.88). PBL cohort performed better, where there were statistically significant differences between the groups when the instrument is considered overall for Mann-Whitney U test ($z = -2.13$, asymp. sig (2-tailed) = 0.03* < 0.05) but not for Independent Sample t-Test analysis (sig. (2-tailed) $t = -1.73$, $p = 0.89 > 0.05$). However, since the data were not normally distributed, in this case the researcher accepted the data from the Mann-Whitney U test analyses. More detailed analysis of the instrument scales shows some interesting differences between the groups.

Table 2 Report of Physics Students' mean marks for creative thinking pre- and post-test by criterion shows there are statistically significant differences between the PBL and traditional groups in three scales, with the PBL group performing better for flexibility, originality and also elaboration (Mann-Whitney U test; $z = -2.40$, asymp. sig (2-tailed) = $0.02^* < 0.05$; $z = -2.81$, asymp. sig (2-tailed) = $0.01^* < 0.05$; $z = -1.73$, asymp. sig (2-tailed) = $0.04^* < 0.05$ respectively). The same situation occurs when the data are analyzed with the Independent Sample t-Test where the PBL cohort produced better means in flexibility, originality and elaboration significantly ($t = -2.22$, $p = 0.03^* < 0.05$; $t = -3.06$, $p = 0.00^* < 0.05$; $t = -2.44$, $p = 0.02^* < 0.05$ respectively). No significant difference noted for fluency criterion.

Table 2 Report of Physics Students' mean marks for creative thinking pre- and post-test by criterion

Creative Thinking Criterion		Approach					Difference in Post-Test
		Tradition al Pre-Test (N = 31)	Post-Test (N = 31)	PBL Pre-Test (N = 30)	Post-Test (N = 30)		
					Mann-Whitney U Test	Independent Sample t-Test	
Fluency	Mean	27.93	50.32	22.96	50.39		-0.07
					$z = -0.56$, Asymp.Sig = 0.58	$t = -0.01$, $p = 0.99$	
	SD	13.61	24.29	15.95	20.36		3.93
Flexibility	Mean	20.21	36.48	13.80	45.00*		-8.5
					$z = -2.40$, Asymp. Sig = 0.02*	$t = -2.22$, $p = 0.03^*$	
	SD	9.50	12.08	7.89	17.48		-5.4
Originality	Mean	3.62	14.05	4.72	24.44*		-10.4
					$z = -2.81$, Asymp. Sig = 0.01*	$t = -3.06$, $p = 0.00^*$	
	SD	5.25	9.91	4.54	15.98		-6.0
Elaboration	Mean	3.86	9.38	2.40	15.22*		-5.8
					$z = -1.73$, Asymp. Sig = 0.04*	$t = -2.44$, $p = 0.02^*$	
	SD	3.25	5.54	2.95	12.09		-6.6
Overall	Mean	55.62	110.23	43.88	135.04*		-24.81
					$z = -2.13$, Asymp. Sig = 0.03*	$t = -1.73$, $p = 0.89$	
	SD	27.73	47.88	28.05	63.41		-15.53

Note: *Statistically significant differences between PBL and traditional groups for post-test scores (independent sample t-test an Mann-Whitney U test)

This was an open-ended test, and so there are no maximum or minimum scores, as occurs with other closed-item instruments

Investigation of gender differences pre- and post-test for both the traditional and PBL groups show no statistically significant difference between the groups (Table 2 and Table 3).

Table 2 Report of SST's mean marks for creative thinking post-test by gender of PBL group by criterion

Creative Thinking Criterion		Gender			Independent Samples Test t-test for Equality of Means		
		Male (N=15)	Female (N=15)	Total (N=30)	t (df = 28)	Mean Difference	Sig. (2-tailed)
Fluency	Mean	44.98	55.80	50.39	-1.49	-10.82	0.15
	SD	16.70	22.74	20.36			
Flexibility	Mean	40.67	49.33	45.00	-1.38	-8.67	0.18
	SD	15.20	19.01	17.48			
Originality	Mean	22.27	26.60	24.43	-0.74	-4.33	0.47
	SD	15.18	16.97	15.98			
Elaboration	Mean	13.03	17.40	15.22	-0.99	-4.37	0.33
	SD	11.22	12.91	12.09			
Overall	Mean	120.95	149.13	135.04	-1.23	-28.18	0.23
	SD	56.52	68.62	63.41			

Table 3 Report of SST's mean marks for creative thinking post-test by gender of traditional group by criterion

Creative Thinking Criterion		Gender			Independent Samples Test t-test for Equality of Means		
		Male (N=12)	Female (N=19)	Total (N=31)	t (df = 29)	Mean Difference	Sig. (2-tailed)
Fluency	Mean	75.21	72.07	73.29	0.23	3.15	0.82
	SD	49.00	35.88	36.72			
Flexibility	Mean	37.41	15.78	36.48	0.34	1.53	0.74
	SD	27.85	9.50	12.08			
Originality	Mean	13.84	14.18	14.05	-0.09	-0.34	0.93
	SD	12.63	8.14	9.91			
Elaboration	Mean	9.90	9.06	9.38	0.41	0.84	0.69
	SD	6.27	5.18	5.54			
Overall	Mean	136.37	131.19	133.19	0.23	5.18	0.82
	SD	78.61	46.63	59.81			

Discussion and Conclusion

The research findings reported in this paper suggest that students' creativity as measured by the *Torrance Creative Thinking Test* (TCTT) was enhanced when they engaged with PBL online compared with their counterparts who were taught more traditionally. The overall means show statistically significant differences students in favour the PBL online group. In particular, it seems that the PBL online students did

better for three scales of *flexibility*, *originality* and *elaboration*. This is consistent with the features that are captured in *flexibility*, *originality* and *elaboration* elements of creative thinking in the Torrance Test. These findings are similar to work reported by Tan (2000) and Juremi (2003), who say that PBL online increases students' creative thinking. Furthermore, through online learning, the students in the present work also saw PBL online as a new way of learning, that they felt gave them a number of benefits, and they felt that the benefits of demonstrated learning effectiveness, justify the extra resourcing, consistent with work by King (2008) where PBL online students reported high satisfaction even with an increased workload. However no significant difference where shows when it comes to genders, thus suggests that genders were not a critical factors for this approach.

This study provides some evidence of the positive effects of using PBL online on students' creative thinking. Although some scholars suggest creative thinking is a process involving phases and skills that cannot be learnt in a short time (Chua, 2004) It appears that PBL online has the potential to improve undergraduate of science physic students' creative thinking. In conclusion, through PBL online, students were engaged in a holistic form of learning process which was quite different to their traditional experiences. Although at the beginning students were a bit overwhelmed by the workload, the outcomes from this study suggests that PBL online can be useful for undergraduate science students and pre-service science teachers to nurture creative thinking. Thus this suggests that teachers, curriculum designers and Ministry officials' should consider the implementation of PBL online at the tertiary level since it seems it may enhanced students' creative thinking something local commentators say we need to do if we are to help Malaysia achieve the goals specified in Vision 2020.

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Environmental Degradation and Economic Growth in Nigeria: an Empirical Test of the Environmental Kuznets Curve

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Abstract:

The nature of the relationship between economic growth and the environment has been a subject of discourse since the 1960s, yet not only has the opinion remain divided but also little empirical studies has been undertaken. This paper addresses environmental degradation and economic growth in Nigeria while testing the Environmental Kuznets Curve (EKC) hypothesis over the periods, 1970-2010. The results of stationarity and normality tests suggest that the model is fairly well specified and robust for policy analysis. While oil production has a significant positive effect on economic growth, oil spillage and population growth, carbon dioxide emission, exhibit negative impact on economic growth suggesting that the “Environmental Kuznets Curve” hypothesis is though applicable to Nigeria but the increase in income level is still deteriorating the Nigeria environment through oil spillage and production which only make very few to be better off and majority worse off.

Key Words: Growth, Environment, Degradation, Kuznet-Curve, Nigeria

1 Introduction

So far, little has been said about neoclassical views on the overall economic, population growth–environmental quality relationship. Even with this little, opinion remains divided. This paper provides a comprehensive analysis of the relationship between the phenomenon and begins by reviewing the largely theoretical discussions from the neoclassical 'limits to growth' debate of the 1970s to the advent of sustainable development in the 1980s. For instance Hussen (2004) argued that, one of the outcomes of economic growth is an increase in real per capita income and that higher per capita income will increase the demand for improved Environmental quality. Accordingly, economic growth is more likely to be good than bad for the environment in the long run. Taken at its face value, what this suggests is that a country has to attain a certain standard of living before it starts to respond to its concern for improved environmental quality. The 'inverted U-curve' is sometimes referred to as the 'Environmental Kuznets Curve'(EKCs) because of its similarity with Simon Kuznets (1955) original postulation of inverted U-shaped hypothesis of income distribution that in the early stages of economic growth, relative income inequality increases, stabilises for a time and then decline in the later stages.

This study is organized into four sections. Section two reviews past studies and also presents the theoretical framework. Section three is the methodology: the method of analysis, the model specification, data sources and analysis. The study concludes in section four by summarising the empirical findings and presenting the overall conclusions and possible policy insights.

2 Literature Review and Theoretical Framework

There has been much controversy among economists over the issue whether economic growth increases or decreases environmental quality. For instance, Cole (1999) examines the environmental impact of economic development through Limits to growth, sustainable development and Environmental Kuznets Curves. His study as well as that of Dinda (2009) predicts that the average growth rate of output is inversely related to the initial level of output and directly related to the initial level of environmental condition. Teles (2009) adopting AK Growth Model also explore the link. Using the Hopf bifurcation theorem, his study shows that cyclical environmental policy strategies are optimal which provides theoretical support for the Environmental Kuznets Curve. Ikazaki (2006) constructs an endogenous growth model that incorporates R&D sector, education sector, and environmental problems. He concludes that, if government exercises appropriate policies and some parameter restrictions are satisfied, then the per-capita growth rate will become positive in the long run without environmental harm. Moreso, the results suggest that the population level does not affect the economic growth rate.

