JOURNAL OF SOCIAL AND DEVELOPMENT SCIENCES (JSDS)

Vol. 10 No. 3 ISSN 2221-1152

Editorial

Journal of Social and Development Sciences (JSDS) is a scholarly journal deals with the disciplines of social and development sciences. JSDS publishes research work that meaningfully contributes towards theoretical bases of contemporary developments in society, business and related disciplines. The work submitted for publication consideration in JSDS should address empirical and theoretical contributions in the subjects related to scope of the journal in particular and allied theories and practices in general. Scope of JSDS includes: sociology, psychology, anthropology, economics, political science, international relations, linguistics, history, public relations, hospitality & tourism and project management. Author(s) should declare that work submitted to the journal is original, not under consideration for publication by another journal, and that all listed authors approve its submission to JSDS. It is JSDS policy to welcome submissions for consideration, which are original, and not under consideration for publication by another journal at the same time. Author (s) can submit: Research Paper, Conceptual Paper, Case Studies and Book Review. The current issue of JSDS consists of papers of scholars from Japan, South Africa, Cameroon, Indonesia and Ghana. Optimal taxation in the solow-uzawa growth model, the socio-political dynamic import of citizens participation in public resource management, suitability of the HIV/AIDS control program in the HIV/AIDS control policy, compressive strength of concrete using different curing methods & socioeconomic implications of examination fraud and assessment irregularities are some of the major practices and concepts examined in these studies. Journal received research submission related to all aspects of major themes and tracks. All the submitted papers were first assessed, by the editorial team for relevance and originality of the work and blindly peer-reviewed by the external reviewers depending on the subject matter of the paper. After the rigorous peer-review process, the submitted papers were selected based on originality, significance, and clarity of the purpose. Current issue will therefore be a unique offer, where scholars will be able to appreciate the latest results in their field of expertise, and to acquire additional knowledge in other relevant fields.

Editor In Chief

Editorial Board

Nek Kamal Yeop Yunus, Ph. D, University Pendidikan Sultan Idris, Malaysia

N. Panchanatham, Ph. D, Annamalai University, India

Mamta B Chowdhury, Ph. D, University of Western Sydney, Australia

R. K. Uppal, International University of Contemporary Studies, USA

Ananda Wickramasinghe Ph. D, CQ University, Australia

Hai-Chin YU, Ph. D, Chung Yuan University ,Chungli, Taiwan

Mohan Bhai Patel, Ph. D, N S Arts College, India

Yapa M W Y Bandara, Ph. D, Charles Sturt University, Australia

Chux Gervase Iwu, Ph. D, Cape Peninsula University of Technology, South Africa

Pratibha Samson Gaikwad, Ph. D, Shivaji University of Pune, India

Mohammad Reza Noruzi, Ph. D, Tarbiat Modarres University, Tehran, Iran

M Azhar Khan, Ph. D, Hokkaido University, Japan

Apostu Iulian, Ph. D, University of Bucharest, Romania

Rajendra Parsad GUNPUTH, Ph. D., University of Mauritius, Mauritius

Table of Contents

Description	Pages
Title	I
Editorial	II
Editorial Board	III
Table of Contents	IV
Papers	V
Optimal Taxation in the Solow-Uzawa Growth Model with Public Goods Wei-Bin Zhang	1
The Socio-Political Dynamic Import of Citizens Participation in Public Resource Management in Relation to Good Governance for South Africa Andrew Osehi Enaifoghe, Tafadzwa C. Maramura, Israel K. Ekanade, Hannah Muzee	12
Suitability of the HIV/AIDS Control Program in the HIV/AIDS Control Policy in Banjarmasin to Achieve "Getting to Zero" Nana Noviana, Sri Suwitri, Bambang Supriyono, Sutopo Patria Jati	22
Compressive Strength of Concrete Using Different Curing Methods Daniel Yaw Osei, Zakari Mustapha, Mohammed D.H. Zebilila	30
Socioeconomic Implications of Examination Fraud and Assessment Irregularities in South Africa's Higher Education Sector: A Futuristic View Chux Gervase Iwu	39

PAPERS

Journal of Social and Development Sciences (JSDS)
Vol. 10, No. 3, September 2019 (ISSN 2221-1152)