Utilising a model which incorporates the material balance principle on endogenous growth theory, Akao and Managi (2006) report that: where environmental problems are not serious, optimal economic growth rates at a steady state rise as these problems become more severe –but that there is a threshold for the degree of their seriousness, beyond which the relationship is reversed, i.e., environmental problems lower optimal economic growth rates; a similar relationship is found between the economic growth rates at social optimum and at a laissez-faire competitive equilibrium. Bhattacharya and Innes (2008) present an empirical study of population growth and environmental change using cross-section district-level data from South, Central, and

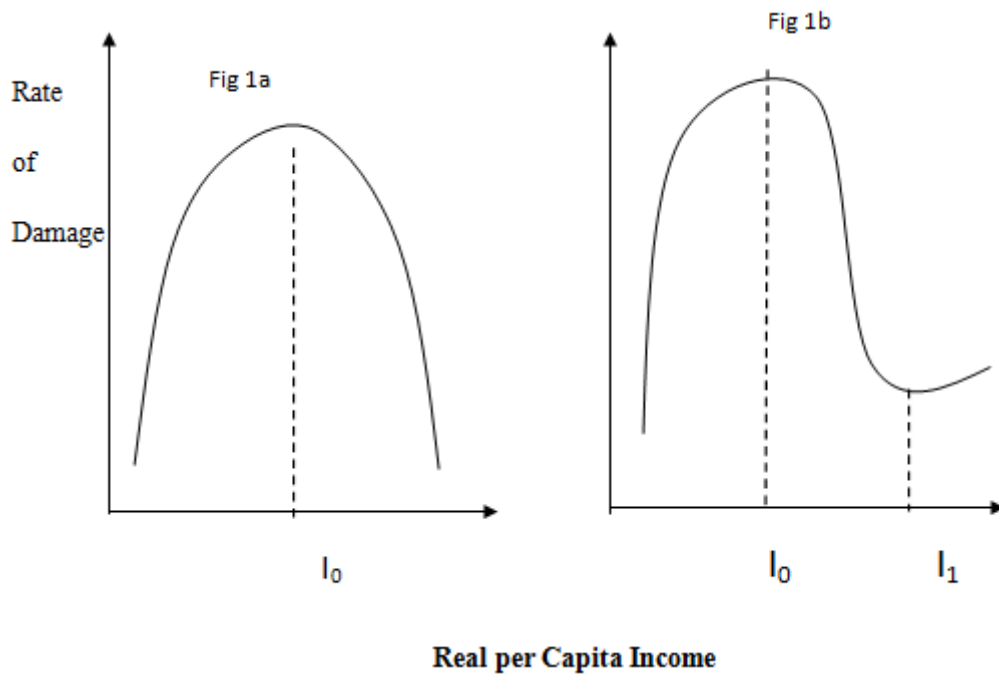
West India. They measured environmental change using a satellite-based vegetation index. Unlike prior work, the analysis treats population growth and environmental change as jointly determined, distinguishes between rural and urban populations, and distinguishes between two components of population growth, natural growth and migration. They therefore found that environmental decline spurs rural population growth and net rural in-migration, which prompt further environmental decline; environmental improvement spurs urban population growth and net urban in-migration; and environmental scarcity spurs environmental improvement. In the application of Environmental Kuznets Curve relationships to Bangladesh, Tisdell (2002) applies macro-methods where particular attention is given to environmental change in agriculture in the light of Bangladesh. Doubts were expressed about the environmental benefits claimed by the Bangladeshi Government for its agricultural development strategy. Indeed, they conclude that it may exacerbate many existing environmental problems, such as depletion of soil fertility and water supplies, already present.

In another dimension, Awudu, et al (2009) study the effect of trade liberalization on sustainable development within the framework of Environmental Kuznets Curve using a cross-section of countries over the period 1990 - 2003. The empirical results appear to support the notion that no unique relationship exists between economic growth, trade and the environment across all countries and pollutants. Although with several reservations, the income coefficients indicate that there is an EKC for most environmental indicators. The empirical results from the study suggests that many poor regions of the world are failing to be on a sustainable path because they are exposed and vulnerable to the health and productivity losses associated with a degraded environment. Thus, their estimates from the Adjusted Net Savings measure indicates that trade liberalization might be beneficial for rich but harmful for the poor countries' sustainable development efforts. Onwuka, et al (2003) and Aluko (2004) maintain the view that environmental degradation had impoverished the peoples of the Niger Delta and at the same time hindered sustainable development. Aluko (2004) using both primary and secondary sources of data similarly shows that environmental degradation destroyed the ecosystems of the Niger Delta and subsequently led to loss of farm lands, fishing sites and equipment, unemployment, diseases and deterioration in the quality of life of the people.

Existing studies have focused on the relationship between income and emissions, or concentration of pollution, which due to the stock nature of many environmental problems, does not fully account for environmental impacts in Nigeria. For example, oil spillage-economic growth dimensions to Environmental Kuznet curve have been ignored which is the basis of this study.

The theoretical underpinning of this environmental quality-income hypothesis is depicted by an 'inverted-U' curve, as shown by Figure 1A and B. This graph shows that an increase in per capita

income is initially accompanied by worsening environmental conditions up to a certain point, but this is then followed by improvement in environmental quality. Taken at its face value Hussen (2004) suggests that a country has to attain a certain standard of living before it starts to respond to its concern for improved environmental quality.



The vertical axis measures increasing levels of environmental damage. Case A suggests that after a country attains a certain level of per capita income I_0 , increased income is associated with lower environmental damage or higher environmental quality and case B suggests that the positive association between income growth and higher environmental quality does not hold indefinitely. Beyond income level I_1 , increase in income would lead to increasing deterioration of the environment.

3 Methodology

Estimation Technique

Before estimating the models, the variables used in the model are subjected to stationary tests, using Augmented Dickey-Fuller (ADF) test following equation 1.

$$\Delta Y_t = \alpha + \beta_t + \delta Y_{t-1} + \Psi \sum_{i=1}^m \Delta Y_{t-i} + \varepsilon_t \quad (1)$$

Where α represent the drift, t represents deterministic trend and m is a lag large enough to ensure that ε_t is a white noise process.

If the variables are integrated of order one $I(1)$ or of different order of integration, we test for the possibility of a co-integrating relationship using Eagle and Granger (1987) two stage procedure.

Model Specification

This paper provides a comprehensive analysis of the relationship between economic growth and environmental degradation by considering the application to Nigeria of Environmental Kuznets Curve relationships. Following Ekpenyong (2007) and Omisakin (2009), we present the following basic mathematical specifications;

however with modifications following the view opined by Megan (2009) that there is need for future research to be more inclusive of variables rather than the rogue selection of one pollutant as a proxy for environmental degradation.

$$LRGDP = F(PG, OS, OP, CO2PK) \quad (2)$$

Where LRGDP = log of real gross domestic products, PG= population growth, OS= Oil Spillage, OP =. Oil production, CO2PK= Carbon Dioxide Emission.

The following econometric specification is derived from equation (2)

$$LRGDP = C + PG - OS + OP - CO2PK + U_t \quad (3)$$

$\beta_0 \qquad \beta_1 \qquad \beta_2 \qquad \beta_3 \qquad \beta_4$

Where:

β_0 = Intercept

$\beta_1, \beta_2, \beta_3$ = The coefficients to be estimated.

U_t = Error term included to take off all unquantifiable factors affecting gross domestic growth.

Data Source and Description

A macro – economic approach is used from 1970 to 2010 using published series on the selected variables. Published sources from which data were extracted including CBN Statistical Bulletin (2009) and CBN Annual Reports where GDP data is sourced. NNPC Statistical Bulletins (2009) where oil spillage data is gathered. World Bank national accounts data, and OECD National Accounts data files. For instance, Carbon dioxide (CO2PK) emissions are those stemming from the burning of fossil fuels and the manufacture of cement. They include carbon dioxide produced during consumption of solid, liquid, and gas fuels and gas flaring. Sourced from World Bank national accounts data, and OECD National Accounts data files. Annual population growth rate for year t is the exponential rate of growth of midyear population from year t-1 to t, expressed as a percentage. Population is based on the de facto definition of population, which counts all residents regardless of legal status or citizenship--except for refugees not permanently settled in the country of asylum, who are generally considered part of the population of the country of origin. Source: World Bank national accounts data, and OECD National Accounts data files Derived from total population. Population source: (1) United Nations Population Division. 2009. World Population Prospects: The 2009 Revision.

4 Result and Analysis

Econometric studies have shown that most macroeconomic time series variable are non-stationary and using non-stationary variables in the model might lead to spurious regressions Granger (1987). The first or second differenced terms of most variables will usually be stationary Ramanathan (1992). All variables are tested at levels and first difference using ADF unit root test. The justification for the use of ADF unit root is based on large sample ($n > 30$).

Table 4.1: Unit Root Test result using ADF Statistic

Stationarity test for variables					
Variables		ADF test stat	Critical values		Order of integration
			1%	5%	
LRGDP	Level	-2.342481	-3.610453	-2.938987	I(1)
	1 st diff	-5.748734	-3.615588	-2.941145	
OILS	Level	-3.780855	-3.711457	-2.981038	I(1)
	1 st diff	-4.404509	-3.769597	-3.004861	
C02PK	Level	-2.447135	-3.610534	-2.939033	I(1)
	1 st diff	-7.346335	-3.615644	-2.941236	
PG	Level	-1.522040	-3.626784	-2.945842	I(1)
	1 st diff	-6.668264	-3.621023	-2.943427	
OP	Level	-1.662275	-3.639407	-2.951125	I(1)
	1 st diff	-5.527679	-3.639407	-2.951125	

Source; Authors' Estimates

The unit root test results are reported in table (4.1) above. The unit root test (in table 3) reveals that all the variables under consideration are stationary at first difference. This implies that the null hypothesis of non-stationarity for all the variables is rejected. Given the unit root properties of the variables, we proceeded to establish whether or not there is a long run co integration relationship among the variables in equation 2 by using Engle Granger two-stage method.