Optimal Taxation in the Solow-Uzawa Growth Model with Public Goods

Wei-Bin Zhang
Ritsumeikan Asia Pacific University, Japan
wbz1@apu.ac.jp

Abstract: This paper makes an original contribution to the literature of optimal taxation by introducing Ramsey taxation to the Solow-Uzawa growth model to examine genuine dynamic interdependence between growth and optimal taxation. We introduce a public sector to the Uzawa two-sector growth model. The public sector supplies public goods and services. The government financially supports by the public sector by collecting taxes on the household's wage income and wealth income under the assumption that the utility level is maximized. We derive the optimal taxation rule and construct the dynamics of the national economy. The model studies a nonlinear dynamics between national and sectoral growth, economic structural change, wealth/capital accumulation, and optimal tax rates in perfect competitive markets with the government intervention. The model has a unique stable equilibrium point with the chosen parameter values. We carry out comparative dynamic analysis to analyze effects of exogenous changes in a few parameters on the transitional process and long-term economic structure of the economic dynamics.

Keywords: *Optimal taxation; tax rates; Uzawa's growth model; public good; growth.*

1. Introduction

Since the pioneering work on optimal taxation by Ramsey (1927), how to formally analyze optimal taxation in different economies under different institutions has caused great attention from economists. The government may own and control the entire economy like in planning economies and can tax on almost any aspect of economic activities such as production activities, different incomes, and properties like in most of contemporary market economies. The emergence of extensive public invention in last few decades in the traditional market economies has stimulated many studies of taxation in the literature of theoretical as well as empirical economics. Different models in optimal tax theory focus various feasible taxes for the government. The government uses various objectives to evaluate various tax configurations. As taxation involves so many aspects in social and economic systems, it is reasonable to expect different approaches and various conclusions in the literature of optimal tax theory (e.g., Diamond and Mirrlees, 1971a, 1971b; Auerbach, 1985; Zodrow and Mieszkowski, 1986; Stiglitz, 1987; Wildasin, 1988; Slemrod, 1990; Wilson and Gordon, 2003; Lai, 2019). Irrespective of the extensive efforts over years, one of key aspects of optimal taxation is still poorly addressed in the literature. The theory has been mostly limited to static equilibrium framework. It is obvious that taxation should be studied in genuine dynamic framework. The contribution of this study is to introduce optimal taxation into the well-known Solow-Uzawa growth model, a core model in formal economic growth theory. This paper is concerned with dynamic inter-dependence between economic growth and optimal taxation. We address issues related to optimal taxation in neoclassical growth theory. We introduce a public sector to the Solow-Uzawa growth model (Solow, 1956; Uzawa, 1961).

The public sector supplies public goods and services and is financed by the government. The government collects taxes on the household's wage income and wealth income under the assumption that the utility level is maximized. We derive the optimal taxation rule and construct the dynamics of the national economy. The model studies a nonlinear dynamic interdependence between national and sectoral growth, economic structural change, wealth/capital accumulation, and optimal tax rates in perfect competitive markets with the government intervention. In almost all the recent literature of theoretical economics on dynamic interdependence of economic growth and optimal taxation economists apply either the OLG modeling framework in discrete time or the Ramsey framework in continuous time. Deviating from these theoretical approaches to studying household behavior, this study applies Zhang's approach to household behavior to analyze problems well-addressed in optimal taxation theory. Zhang's alternative approach was initially proposed in the early 1990s (Zhang, 1993). Zhang shows many implications of the modeling framework. In particular, the approach has similar implications to those of the well-known Keynesian consumption function and the permanent income hypothesis. It is known that the Keynesian approach and permanent income hypothesis are more empirically valid than the constant saving rate assumption in the Solow model and the in the Ramsey approach in describing household behavior.

The approach is further referred to Zhang (2005, 2008). The rest paper is organized as follows. In section 2 we develop the basic model with public goods and optimal taxation. In section 3 we study how to solve the dynamics and simulate the motion of the national economy.

2. The Solow-Uzawa Model with Optimal Taxation

We base the model in this study the main features of Solow's growth model (Solow, 1956), Uzawa's two-sector growth model (Uzawa, 1961), and Zhang's model with endogenous growth and public goods (Zhang, 2016). In section 5 we conclude the study. Section 4 conducts comparative dynamic analysis to analyze effects of changes on the economic system over time with regards in some parameters. The appendix proves the main results in Section 3. We deviate from from Zhang's model in that this study treats tax rates as endogenous variables, while they are parameters in Zhang's model. The household decision is based on Zhang's approach (Zhang, 1993, 2005). Like the Uzawa model, the economy has two private sectors, the capital goods sector producing capital goods and the consumer goods sector supplying consumer goods and services. The private sectors are characterized by perfect competition. The two-sector growth model is extended by including a public sector. The new sector supplies public goods with capital and labor as factor inputs. The public sector is financially by the government. The government taxes the households. We don't consider possible taxes on producers and impact of public goods on production of the private sectors. We use capital goods as unit of measurement and the price of capital goods is unity. Depreciation rate of capital goods is constant δ_k, free mobility of capital and labor between the sectors is assumed. The households own assets. There is a fixed homogenous population. Let subscript index, i, s, and p, to denote respectively the capital goods, consumer goods, and public goods sectors. Let $K_j(t)$ and $N_j(t)$ stand for the capital stocks and labor force employed by sector j, $j = i, s, p$, at time t. We use $F_j(t)$ to denote the output level of sector j. Let h stand for human capital.

The Capital Goods Sector: The production function of the capital goods sector is given by:

$$F_i(t) = A_i\, K_i^{\alpha_i}(t)\, N_i^{\beta_i}(t),\ \ \alpha_i, \beta_i > 0,\ \ \alpha_i + \beta_i = 1, \quad (1)$$

Where A_i, α_i, and β_i are parameters. We use $w(t)$ and $r(t)$ to stand for the wage rate and rate of interest.

As markets are perfectly competitive, labor and capital are paid by their marginal products. No firm earns positive profit. The profit is:

$$\pi_i(t) = F_i(t) - (r(t) + \delta_k)\, r(t) - w(t)\, N_i(t).$$

The first-order conditions for maximizing the profit implies

$$r_\delta(t) = \alpha_i\, A_i\, k_i^{-\beta_i}(t),\ \ w(t) = \beta_i\, A_i\, k_i^{\alpha_i}(t), \quad (2)$$

Where $k_i(t) \equiv K_i(t)/N_i(t)$ and $r_\delta(t) \equiv r(t) + \delta_k$.

Service Sector: The service sector's technology is described by the following production function:

$$F_s(t) = A_s\, K_s^{\alpha_s}(t)\, N_s^{\beta_s}(t),\ \ \alpha_s, \beta_s > 0,\ \ \alpha_s + \beta_s = 1,\ \ 1 > \theta_s \geq 0, \quad (3)$$

Where α_s and β_s are parameters. The first-order conditions for maximizing the service sector's profit are:

$$r_\delta(t) = \alpha_s\, A_s\, p(t)\, k_s^{-\beta_s}(t),\ \ w(t) = \beta_s\, A_s\, p(t)\, k_s^{\alpha_s}(t), \quad (4)$$

Where $k_s(t) \equiv K_s(t)/N_s(t)$.

The Public Sector: We now study the public sector. This study assumes that the government finances the public sector. The public sector employs capital and workers, paying them at the same rates that the other two sectors pay. It is assumed that resources are effectively employed by the public sector. The effectiveness implies that the government budget is used in such a way that public services is optimized. Let $K_p(t)$ and $N_p(t)$ stand for, respectively capital stocks and labor force employed by the public sector. We specify the following supply function of public services:

$$F_p(t) = A_p\, K_p^{\alpha_{0p}}(t)\, N_p^{\beta_{0p}}(t),\ \ \alpha_{0p}, \beta_{0p}, A_p > 0. \quad (5)$$

The budget for the public sector is:

$$w(t)\, N_p(t) + r_\delta(t)\, K_p(t) = Y_p(t). \quad (6)$$

The first-order condition for optimizing public services under (6) implies:

$$r_\delta(t)\, K_p(t) = \alpha_p\, Y_p(t),\ \ w(t)\, N_p(t) = \beta_p\, Y_p(t), \quad (7)$$

In which, $\alpha_p \equiv \frac{\alpha_{0p}}{\alpha_{0p}+\beta_{0p}}$, $\beta_p \equiv \frac{\beta_{0p}}{\alpha_{0p}+\beta_{0p}}$.