Result for Test of Co integration:

Co integration becomes a powerful way of detecting the presence of economic structure. A number of tests for co integration have been proposed in the literature. We consider here the Engle and Granger two-stage procedures.

Table 4.2: Co integration Test Result

Null Hypothesis: RESID01 has a unit root
 Exogenous: Constant
 Lag Length: 0 (Automatic based on SIC, MAXLAG=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-4.583940	0.0012
Test critical values:		
1% level	-3.711457	
5% level	-2.981038	
10% level	-2.629906	

*MacKinnon (1996) one-sided p-values.

From the result in table 4.2 above, the Enlge-Granger asymptotic 5 percent and 10 percent critical values are -2.981038 and -2.629906 respectively, while that of the Augmented Dickey-Fuller test statistic is -4.583940. The result therefore implies that the residuals from the regression are stationary at level and at 5 and 10 percent levels. In other words, the model in our equation suggests a long-run relationship.

The Regression Results

The long run econometrics report is presented below:

$$LRGDP = \underset{(0.83)}{22.60} - \underset{(4.44)}{7.75}OP - \underset{(2.51)}{2.43}OS - \underset{(0.31)}{3.77}PG + \underset{(0.33)}{0.09}CO2PK + U_t \quad (4)$$

The short run final econometrics report is presented below:

$$DLGDP = \underset{0.06}{0.09} + \underset{0.46}{0.30}DCO2(PK) - \underset{9.43}{3.11}DOP - \underset{1.90}{2.10}DOS - \underset{0.90}{0.98}DPG + Ut \quad (5)$$

The standard errors are in parenthesis below the coefficients.

From the value of R^2 based on the short run model it can be concluded that the four stimuli in the equation explain nothing less than 50 percent of the systematic variations in economic growth during the 1970 to 2010 periods. The F values of both models are highly significant, easily passing the significant test at the 1% level (see table 2 and 3 appendix).

While the short run model shows that the Oil Spillage has a negative relationship, it lost its significant with output level of gross domestic product. Consistent with most of the literature (Cole, 1999 and Teeles, 2009) the report implies that environmental degradation through oil spillage only make very few to be better off and majority worse off. The better off enrich their pockets while the economy and the poor masses that depend on these resources for survival are worse off through the declining GDP, contamination of the water quality both for drinking and livelihood and other harmful effects.

Expectedly, the population growth rate has a positive effect on the economic growth but also lost its significance in the short run model. This could be as a result of the rapidly increasing population in Nigeria which adds a substantial number to the total population every year with low per capita income and low capital formation. However, the result is not in line with that of, Todaro *et al* (2006) which points out that rapid population growth lowers per capita income growth in most less developed countries especially those that are dependent on agriculture and experiencing pressures on land and natural resources, but in line with that of *Ikazaki* (2006) which suggest that the population level does not affect the economic growth rate.

Oddly, the oil production has a significant negative effect on economic growth with the indications that one percent increase in oil production could reduce economic growth in Nigeria by 3.1 percent. Although, the variable gained its significance at 5 and 10 percent levels, the negative relationship could be as a result of the mono-culturalism of the oil sector as well as the ambivalent findings on public spending could potentially be a reflection of differences in the efficacy of spending which could arise due to a variety of reasons including corruption and patronage, non trickling down of the money realising from the oil sector which inform the low per capita income and low capital formation which implies according to Nurkse (1956) ‘a circular constellation of forces tending to

act and react upon one another in such a way as to keep a poor country in a state of poverty’.

This study reveals that there are three main sources of CO₂ in Nigeria, namely, natural gas, oil and coal. In other words, the result of the model shows that there is positive but insignificant relationship between the variables (CO₂ PK emission and GDP).

Furthermore, issue of the stability of parameters of the model was considered. To this end, we adopted the Bahmani-Oskooee and Shin (2002), as well as applying the cumulative sum of recursive residuals (CUSUM) to the residuals of the parsimonious model. For stability of short-run dynamics and long-run parameters of the model, it is core that the residuals and cusum of squares stay within the 5 percent critical bound (represented by two straight lines whose equations are detailed in Brown, Durbin, and Evans, 1975, Section). As shown in the fig 3, neither the recursive residuals nor CUSUM of squares plots move outside the 5 percent critical lines. The result is suggestive of coefficient stability, therefore, we can safely conclude that the estimated parameters for the short-run dynamics and long-run of remittances function exists over the entire sample periods since residual result shows the future tendency of further stability. More so, as with the CUSUM test, movement outside the critical line is suggestive of parameter or variance instability. Meanwhile, with our result, the cumulative sum of squares is generally within the 5 percent significant lines, suggesting that the residual variance is somewhat stable, corroborating the other stability test results .

Other stability tests such as the Jarque-Bera normality and actual, fitted and residual graphs in fig 5 and 6 lend credence to the stability of the parameters in the remittances model. The result of the test suggests that the model is fairly well specified and robust for policy analysis.

5 Conclusion

While higher environmental degradation (oil spillage and production) will decrease income growth, more CO₂ emission would act otherwise. This implies therefore that, economic growth is possible and is a necessary condition for Nigeria to ‘grow out’ of some environmental problems once they attain a certain standard of living or per capita income and (such as the per capita income associated with the peak of the environmental Kuznets curve in (Figure 1a and 1b) which can only be guaranteed if the revenue realised from oil is spent productively on other leading sectors. But for now, Nigeria income growth is still low making it to be at the bottom of the inverted U curve. This is in line with Pritchett (1996) who noted that all the ambivalent findings on public spending could potentially be a reflection of differences in the efficacy of spending. Accordingly environmental degradation engenders cumulative expansion in the per capita income of some people without compensation for others which automatically negates the trickling down effects of Hirschman and the spread effects of Myrdal. The study therefore concludes that the “Environmental Kuznets Curve” is though applicable to Nigeria but the increase in income level is still deteriorating the Nigeria environment through oil spillage and production which only make very few to be better off and majority worse off.

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Appendix Table 1

Dependent Variable: DLGDP

Method: Least Squares

Date: 04/28/07 Time: 20:42

Sample(adjusted): 1977 2005

Included observations: 26

Excluded observations: 3 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.089763	0.058508	1.534192	0.1399
DC02PK	0.296065	0.455585	0.649857	0.5228
DOP	-3.11E-06	9.43E-07	-3.291637	0.0035
DOS	-2.10E-07	1.89E-07	-1.111618	0.2789
DPG	-0.983941	0.988122	-0.995769	0.3307
R-squared	0.518679	Mean dependent var		0.099185
Adjusted R-squared	0.426999	S.D. dependent var		0.364775
S.E. of regression	0.276123	Akaike info criterion		0.435099
Sum squared resid	1.601120	Schwarz criterion		0.677041
Log likelihood	-0.656289	F-statistic		5.657481
Durbin-Watson stat	3.057897	Prob(F-statistic)		0.002984

Appendix Table 2

Dependent Variable: LGDP

Method: Least Squares

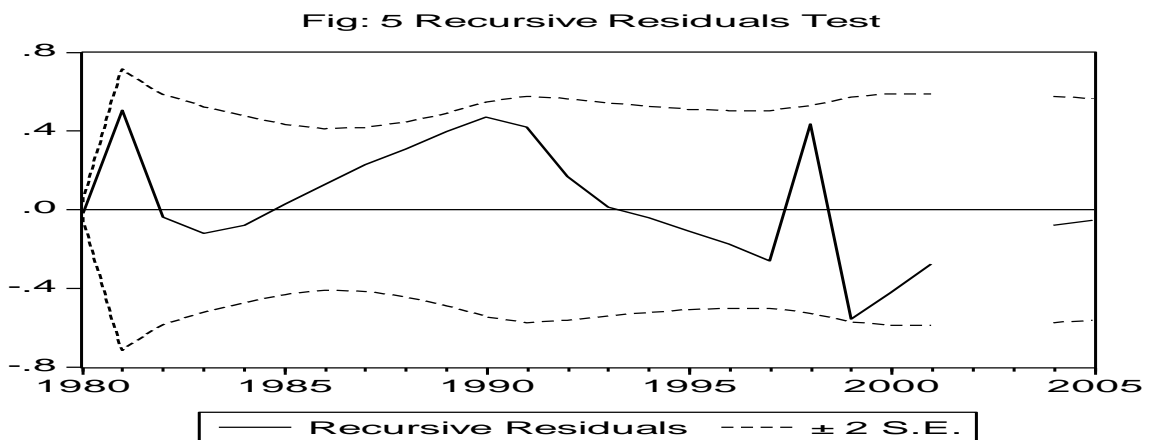
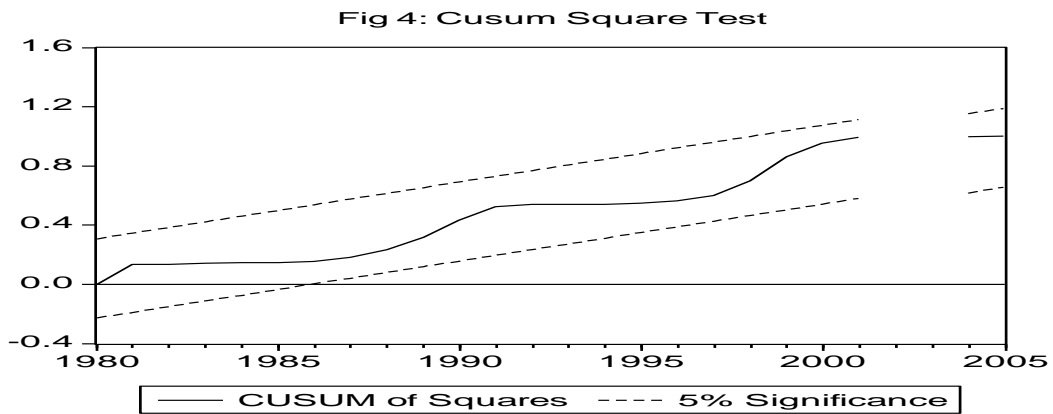
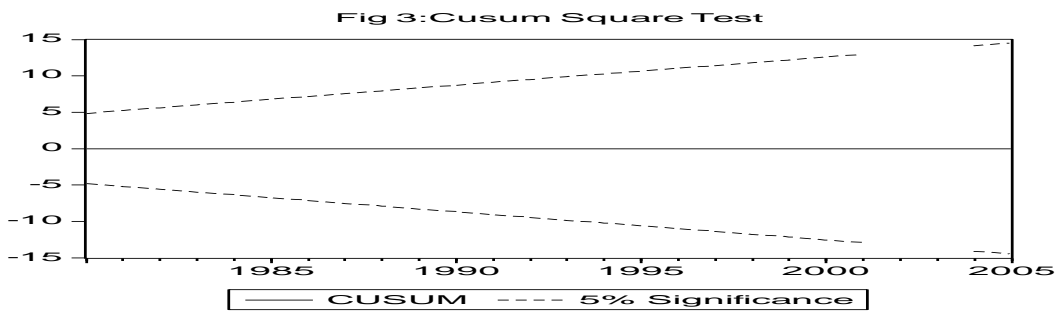
Date: 04/28/07 Time: 21:14