Behavior of Households: We apply an alternative approach in describing behavior of households. The approach was suggested by Zhang (1993) and is applied many economic problems (Zhang, 2005). We use $\bar{k}(t)$ to represent the value of wealth that the representative household owns. Let $\tau_w(t)$, and $\tau_k(t)$ represent the tax rates on the wage income and the interest income. We define new variables: $\bar{\tau}_x(t) \equiv 1 - \tau_x(t)$. The current income is

$$y(t) = \bar{\tau}_k(t)\,\mathrm{R}(t) + \bar{\tau}_w(t)\,h\,w(t)\,, \quad (8)$$

Where $\mathrm{R}(t) \equiv r(t)\,\bar{k}(t)$ is the interest payment, and $w(t)$ the wage rate. The disposable income is defined by:

$$\hat{y}(t) = y(t) + \bar{k}(t). \quad (9)$$

The household distributes the disposable income between saving and consumption. Inserting (8) in (9) implies:

$$\hat{y}(t) \equiv \left(1 + \bar{\tau}_k(t)\,r(t)\right)\bar{k}(t) + \bar{\tau}_w(t)\,h\,w(t). \quad (10)$$

The household uses the total available budget to consume $c_s(t)$ and $c_i(t)$, and to make saving $s(t)$: $p(t)\,c_s(t) + c_i(t) + s(t) = \hat{y}(t)$. (11)

We assume that the household's utility level $U(t)$ is a function of public goods $F_p(t)$, $c_s(t)$, $c_i(t)$ and $s(t)$ as follows: $U(t) = \theta\,F_p^{d_0}(t)\,c_s^{\gamma_0}(t)\,c_i^{\xi_0}(t)\,s^{\lambda_0}(t)$, $d_0, \gamma_0, \xi_0, \lambda_0 > 0$, (12)

In which the power parameters are the representative household's utility elasticities of the corresponding variables. We call d_0, γ_0, ξ_0, and λ_0 the propensities to consume public goods, to consume consumer goods, to consume capital goods, and to hold wealth. Maximizing $U(t)$ subject to (12) yields:

$$c_s(t) = \frac{\gamma\,\hat{y}(t)}{p(t)}, \quad c_i(t) = \xi\,\hat{y}(t), \quad s(t) = \lambda\,\hat{y}(t), \quad (13)$$

Where

$$\gamma \equiv \rho\,\gamma_0, \quad \xi \equiv \rho\xi_0, \quad \lambda \equiv \rho\,\lambda_0, \quad \rho \equiv \frac{1}{\gamma_0 + \xi_0 + \lambda_0}.$$

According to the definition of $s(t)$, we get wealth accumulation as follows:

$$\dot{\bar{k}}(t) = s(t) - \bar{k}(t). \quad (14)$$

This means that the change in wealth equals the saving minus the dissaving.

The Tax Income: The tax income is from taxing the wealth income and wage income. We have:

$T_p(t) = \tau_k(t)\,\mathrm{R}(t)\,\bar{N} + h\,\tau_w(t)\,w(t)\,\bar{N}$. (15)

For simplicity of analysis, we assume that the government fixes the ratio of the tax rates as follows:

$$\tau_k(t) = \omega\,\tau_w(t)\,, \quad (16)$$

Where ω is a constant parameter decided by the government?

The Government Determines the Tax Rates: The government is assumed to determine the tax rates in order to maximize the utility function. By (12) and (13):

$$U(t) = \frac{\theta\,\gamma^{\gamma_0}\,\xi^{\xi_0}\,\lambda^{\lambda_0}}{p^{\gamma_0}(t)}\,F_p^{d_0}(t)\,\hat{y}^{1/\rho}(t). \quad (17)$$

From (9) and (7), we have:

$$F_p(t) = A_p\left(\frac{\alpha_p}{r_\delta(t)}\right)^{\alpha_{0p}}\left(\frac{\beta_p}{w(t)}\right)^{\beta_{0p}}\,Y_p^{\alpha_{0p}+\beta_{0p}}(t). \quad (18)$$

Insert (18) in (17): $U(t) = u(t)\,Y_p^d(t)\,\hat{y}^{1/\rho}(t)$, (19)