Sample(adjusted): 1977 2005

Included observations: 28

Excluded observations: 2 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	22.60294	0.838388	26.96000	0.0000
OP	-7.75E-07	4.44E-07	-1.746976	0.0940
OS	-2.43E-07	2.51E-07	-0.969862	0.3422
PG	-3.770790	0.313738	-12.01893	0.0000
C02PK	0.084982	0.331349	0.256473	0.7999
R-squared	0.916422	Mean dependent var		12.11157
Adjusted R-squared	0.901887	S.D. dependent var		0.893670
S.E. of regression	0.279924	Akaike info criterion		0.451837
Sum squared resid	1.802224	Schwarz criterion		0.689730
Log likelihood	-1.325714	F-statistic		63.04819
Durbin-Watson stat	1.397634	Prob(F-statistic)		0.000000



The feasible acceptance of Al Qard al-Hassan (Benevolent Loan) mechanism in the Libyan Banking system.

Ali Khalifa Ali Stela

Barjoyai Bardai

Abstarct

Employing fiscal services and facilities that conform with the Shariah standards require general acceptance of the mechanism by the consumers and the environment at large. ALQard al-Hassan in Islamic system of banking attempts to remove the gap in the present economical system in the Muslim world. This study outlined the stakeholders' response to this particular Islamic instruments and mechanism in the Islamic banking system in Libya. The study essentially anticipate in advance on the proposed improvement in the Islamic banking as part of fiscal reform worldwide. The understanding of the depositors' reaction and level of acceptance to such a mechanism represents a useful starting point into gaining an insight into the future prospective Islamic industry in the region. The current research paper reviews pivotal relevant literatures. It review the related literature in assisting the researcher in formulating the research objectives, questions, aims and frameworks. Qualitative research method was employed to develop the relationship between the variables of the study. A stratified random sampling method was used in this study to record data from the respondents. Personal interviews were conducted on a sample of 30 respondents who were requested to reveal their perspectives on some broad questions framed on related effective factors of consumers' attitudinal differences in Libya. . The findings of the research revealed that Depositors' will gives strong support to the introduction of Islamic banking system in Libya and will support the implementation of AL-Qard AL-Hassan mechanism.

Keywords: Qard AL-Hasan, Depositors, Support, Banking Industry

1. Introduction

Islamic economics is a fast expanding the component of the fiscal divide worldwide. In fact, it is not limited to Islamic countries but scattered wherever there is a considerable Muslim population. Lately, the Muslim worldwide observed a prevalent revolution in the facilitation of Islamic banking services. The interest-free banking products offered by the Islamic banking system had expanded worldwide with strong movement in Malaysia, Bahrain, Europe and the USA (Moore, 1997; Wilson, 2002).

According to Haron (1997), the history of Islamic banking dated back to the beginning of Islam. The trigger point is the heavy emphasis made by the Muslim Clegic scholars on fact that Muslim were forbidden from involving in Riba (usury). This has create a market push for the formation of the Islamic banking system. Besides, the Prophet (peace be upon him) in most of the time denounced the 'taker and giver' of Riba (usury). The Libyan government has done many to prove itself as a pious Islamic regime. Throughout the 1970s, Islam in Libya did a lot in legalizing areas of political and societal modification, except in the sphere of economics and funding. The banking sector in Libya had observed some important change over the last three decades by the immense nationwide involvement of the profitable banking sector. The Libyan Islamic banks, following the trend in other countries started by recognizing the course taken by the authorities and specialists who have studied the fiscal calamity in the West, which were caused by the dissimilarities in religion, color, and sex. Most of the people accept that the reasons which had caused the fiscal tumble worldwide were the indiscretions that had appeared from the denial of the legality of the Islamic banking system. The bad debt calamity is one of the chief causal issues in the fiscal crisis, with property mortgage and the rooted interest-based lending (Ghariani, 2009).

The key feature, which distinguishes Islamic banking from any other kinds of banks, is the rejections of interest-based financial transaction. All Muslims devout know the Quran's ban on giving or receiving interest. Hence, the urgent desire for Islamic banks emerged and other investment instruments such as interest-free loans (Qard AL-Hasan) becomes the central attention. In subsequent studies, it was found that the public in Libya, especially those with low income and the younger generation, especially those at marriageable age that need to own houses were thwarted in doing so due to the usurious loans that were currently offered. Every Muslim expects interest-free loans pursuant of the precious verse as follows:

" Those who after receiving direction from their Lord, desist, shall be pardoned for the past; their case is for God (to judge); but those who repeat (the offence) are companions of the fire: they will abide therein forever" al Bagara (275)

{فمن جاءه موعظة من ربه فانتهى فله ما سلف وأمره إلى الله ومن عاد فأولئك أصحاب النار هم فيها خالدون}

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Since 2008, Libyan banks have started the Islamic windows services which grant loans for the purchase of cars or furniture, in accordance with the Islamic concept of Murabaha ranging from 3,000 Libyan dinars to 5,000 was granted to the borrowers. This was done via a simple letter to the owners, farmers and breeders of sheep by these banks (Alrevy Bank, Agricultural Bank). The Savings Bank and the property investment organizations have given mortgage loans worth 50.000 LD, and they were given apartments at a price to be paid in installments for long-term free interest loans. In the

fourth quarter 2010, the Libyan Government froze interest based loans for all housing loans, where interest rate varies from 15% to 20% of the original loan value. In that quarter, all loans were exempted from interest by the Libyan Government for all housing loans. The Libyan government has implemented the Qard Al Hassan loan for all citizens that desire to build or acquire houses. Most Libyan families have benefited from these Qard Al Hassan loan facilities. Several studies indicated that the Libyan citizen were aware of Qard Al Hassan and they are interested in the Qard Al Hassan system to be implemented in the Libyan banking system as soon as possible.

In this regard, the new government, after the revolution of November 17th, announced that it will introduce the Islamic approach and will deal with Islamic banks based on the granting of interest-free loans (Qard AL Hassan). In addition, it is confirmed that the society were exposed with the concept of benevolent loan (Qard AL Hassan). This in turn could expand the principle and most powerful tool that derives its strength from the Qur'anic verses. However, it is uncertain whether banking customers appreciate the principle of the Qard Al Hassan deposit system as an alternative to the interest earning deposit system utilized in the conventional banks.

Thus, the current study is an attempt to focus on a feasible extension of the practice of Qard al Hassan in the Libyan banking system by contextualizing it within the larger framework of the Libyan commercial banking and the transformation it has taken.

1.1 Research Questions

In reviewing the extensive literature, the researcher found that majority of studies focus mainly on the understanding the roles and laws in the Islamic financing system. Conversely, interest in the present research originates from a practical and developmental perspective. The aim of this research is to shed light on several heuristic research questions with respect to all that have been asked previously by Libyan researchers in the field. This study attempts to answer the following research question:

1.1.1 To what extent will the depositors accept Qard Al Hassan principle in their financial affairs in Libya?

This study aims to expand the breadth of the Islamic financial system by allowing professionals to gain access to an important tool that can stimulate the Islamic economy. This can effectively assist the Islamic financial system in overcoming traditional models. Qard Al Hassan is the above-mentioned magnificent principle and method, which should be widely applied by Islamic banks worldwide. To attain this broad-spectrum, the study tries to fulfill the goals that will allow Islamic banks to take the necessary step in order to carve their position in the real economic world.

However, an important issue must be addressed before hand. The general objective of this paper is:

- To gauge the depositors views and feelings concerning the acceptability of the principles of Al-Qard Al-Hassan.

2. Literature Review

Islamic banking and economics are mainly operating in three fractions of the globe: Middle East, South Asia and Southeast Asia. The Middle East, tremendously inhabited by Muslims, is a homeland of Islamic banking and economics. Wealthy persons, governments and other state organizations in the Middle East stoutly support

Islamic banks. Most of the regulatory and other sponsors of Islamic banking industry are placed in the Middle East. The Middle East, Southeast Asia and South Asia are the prime promising centers of Islamic banking and finance. Similar to any other institutions, Islamic bank has its individual features based on the tradition of Islam that employ Islamic Shariah necessities in the entire investment banking contacts and use profit sharing technique in the contacts as well. In addition to these Islamic and worldwide features, Islamic banks offer a diversity of tasks that conventional banks do not present, specifically: Zakat Fund and Al-Qard Al-Hassan.

Furthermore, Islamic banking system prohibited Riba "usury" based on several verses in the holy Qur'an as well as the sayings of the Prophet Mohammad (peace be upon him). Riba literally means 'increase', 'addition', 'expansion' or 'growth'. However, not every increase or growth is prohibited by Islam. Several verses in Qur'an forbid usury:

1. First revelation states "That which ye lay out for increase through the property of other people, will have no increase with Allah: but that which ye lay out for charity, seeking the countenance of Allah, (will increase) It is these who will get a recompense multiplied" (Al-Rum, verse 39). The word 'increase' in this verse is interchangeable with the word 'Riba' and therefore, Muslims are strongly recommended not to deal with Riba. The purport is that any profit sought by Muslims should be through their own effort and not through exploitation of others or at the expense of others.
2. Second revelation states "That they took usury, though they were forbidden; and that they devoured Men's substance wrongfully – We have prepared for those among them who reject faith a grievous punishment" (al-Nisa', verse 161).
3. Third revelation states "O ye who believe! Devour not usury, double and multiplied; but fear Allah; that ye may (really) prosper" (Al' Imran, verse 130).
4. Fourth revelation states "those who devour usury will not stand except as stands one whom the Evil one by his touch hath driven to madness. That is because they say: trade is like usury; But Allah hath permitted trade and forbidden usury. Those who after receiving direction from their Lord, desist, shall be pardoned for the past; their case for Allah (to judge); But those who repeat (the offence) are companions of the fire; they will abide therein (forever)" (Al-Baqarah, verses 275). These Qur'anic verses revealed the fact that the holy Qur'an makes it absolutely clear that institution of interest can never be tolerated in an Islamic economy.

- **Islamic Banking Services**

Islamic bank provides a variety of other banking services to customers under various Islamic concepts. The fee income derived from the agency contract may not be shared with depositors. However, in rental activities where the acquisitions of such assets are funded by customers' deposits, the income derived from such activities would be shared between the Islamic bank and the funds provider. The banking services that are generally provided by Islamic banks are among others, money transfers and letter of guarantee.

- **Social Services and Tools**

In accordance with Islamic bank instruction, the Islamic bank plays an important role in social development and contributes to environmental development. In this regard, the Islamic bank performs social services through the Qard al-Hassan fund (benevolent loan), the Zakat and charity fund.

- **Meaning of Al-Qard Al-Hassan and its Definition**

Qard al-Hassan is a credit that is paid back at the closing stages of the agreed upon loan period which the borrower is not engaged in any interest or profit and loss of the loan (Chapra, 1995). In other words, Qard al-Hassan is an interest-free loan, and it is the only type of loan that is allowable by the Shariah values. Money is obtainable without any profit or charge for charitable purposes and welfare. Reimbursement is done in accordance with a timetable agreed upon by both lender and borrower. A limited service charge for Qard al-Hassan loans is allowable if the service charge is in terms of the real cost of loan management.

A person may speculate how lending could be a commerce scheme once interest has been detached from the transaction (Wilson, 2007). It seems that Islamic financial institutions are recommended to employ Al Qard Al-Hassan in the following conditions:

With regard to Musharakah between the financial institution and the customer, it is a regular event that not all of the projects of institution shares can be allocated for the right to contribute in profits; if not, no considerable share would continue for the other collaborator, who is the customer. Consequently, participation by the financial institution is divided into two sections: one represents a share in the partnership funds and the other a share in the working funds provided through Qard al-Hassan.

In addition, Qard al Hassan may be obtainable for a client of the financial institution who has cash-flow difficulties, either to keep the investment of institution or when the customer is trustworthy, in order to bump up the institution's reflection and reputation without a great risk.

A third possible use of Qard al-Hassan possibly will be when a customer has a blocked savings account in the financial institution that does not make interest and the customer comes upon an imperative need for temporary financing. Concept of Mudaraba is not appropriate in the above-mentioned situation. The essential funds can be provided for him by the financial institution in the course of Qard al-Hassan. There may be other conditions and situations where Qard al-Hassan is worthy for the lender. These conditions will progressively be developed during the routine activities of the Islamic financial Insurance.

- **Meaning of a Deferred payment sale (BaiMuajjal)**

This transaction allows the sale of a product in terms of a deferred payment preparation which is possible to pay either by installments or lump sum. Both the buyer and the seller agree upon the product price at the time of the sale. Charges of the possible deferment of payments may not be included.

- **Meaning of a purchase with Deferred Delivery (Bai Salam)**

In this type of financial deal, the seller obtains from the buyer the whole negotiated price of a certain product. The seller guarantees product delivery at a particular future date. This kind of business deal is limited to products quality and

quantity of which can be completely specified and recognized at the moment when the agreement is being made.

- **Meaning of Tadamun or Takaful (solidarity)**

Tadamun or Takaful is a type of Islamic insurance founded on the Quranic attitudes of Ta'awon (reciprocated assistance). It provides reciprocal protection of property and asset while suggesting joint risk sharing in the occasion of a financial failure by one of its member. Takaful endowments are comparable to premiums of insurance. The donations are shared between two funds.

A small part of the donation is devoted to a mutual fund utilized to distribute expenditure provided that an insured incident occurs. The larger division of the donation is devoted to an investment fund. In accordance with the Mudharabah principle, any leftover money is subsequently dispersed fairly between the members and the insurer.

- **The prohibition of Riba in Qur'an**

The proscription of Riba in Islam is obvious both in the course of Quranic verses and Prophet Muhammad (peace be upon him). The literal meaning of Riba is enhancement, addition, growth or augmentation. Not every increase or expansion is prohibited by Islam (Mashkoo,2010). As stated by the Shariah, Riba strictly refers to the "additional charge" reimbursed to the lender by the borrower and the ostensible value as a requirement for the loan or extension of the deadline must.

Qur'anic verses, point out that the obligation of interest cannot be accepted in an Islamic financial system. Moreover, Four different revelations in the Qur'an indicate the proscription of Riba . The first revelation in Mecca, highlights the fact that while interest takes away one of the affluence of Allah's blessings, charity increases it many times (Chapra, 2009). The second revelation, in the early Medina period, strictly prohibits interest. It considers those who took Riba the same as those who wrongly took other people's property without their permission and warns both of them with severe punishment by Allah. The third revelation, around the second or third year after Hijra, bids Muslims to avoid Riba if they prefer their own happiness. The fourth revelation, near the achievement of the Prophet's mission, strictly criticizes those who take Riba, and distinguishes trade from Riba clearly, requesting Muslims to terminate all unsettled Riba, and begs them to take only the primary amount, and even to give up this if the borrower has faced with problems. "Usury is a term that initially used to explain interest generally, however in modern times it means excessive interest, predominantly that in surplus of maximum rates set by law" (Munn et al., 1991).

Finally, as a substitute to Riba, profit and loss sharing arrangement' are reserved as a perfect financing method in Islamic finance. It is predictable that the profit and loss sharing can cross out the unequal distribution of profits and affluence and will focus on controlling inflation at a convinced level (Siddiqui, 2001). Besides, profit and loss sharing can direct to greater competence and most favorable allocation of resources compared to the interest-based system. Since customers are probably to higher income, it is hoped that development can be made in the course of independence with a better savings rate. Consequently, the fairness between the parties for going back to the Bank's funding is when they contribute to the operating profit of the entrepreneur (Siddiqui, 2001). As a result, the theory of Islamic Finance established to the develop Islamic finance while the tasks of the Islamic banks are the same as traditional banks.

Nevertheless, there are some clear differences in process, attitude and objectives of conventional and Islamic banks (Ziauddin, 1991).

Traditional banks do business in the capitalist system and the basis of system is on interest and Riba. "Conversely, the Islamic bank paves the way for Muslims based on principles, tools and difficulties in the process of banking transactions and all of these strategies are in the course of the principles of Shariah.

• Qard Al-Hassan in Qur'an and Sunnah

In many verses of the Holy Qur'an, Allah has addressed and given confidence to His creators for Qard al-Hassan by promising a better reward in the worldly life and Hereafter

Who is he that will lend to Allah a goodly loan so that He may multiply it to him many times? And it is Allah that decreases or increases (your provisions), and unto Him you shall return. (Al-Baqarah 245)

مَنْ ذَا الَّذِي يُقْرِضُ اللَّهَ قَرْضًا حَسَنًا فَيُضَاعِفَهُ لَهُ أَضْعَافًا كَثِيرَةً وَاللَّهُ يَقْبِضُ وَيَبْسُطُ وَإِلَيْهِ تُرْجَعُونَ. (245) سورة البقرة

If you lend to Allah a goodly loan (i.e. spend in Allah's Cause) He will double it for you, and will forgive you. And Allah is Most Ready to appreciate and to reward, Most Forbearing (Al-Tagabun (17).

إِنْ تُقْرِضُوا اللَّهَ قَرْضًا حَسَنًا يُضَاعِفْهُ لَكُمْ وَيَغْفِرْ لَكُمْ وَاللَّهُ شَكُورٌ حَلِيمٌ. (17) سورة التَّغَابُنِ

Indeed Allâh took the covenant from the Children of Israel (Jews), and We appointed twelve leaders among them. And Allah said: "I am with you if you perform As-Salât (Iqâmat-as-Salât) and give Zakat and believe in My Messengers; honor and assist them, and lend a good loan to Allah, verily, I will expiate your sins and admit you to Gardens under which rivers flow (in Paradise). But if any of you after this, disbelieved, he has indeed gone astray from the Straight Path." (Al-Maidah (12))

وَلَقَدْ أَخَذَ اللَّهُ مِيثَاقَ بَنِي إِسْرَائِيلَ وَبَعَثْنَا مِنْهُمُ اثْنَيْ عَشَرَ نَقِيبًا وَقَالَ اللَّهُ إِنِّي مَعَكُمْ لَئِنْ أَقَمْتُمُ الصَّلَاةَ وَآتَيْتُمُ الزَّكَاةَ وَآمَنْتُمْ بِرُسُلِي وَعَزَّرْتُمُوهُمْ وَأَقْرَضْتُمُ اللَّهَ قَرْضًا حَسَنًا لَأُكَفِّرَنَّ عَنْكُمْ سَيِّئَاتِكُمْ وَلَأُدْخِلَنَّكُمْ جَنَّاتٍ تَجْرِي مِنْ تَحْتِهَا الْأَنْهَارُ فَمَنْ كَفَرَ بَعْدَ ذَلِكَ مِنْكُمْ فَقَدْ ضَلَّ سَوَاءَ السَّبِيلِ. (12) سورة المائدة

Verily, those who give Sadakat (i.e. Zakat and alms), men and women, and lend to Allah a goodly loan, it shall be increased manifold (to their credit), and theirs shall be an honorable good reward (i.e. Paradise) (Al-Hadid (18)

إِنَّ الْمُسَدِّقِينَ وَالْمُصَدِّقَاتِ وَأَقْرَضُوا اللَّهَ قَرْضًا حَسَنًا يُضَاعَفْ لَهُمْ وَلَهُمْ أَجْرٌ كَرِيمٌ. (18) سورة الحديد

Who is he that will lend to Allah a goodly loan: then (Allah) will increase it manifold to his credit (in repaying), and he will have (besides) a good reward (i.e. Paradise).