Where

$$u(t) \equiv A_p^{d_0}\left(\frac{\alpha_p}{r_\delta(t)}\right)^{d_0\,\alpha_{0p}}\left(\frac{\beta_p}{w(t)}\right)^{d_0\,\beta_{0p}}\frac{\theta\,\gamma^{\gamma_0}\,\xi^{\xi_0}\,\lambda^{\lambda_0}}{p^{\gamma_0}(t)}\,, \quad d \equiv \left(\alpha_{0p}+\beta_{0p}\right)d_0.$$

As the income of the government from taxing is spent on supplying public goods, we have:

$$Y_p(t) = T_p(t) = \tau_k(t)\,\mathrm{R}(t)\,\bar{N} + \tau_w(t)h\,w(t)\,\bar{N}. \quad (20)$$

By (10) and (20), we express $U(t)$ as a function of $\tau_k(t)$ and $\tau_w(t)$ as follows:

$$U(t) = u(t)\,(\tau_k(t)\,\mathrm{R}(t) + \tau_w(t)\,h\,w(t)\,)^d\,\bar{N}^d\,\hat{y}^{1/\rho}(t). \quad (21)$$

Maximizing $U(t)$ by taking derivatives of the utility function, respectively, in $\tau_k(t)$ and $\tau_w(t)$, we have a single marginal condition:

$$\frac{\tau_k(t)\,\mathrm{R}(t) + \tau_w(t)\,h\,w(t)}{\hat{y}(t)} = \frac{Y_P(t)/\bar{N}}{\hat{y}(t)} = d\,\rho. \quad (22)$$

The rule implies that the ratio between the tax income and the disposable income is a constant $d\,\rho$. By (10), we have, $\hat{y}(t) = y_0(t) - \frac{Y_P(t)}{\bar{N}}$, (23)

Where $y_0(t) \equiv \big(1 + r(t)\big)\bar{k}(t) + h\,w(t)$. From (22) and (23), we have

$$\frac{Y_P(t)}{\bar{N}} = \frac{d\,\rho\,y_0(t)}{1 + d\,\rho}. \quad (24)$$

Equation (24) implies that the government's optimal tax policy per capita is proportional to the disposable income when the tax rates are zero. It should be noted that in the literature of optimal taxation, the Ramsey rule is well-known. Ramsey considers an economy with a single consumer. The government determines commodity taxes to maximize the utility of the consumer under the condition that the tax income is to cover a required level of tax revenue. The Ramsey rule implies that the optimal taxes make every good to change in the same proportional reduction in compensated demand (e.g., Ramsey, 1927; Mas-Colell, et al., 1995). Our problem differs from the Rumsey one mainly in that we maximize the utility without fixing government's tax revenue. Moreover, we are concerned with taxes on wage and capital income.

Equilibrium Conditions for Consumer Goods and Capital Goods: The equilibrium condition in consumer goods market implies:

$$c_s(t)\,\bar{N} = F_s(t). \quad (25)$$

The equilibrium condition in capital goods market implies:

$$c_i(t)\,\bar{N} + s(t)\,\bar{N} + \delta_k\,K(t) = F_i(t) + K(t).$$

This equation can be equally written as:

$$\dot{K}(t) = F_i(t) - c_i(t)\,\bar{N} - \delta_k\,K(t). \quad (26)$$

This equation states that the capital stock change is capital goods produced minus the capital depreciated and capital goods consumed.

Full Employment of Capital and Labor: The national capital stock $K(t)$ is employed by the three sectors. Labor and capital are fully employed:

$$K_i(t) + K_s(t) + K_p(t) = K(t), \quad (27)$$

$$N_i(t) + N_s(t) + N_p(t) = h\,\bar{N}. \quad (28)$$

The national wealth is owned by the households. We thus have:

$$K(t) = \bar{k}(t)\bar{N}. \quad (29)$$

We built the dynamic growth model with three sectors. It is an extension of the Solow-Uzawa two-sector growth model basing on the literature of optimal taxation.

3. The Dynamics of the Economy

In the appendix it is shown that the movement of the national economic dynamics is described by one differential equation with $z(t)$ as the variable, where $z(t) \equiv w(t)/(r(t) + \delta_k)$. The following lemma gives a way to describe the economic dynamics.

Lemma: The following differential equation describes motion of $z(t)$:

$$\dot{\bar{k}}(t) = \tilde{\Psi}\big(z(t)\big), \quad (30)$$

In which $\tilde{\Psi}$ is a function of $z(t)$ given in the Appendix. We determine all the other variables as functions of $z(t)$ by following calculating order: $\bar{k}(t)$ by (A13) $\rightarrow$ $r(t)$ and $w(t)$ by (A2) $\rightarrow r_\delta(t) = r(t) - \delta_k \rightarrow \tau_w(t) \rightarrow \tau_k(t)$ by (16) $\rightarrow y_0(t)$ by definition $\rightarrow K_s(t)$ by (A9) $\rightarrow K(t) = \bar{k}(t)\,\bar{N} \rightarrow K_i(t)$ by (A5) $\rightarrow K_p(t)$ by (A5) $\rightarrow k_j(t) = z(t)/\tilde{\alpha}_j, j = i, s, p \rightarrow N_j(t) = K_j(t)/k_j(t) \rightarrow F_j(t)$ by the specified forms $\rightarrow U(t)$ by (19) $\rightarrow p(t)$ by (A3) $\rightarrow \hat{y}(t)$ by (A6) $\rightarrow c_s(t), c_i(t)$ and $s(t)$ by (13) $\rightarrow T_p(t)$ by (15) $\rightarrow Y_p(t) = T_p(t)$.

By the Lemma we can follow the economic dynamics. We specify parameter values as follows:

$\bar{N} = 100,\ \alpha_i = 0.3,\ \alpha_s = 0.35,\ \alpha_{0p} = 0.3,\ \beta_{0p} = 0.5,\ A_i = 1.1,\ A_s = 0.9,\ A_p = 0.9, \lambda_0 = 0.8,$
$\xi_0 = 0.1,\ \gamma_0 = 0.06,\ \theta = 1,\ \omega = 1,\ h = 4,\ d_0 = 0.05,\ \delta_k = 0.03.$ (31)

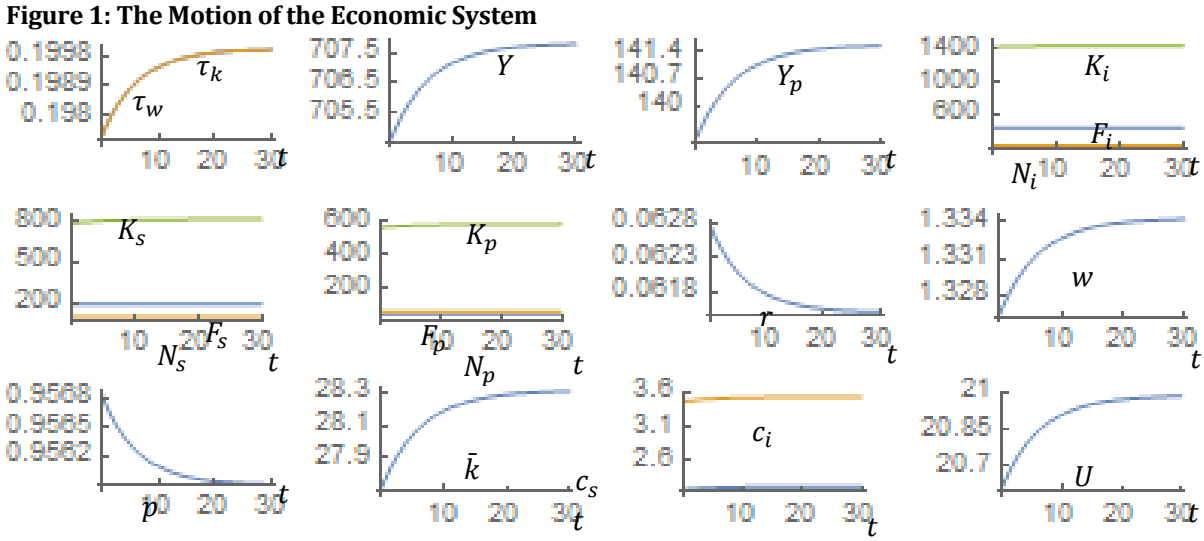
The population is 100. We fix the propensity to save at 0.8. The propensity to consume goods is 0.1. The propensity to consume services is lower than the propensity to consume goods. The propensity to consume public goods is 0.05. The ratio of the tax rates 1, which implies that the government taxes the wage income and the wealth income with the same rate. We fix the elasticities of capital in the Cobb-Douglas production functions near 0.3. The parameter values are not referred to a given economy. We consider this acceptable as our main purpose of providing insights into the movement of the economic system will not be affected. We choose the initial condition: $z(0) = 14.3$. Figure 1 plots the motion of the economic dynamics. The tax rates rise slightly over time. In the figure the variable $Y(t)$ stands for the GDP defined as follow: $Y(t) = r(t)\,K(t) + w(t)\,h\,\bar{N}$. The GDP and tax income rise over time. The three sectors change slightly. The rate of interest falls. The wage rate rises over time. The changes of the other variables are plotted in Figure 1.