(Al-Hadid (11))

سورة الحديد مَنْ ذَا الَّذِي يُقْرِضُ اللَّهَ قَرْضًا حَسَنًا فَيُضَاعِفَهُ لَهُ وَلَهُ أَجْرٌ كَرِيمٌ. (11)

In addition, the Sunnah of the Prophet (s.a.w.) is regarding this issue very clearly. It is narrated that the Prophet (s.a.w.) mentioned, "in the night of the journey, I noticed a writing on the gate of heaven saying that there are ten rewards for Sadakat and eighteen rewards for Qard al-Hassan". Accordingly I asked the angel, why is it so? The angel replied, "Because beggar who requested had already something however a loanee did not inquire for loan except he was in need" (IbnHisham&IbnMajah).

In another Hadith narrated by Abu Hurairah (R), the Prophet (S.A.W.) said, "whoever solves a believer's problems in this world, Allah will solve his problems and Allah will smooth the progress for him in this world and world hereafter"(Muslim). The above-mentioned Qur'anic verses and Hadiths straightforwardly and indirectly persuade the Muslims to offer Qard al-Hassan which will enhance their credits and bring mercy for them.

The things that Islam is looking for are the removal of exploitative form of transactions by the society, ascertaining justice and avoiding the gathering of capital by just a small number of people. Thus, Islam extremely bans Riba, since it is the cause of all unfairness in society. Quite the opposite, Al-Qard al-Hassan may guarantee the proper transmission of capital among people in the society with different classes. Moreover, it is a loan without interest for wellbeing and humanitarian intentions. According to aforementioned reasons, the Qur'an and the Sunnah have supported al-Qard al-Hassan execution in the Islamic society (Huq, 1984). According to Hoque (1987), founding brotherhood among Muslims is the main concern of Islam. Brotherhood means sharing with each other and thinking about each other. Qard al-Hassan, a gratuitous loan, could help Muslims who have financial problems. Qard al-Hassan increases Muslim brotherhood.

3. Methods

The current research paper clarifies the instruments utilized to select relevant and up-to-date data, including implementing testing methods to maintain the validity and reliability of instrument. In addition, the section clarifies the methods used for data collection and data analysis. To ensure profundity in the allocated information, the researcher clarifies the quantitative approach used in this research which was in a form of a questionnaire administered to a selected sample.

Population and Sampling

A stratified random sampling method was used in this study to collect the data from the respondents. The interviews were conducted with a sample of 30 respondents who were requested to share their ideas based on pre arranged questions that are framed on related effective factors of consumers' attitudinal differences in Libya.

Research Instrument

The qualitative research was utilized to understand meanings of new issues, describe and understand respondents' ideas, beliefs and values. In addition, Islamic banking system is an innovative issue in Libya. It has not been officially introduced in the country yet. Little has been written about the banking system in Libya. The qualitative research in this study is considered to be an appropriate tool to highlight the most important obstacles that are hindering the Libyan banking sector from achieving its rehabilitative goals and to explore the possibility of providing Islamic banking in Libya (Coper, 2007).

As the study is anchored in national, random sample of the population of Libya, and based exclusively upon qualitative research, it is considered as a case study for the potential introduction of Islamic banking in Libya. However, few Libyans do not know much about Islamic banking neither in practice or principle nor is there much information available to assist them. The sample was chosen using the snowball technique. The target

interviewees were Shariah scholars, jurists and the Central Bank of Libya (decision makers), Ministry of Finance in Libya, bankers in Libyan commercial banks, either private or state owned, which in terms of hierarchical line included department managers, branch managers, general managers, chairmen of boards, and a number of bank clients in Libya. It is worth mentioning here that the Libyan banking system largely lacks standardization in its nomenclature. Consequently, the previous style of rank names were used in order to refer to the interviewees' occupations. Most importantly, the bank specialists were excluded because of their special characters. Experience was the second main factor in determining the participants. The interviewees' length of experience in their field varied from 15 years to 45 years. Moreover, many of them were over 50 years old and none of them were under 36. Concerning gender distribution, all of the interviewees were men. However, since some of the highly experienced interviewees had considerably less academic education compared with others, the researcher decided not to consider educational levels. The interviews took a duration of (45) days during June and August in 2011.

4. Results

The current research employed qualitative approach in order to interpret meaningful patterns of the research and significant themes. The obtained data were synthesized from multiple angles depending on the research questions. In order to collect evidence and provide in-depth information, interviews were conducted with a selected sample of 30 respondents who represent the qualitative sample.

In addition, the interview seeks to explore the potential for extending Qard al Hassan implementation into the Libyan Islamic banking system and to explain the focal themes pronounced by the selected subjects. Thus, the interviewees discussed various matters related to the potential introduction of a full pledge of Islamic banking system in Libya. The interviewee sample consisted of ten individuals divided into five groups:

The five target groups were two chairmen of the boards, one general manager, one department manager, two Jurists, and four scholars. Overall, 30 interviews were carried out.

The selected sample interviewees possessed intensive knowledge in banking sector such as members of the general assembly and/or jurists. Moreover, they were well-informed about Islamic finance and Islamic banking.

It can be said that, people tend to take any opportunity in dealing with their future prospective when they are offered a beneficial package concerning their daily life. This question seems to be in accordance with this perspective. Respondents were eager to take any interesting facilities available for them. A few reasons will justify their eagerness. 89% of respondents will use the facilities to fulfill their secondary needs such as purchasing houses or buying new cars. That would be a brilliant thought if they started a new business because Qard al Hassan is a source of "Halal" money.

Regarding "Halal" money, Abdullah bin Massuod (Rudi-Allah unhu) states that the Prophet Muhammad (Sall-Allah alayhiwasallam) said: "Seeking "Halal" earning is a duty after the duty of submitting to Allah." In other words, working to run a "Halal" life is itself a religious obligation which is in the secondary priority after the primary religious obligations like prayers, fasting and Hajj. This brief Hadith conveys three very important messages.

First, it points to the Islamic way out of the apparent dichotomy between the material and the spiritual worlds. We often see them working in opposite directions. Indulgence in the material world does lead one away from the spiritual world. Spiritual uplifting seems to accompany with a tendency to keep away oneself from the material pleasures.

Second, our obligation is not just to generate cash, but rather to generate “Halal” cash. This is a broad statement that is the basis for Islamization of economic principles in the society. Not every financial idea or possible business enterprise is good for the society. In addition, the decision on what is right or wrong here cannot be left to the so-called market forces. Right and wrong in the economic aspect of life, as in other aspects of life, must be determined by the elevated source of laws. Shariah guides us to the “Halal” and “Haram” business enterprises and practices, and both individual and social levels must follow that guidance.

Third, all this effort for “Halal” earning should not eclipse our primary religious obligations. Indulgence even in a purely “Halal” enterprise should not make us miss our Salat, or Hajj. Therefore, it can be concluded from the findings that the “Depositors” will give strong support to the introduction of Islamic banking system in Libya. The qualitative data indicated that most of the respondents in the selected sample are waiting for the time when Islamic banks will be launched in the country. They intend to deposit their money in the Qard al Hassan account. The main reason for making such a decision is based on the religious beliefs that interest will vanish by Allah and “Halal” money will increase. Moreover, people need to secure their money and save for a better future. At the same time, they need a secure place to deposit their money and as they believe and Islamic law indicates the most secure place in Islamic bank which is interest free and copes with Islamic laws.

The Interview Discussion with three Focus Groups

The followings are the summary of the groups that have been interviewed in the focus group discussion. These results represent major perception on issues related to Islamic banking system. The description that follows was arranged according to the major issue lingering Islamic banking system in Libya. The result of the interview indicated that:

An attractive program offered by the banks will certainly be directed to its loyal customers. Promotional program is often set to provide benefits if customers are ready to deposit considerable amount of money. This attraction may be followed by interesting programs such as credit for business investment, housing, etc. Respondent said “yes, I’ll purchase a car and take care of my basic living expenses”. One of the key methods of lending is through the Islamic financial instrument, Qard Al-Hassan, which is a loan that has been extended by the lender based on benevolence and the borrower is only required to pay the exact borrowed amount without additional charges or interest. The Holy Qur’an clearly encourages Muslims to provide Qard Al-Hassan, or benevolent loans for “those who need them”.

Overall, the respondents believed that *“being a Muslim prevents them from dealing with Riba “usury”*. They indicated a justifiable response by *“supporting the introduction of real Islamic banking system facilities in Libya such as Qard al Hassan facilities as one of “Halal” ways to fulfill the requirements of today's difficult life in the*

country by which if it is employed in Islamic way those facilities will meet the needs of the citizens”.

The result of interview for question number four revealed groups’ perception in the discussion as follows:

Over all, a major finding indicated that the selected sample interviewees agreed with the fact that the government should support the introduction of real Islamic banks with effective tools such as AL-Qard AL-Hassan.

Majority of interviewees *“expect this support from the government because it is an Islamic government by which an Islamic banking system should be employed that accord with “Shariah”.*

The result of interview for question number five revealed that groups’ perception in the discussion is as follows:

Whenever there is a new perspective on the development of Islamic banking system, it is people's duty and the whole nation to support it for the advancement of Islamic social economic system already designed for people's wealth management.

“Even though the respondents were certain in any circumstances that the new Libyan government will fully support this principle to be applied, there are still many people who are worried about the economy of the country as the government is new and has just recovered from civil war. Overall, the responses indicate that, the current government may put other priorities like the reconstruction of the country as there were a lot of destructions due to the war and in a later stage the government will give due attention to the implementation of full-fledged Islamic bank facilities in the country”.

This indicates that even though the system had received full acceptance and support from the government, the current economy is not ready to financially support the full-fledged Islamic banks.

5. Discussion

As the analysis of the interviews in the previous sections demonstrates, the interviewees strongly believed that many investors worldwide wish to take part in the Islamic banking industry. However, Libya is amongst the countries that need to reconsider its attitudes towards an understanding of Islamic banking. According to the interviewees, it seems reasonable to assume that the country actually *“needs to completely reorganize its approach to banking”*, and seek wider opportunities in order to allow more people to participate. The interviewees stated that Libya, like other countries, potentially will be able to have a dual banking system where Islamic banks exist alongside the conventional ones. They think that Islamic banking in Libya can be established through two channels. In the beginning, it can be established through the windows system in the conventional private commercial banks. After a while, service could be made available in the established Islamic banks. However, in both cases, the group insists that the role of the state should be to supervise and regulate the industry. Indeed, according to them, *“the implementation of Islamic banking cannot succeed in Libya unless the state is ready to support it”*. The interviewees believed that the operation of Islamic banking in Libya should be based on the principles such as Mudaraba and other modes of Islamic finance for which there are no corresponding principles in conventional banking operations exist. The interviewees also strongly believed that the features of the Libyan society will provide an appropriate mileage for Islamic banking

development and innovation. However, they consider the fact that the experiences of other countries can serve as efficient models of what Islamic banking can provide in Libya. Moreover, the interviewees assumed that the outlook of Islamic banking in Libya will be bright, stable, and capable of rapid development. Finally, in their opinion, “*the challenge is to identify how the contemporary Libyan monetary authority deliberates and handles the introduction of Islamic banking*”.

6. Recommendations

From the interviews, contemporary Libyan circumstances, and in the light of the theoretical concepts considered in this study, it is now possible to make some recommendations and suggestions, which could help in the development of the Libyan commercial banking sector and introduce Islamic banking system in Libya.

- 1- Islamic banks should improve their services by introducing Islamic banking instruments using new technologies in order to deliver their services.
- 2- Islamic banks should cope with the globalization challenges and movement and provide variety of services such as the installation of Auto Teller Machines (ATM). These should be introduced in every Islamic bank branches, agencies and headquarters. As "holes in wall", they guarantee safety for transactions and help clients and customers to deal with them.
- 3- In addition to the suitability of general infrastructure of the banks, this would help to a large extent in transforming Libya from a cash-based to a card-based society and decrease the need for cash outside the banking system. Moreover, the machine could undertake an educational role by spreading saving awareness among Libyans, and helping them to rationalize their expenditure.

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Corporate Governance and Accounting Ethics in Nigeria

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Abstract:

Corporate managers have been in recent times, exploiting the loop holes in accounting standards to manipulate earnings. Earnings management/creative accounting/financial engineering as its being called is consider to be a deliberate attempt to arrive at a desired level of earnings using different means. Through whatever means this is an unethical practice. The study examines the relationship between Corporate Governance mechanisms and accounting ethics in Nigeria. Data for the study were obtained from Nigerian Stock Exchange fact books and Companies financial reports for the period of 2004 to 2009. The extent of influence of corporate governance mechanisms was estimated by probit analysis. Firms under study were dichotomized into two: those involved in earnings management and those with less evidence of management. The probit regression results reveal significance positive influence of Board size, board composition and negative influence of board composition on ethical accounting practices. The findings is a clear testimony that enforcing corporate governance code will reduce significantly unethical accounting practices there by improving quality of accounting information.

Key words: Corporate Governance, Board Composition, Board Size, Dividend Payment, Accounting ethics.

1. Introduction

Concern about corporate governance has developed historically in response to major crises of confidence, fraud, and market failure, and with it development of advances in our thinking about the socio economic role and contribution of corporate entities (Nordberg, 2007). In recent times the pervasiveness of corporate failure in has led to lost of investors' confidence on both financial reports and reporting accountants (auditors). Although, many studies had explored how financial reporting quality can be improved through good corporate governance, there is scarcity of literature on the relationship between specific governance mechanisms and ethical misconduct of accountants'. Ethics is viewed in this study as absence of attempt to cooked/doctored or tailored financial accounting reports to a given desired, or what is popularly referred in the literature as earning management/creative accounting/ financial engineering.

Unethical practices could be attributable to the Flexibility inherent in General Accepted Accounting Principles (GAAP) in the preparation of financial statements, which gives financial mangers some freedom to select among accounting alternatives. Earning management uses this flexibility in financial reporting to alter the financial results of a firm [Ortega & Grant, 2003].

Levit [1998], describes earnings management as a gray area where the accounting is being perverted, where managers are cutting corners, and where earnings reports reflects the desire of management rather than underlying financial performance of a company. If earning is considered to be the most revealing figure of financial reports, then adequate measures need to be put in place to ensure its quality and reliability.

Recent studies revealed that large companies that have failed or filed bankruptcy have engaged in earnings smoothing years prior to their failures, Abdelghany [2005]. This unethical practices was also evident from most pronounced failure of recent times; World com., pharmlat , Societe Generale, Enron among others. Even recent Global financial crisis that engulfed world economies was largely attributed to unethical accounting practices.

Moreover, concern about corporate governance has grown historically in response to major crises of confidence, fraud and market failure, and with development of advances in our thinking about the role of corporation in the economy and society. However, since the modern form of corporation is that which management is diverted from ownership conflict will continue to exist. Board as trustees of owners' whose major role is to supervise holistically the activities of management may likely to some greater extent curved any excesses or deterred possibility of misrepresentation in financials. These expectations depend largely on the size, speed, competence, and vigilance and to subsume it all the general structure of the board. The thrust of this study is to look into those areas of governance structures of a corporation which influence greater to the ethics in financial reporting. The objective is estimate the relationship between board size, board composition and board effectiveness in deterring unethical practices. The rest of the paper proceeds as follows: section two discusses the theories and literature analysis, section three elaborate on data and research design, section four presents and discuss the results, and finally summary and conclusion in section five.

2. Theoretical Framework and Literature Review

Empirical results on the relationship between corporate governance and issues relating to accounting ethics are contradictory. Klien (2002) & Xie *et al* (2003), reported that independent audit and active audit committee being associated with lower level of unethical accounting practice measures as level of abnormal accrual on U.S. Contrary to their findings Davison *et al* (2005), found no such evidence in Australia. In a cross sectional study Becker *et al* (1998) & Francis *et al* (1999), reported that higher quality audit is associated with lower incidence of accounting error. On the other hand, Defond & Jian Balvo (1991), document lower incidence of accounting error relative to lower quality of audit. Studying the effect of audit independence, Frankel *et al* (2000) & Levitt (2000), argued that spin off effect compromise quality of auditors' independence which may lower quality of report.

Although audit related governance structure can have a visible and direct influence on reporting ethics, vast and ultimate overseeing function of a company including auditors' appointment rest on the board. Therefore, there exist a strong, though silent relationship between board and ethical reporting. Several empirical researches documents board related governance issue to high quality financial report (Fama, 1980; Fama & Jensen, 1983). More specifically, Beasley (1996), reported an inverse relationship between independent board and likely hood of financial statement fraud. Other studies in this vein provide evidence of independent board and lower levels of abnormal accruals (Peasnell, *et al*,2000 Klien 2002; Xie *et al*,2003; & Davidson 2005). None of these pre mentioned studies explore in disaggregate contributory effects of individual corporate governance mechanism on accounting ethics using a robust technique. Some closer efforts in relation to this are discussed below.

Board Size

Board Size oftenly proxied with number and frequency of directors meetings is considered to be an important element in monitoring effectiveness of the board. Substantial literature evidence reveals a link between size and reduction in fraudulent practices. Dalton, *et al* (1999), argued that larger board provides better environmental links and more expertise. In contrast Jensen (1993), contends that larger board is less likely to function effectively. While Abbott, *et al* (2000), finds no relationship between size and fraud, Beasley, (1996), documents a positive relationship.

Substantiating on the relationship, Sonda, jean & Lucie (2001), concluded that effective board constraint earnings management. These mix results provides an ample gap to be filled.

Board Composition

The structure of the board determines the extent of its independence. The general notion is that boards with higher proportion of outsiders (non executive/independence directors) are generally considered to be objective and independent in its monitoring function. Independent directors are generally considered better monitors than other directors because they have the ability to act with a view of the best interest of the corporation (TSE, 1994:24). Substantiating these facts, Beasley (1996), reports a negative relationship between percentage of non executive members and the likely occurrence of fraud. Similarly, Dechow, Sloan & Sweeney(1996), found that firms with larger percentage of non executive are less likely to be violators of General Accepted

Accounting Practice(GAAP). Peng-Sheng, Stacie & Yen (2006), provide further evidence of negative association between independent board and abnormal accruals. In nutshell, studies on BOD characteristics report a mix results. Certain studies document that more independent boards are associated with less earnings management (e.g., Beasley, 1996; Klein, 2002; Abbott, *et al.*, 2004; Krishnan, 2005; Vafeas, 2005; Farber, 2005). However, Larcker, *et al.* (2007) finds mixed evidence of associations between the fourteen governance factors and earnings quality as measured by discretionary accruals and restatements.

Dividend Payment

While many studies ignore this variable as corporate governance mechanisms, this study consider dividend payment as an important parameter that measures the overall efficiency of the board. A board that has high frequency of dividend declaration may force earnings managers to have less discretion in manipulating earnings. This is because higher earnings will attract high dividends leading to free cash flow. Larger free cash flow payout reduces managers' ability to make bad investment (Jensen, 1986). Likewise, high payment obliges managers to raise additional capital via stock market there by being exposed to specialist, financial analyst, investment bankers, regulatory authorities and the press(Goergen,2007). From these views, apart from the fact that high dividend is a signal to management effectiveness; it serves as a disciplinary mechanism in limiting management discretion over cash flow. In absence of priory we hypothesized that firms with high level of dividend history will have less level of unethical accounting practice that has to do with earnings misrepresentations.

Earnings management measurement

Earnings management is viewed as purposeful intervention in the external financial reporting process, with the intent of obtaining some private gains [Shipper, 1989: 92]. This intervention covers arrears such as measurement of and disclosure, timing of investment and financing decisions to alter reported earnings, or some subset of it [shipper, 1989].

Healey & Whehlen [1999], foresee earnings management as a situation were managers use judgment in financial reporting and in structuring transactions to alter financial reports to either misled some stakeholders about underlying economic performance of the company or to influence contractual outcomes that depends on reported accounting numbers.

Penmann [2001], developed a model which was built upon the assumption that that is through the use of discretionary accruals. This assumption is common upon most researchers on earnings management. This model compares the ratios of cash flow from operation to income, the closer the ratio the higher the earnings quality. Barton & Simko[2002], Earnings surprise mode. They built their model on the notion of earnings surprise. The model compares beginning of net operating assets relative to sales. They provide empirical evidence that firms with large beginning balance of net operating assets relative to sales are less likely to report a predetermined earnings surprise. One of the weaknesses of the model was the definition of what constitute net assets, as this varies across industries. Leuz et al [2005], this models measures earnings quality based on the variability of earnings over a period. This is done through the calculation of Standard deviation of operating earnings to the standard deviation of cash from operation [The

smaller ratio imply more income smoothing [Khelad, 2005]. The notion of this model was that managers prepare to smooth income over a period.

Theoretical Framework and Model development

To link corporate governance with unethical accounting practices, the study first looks at the theories that induced earnings manipulations. Two of prominent are opportunistic and desirous. The first theory which embedded the philosophy of this paper is opportunistic tendency of managers to engage in unethical practice in absence of good governance structure. Secondly, from corporate legal point of view board are to act as trustees of shareholders. Infact they are like operating shareholders directly overseeing the affairs of management. Agency theory, postulates an inevitable conflicts. Whereas, managers will be targeting better performance for short term gains, the interest of shareholders would be that of long term benefit of capital appreciation and return (dividend). Within the agency framework, it is both logical and inescapable that management behavior will be self serving (Amat, 1996). The end result will be that of managers manipulating earnings. These two theories; agency theory and opportunisms theory provide a complete framework for understanding the ethical content of ethics. And these guide us in formulating the following model as frame for the study:

$$CGF = F(BS, BC, \& DPT).....(1)$$

Transforming 1 above to linear relation we arrived at

$$Y_{it} = \alpha_0 + \beta_{1it} BC + \beta_{2it} BS + \beta_{3it} DPT + \mu_{it}.....(2)$$

3. Sample Data and Research Design

To achieve the objective of the study that is estimating the relationship between corporate governance and accounting ethics proxied by earning management, data were sourced from quoted companies listed on Nigerian stock exchange within the period of 2004 to 2009. Annual report compiled by the exchange within the period of the study shows that a total of two hundred and fifty companies were quoted from twenty seven sectors. For a given company to qualify in the sample, it must have submitted its financial information within the period of the study. Therefore, companies newly listed and those that were delisted within the study period were completely omitted from the sample. Secondly, such a company must have its financial year ending at 31st December, for consistency. A total of 90 observations were recorded.

The study utilizes linear probability model (probit analysis) to estimate the relationship. The justification for adopting LP model lies to the fact that the regressand; earnings management is dichotomized into binary code one and zero.

The study hypothesized that the probability of a firm to engage in unethical practice lies on its corporate governance structure. Therefore in linear terms;

$$CGF = F(BS, BC, \& DPT).....(3)$$

All C.G. variables are numerical quantitative variable. While the dependant variable; E.M. is a dichotomous variable proxied by 1 if firm engage in earning smoothing and zero otherwise.

The model estimated is as thus:

$$Y_{it} = \alpha_0 + \beta_{1it} BC + \beta_{2it} BS + \beta_{3it} DPT + \mu_{it}.....(4)$$

$$E(y_{it}/X_{it} = \alpha_0 + \beta_{it}X + \mu_{it})(5)$$

$$X = \text{Vector of } (x_1, x_2, x_3) \dots \dots \dots (6)$$

Y is conditional 1 if firm engage in unethical practice and 0 otherwise, therefore, the conditional probability is given as:

$$\Pr(y_{it} = 1, 0/X) \dots \dots \dots (7)$$

In running the (4) above first OLS was used. Since we expect:

$$E(y_i = 1, 0 / x_1, \dots, x_3)$$

We put a restriction of the coefficient of $x_i \dots \dots \dots x_3$ as:

$$0 \leq E(y_{it} / x \dots \dots \dots x_3) \leq 1 \dots \dots \dots (8)$$

Non fulfillment of (8) led to run second regression using LP logit model.

4.0. Results and Discussion

Table 4.1. Regression result
 Dependent Variable: ENMGT
 Method: ML - Binary Probit (Quadratic hill climbing)
 Convergence achieved after 4 iterations

Variable	Coefficient	Std. Error	z-Statistic	Prob.
<i>BC</i>	-0.237234	0.091824	-2.583582	0.0098
<i>BS</i>	0.018204	0.289436	0.062894	0.9499
<i>DPT</i>	0.004534	0.002674	1.695324	0.0900
<i>C</i>	3.064568	0.970542	3.157585	0.0016
<i>Mean dependent var</i>	0.810811	<i>S.D. dependent var</i>	0.394332	
<i>S.E. of regression</i>	0.365217	<i>Akaike info criterion</i>	0.920851	
<i>Sum squared resid</i>	9.336826	<i>Schwarz criterion</i>	1.045395	
<i>Log likelihood</i>	-30.07149	<i>Hannan-Quinn criter.</i>	0.970533	
<i>Restr. log likelihood</i>	-35.89334	<i>Avg. log likelihood</i>	-0.406371	
<i>LR statistic (3 df)</i>	11.64371	<i>McFadden R-squared</i>	0.162199	
<i>Probability(LR stat)</i>	0.008709			

Source: E views output

The regression results presented in table 4.1., shows a multivariate binary probit regression convergence achieved after four iterations. Earnings management is proxy for accounting unethical behavior was explained with three explanatory variables: Board size (BS), Board Composition (BC) and Dividend payment (DPT). The overall fitness of the model as revealed in Probability (LR STAT) was good enough to interpret the individual contribution of the regressors. On the overall the model fits the data at less than 1% level

of significant; meaning that the variables explained in full the regressand. Other indicators of econometric value for inference are Akwaike information centre, Hannan Quin & Swartz criteria all showing a good results of nearly one or closer to unity indicating the data is normal. the overall explanatory power of the model is revealed in Mcfadden R- squared, as usual in binary regression hardly this figure will be high contrary to OLS Adjusted R^2 (Ajoin,& Foster,1984). Mc Fadden R- squared shows significant variation of the regressand is explained be the regressors. Inferentially, corporate governance significantly influences accounting ethics. This confirms the findings in Xie, *et al*,(2001).

On the individual influence of the regressors to the regressand, Board composition shows a significant negative relationship with accounting ethics, meaning that more independent board (high proportion of non executive directors) the less possibility of firm to engage in unethical practices. This finding corresponds with prior expectation of inverse relation between independent board and earnings management. Furthermore the findings conforms with several empirical research results of Beasley, 1996; Klein, 2002; Abbott , *et al.*, 2004; Krishnan, 2005; Vafeas, 2005; Farber, 2005). However it contradicts the findings in Larcker, *et al.* (2007) .

Board size is the only variable with insignificant contribution, possibly biased in metric used viz a viz number of board members might have contributed to that. However, from statistical results the hypothesis of absence of relationship can not be rejected. The result indicates absence of evidence of relationship between Board size and ethics. This conforms with Abbott, *et al* (2000), and Contradicts the results of positive relationship in Beasley,(1996).

Lastly, the hypothesis that firm with good history of dividend payment will reduce the likelihood of unethical practice was accepted at 10 % level of significant. This striking findings show that board effectiveness measured by dividend payment reduces the possibility of firm to engage in earnings smoothing (opportunistic tendency). This is because earnings positively influence dividend payments. And any mistake to alter earnings may affect dividends. The findings proved the opinion of Jensen (1986) and Goergen,(2007).

5. Summary and Concluding Remarks

The thrust of the paper is to find out the extent of influence of selected corporate governance mechanisms (Board related and performance related) on level of accounting unethical practices. Board composition, Board size are the board related mechanisms and Dividend payment was considered as performance related mechanisms. The results show a significant positive influence of both the mechanisms on accounting ethics. This led the conclusion that the possibility of firm to engage in unethical accounting misconduct is dependednt upon its corporate governance. Puts in another way, corporate governance reduces likelihood of un ethical accounting practices.

As a matter of policy input, regulatory authorities and other stake holders of a concern should strengthen and ensure compliance with corporate governance code and best practiced. Ensuring adequate compliance will deter the possibilities of accounting fraud and improve the overall trust and confidence on the financial reports.

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Appendix

Abbreviations:

BS: Board Size

BC: Board Composition

DPT: Dividend Payment