Full Employment of Capital and Labor: The national capital stock $K(t)$ is employed by the three sectors. The full employment of labor and capital is represented by:

$$K_i(t) + K_s(t) + K_p(t) = K(t), \quad (27)$$
$$N_i(t) + N_s(t) + N_p(t) = h\,\bar{N}. \quad (28)$$

The national wealth is owned by the households. We thus have:
$K(t) = \bar{k}(t)\bar{N}$. (29). We built the dynamic growth model with three sectors.

Figure 1: The Motion of the Economic System



We calculate the equilibrium values as follows:

$\tau_w = \tau_w = 0.2,\ Y = 707.8,\ Y_p = 141.6,\ r = 0.062,\ p = 0.96,\ w = 1.33,\ F_i = 438.9,\ F_s = 191.5,$
$F_p = 49.4,\ N_i = 230.2,\ N_s = 103.5,\ N_p = 66.3,\ K_i = 1438.9,\ K_s = 812.3,\ K_p = 580.2,\ \bar{k} = 28.3,$
$c_i = 2.54,\ c_s = 2.22,\ U = 21.$ (32)

The eigenvalue of the unique equilibrium point is -0.156. The negative eigenvalue implies the stability of equilibrium point. This guarantees that we can effectively conduct comparative dynamic analysis.

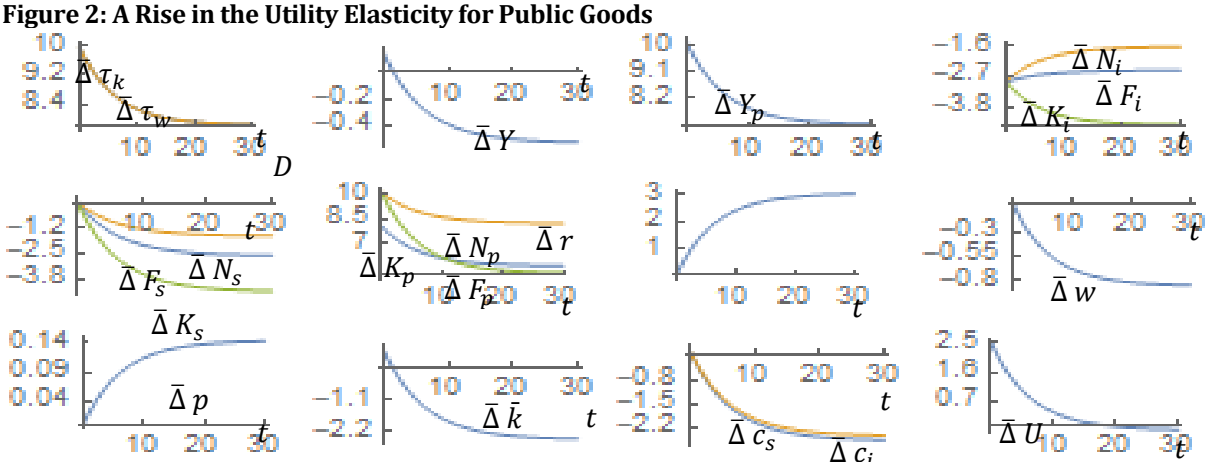
4. Comparative Dynamic Analysis

The previous section simulates the movement of the economic system. The simulation procedure implies that it is straightforward to study how parameter changes have effects on the movement of the system with conduct

comparative dynamic analysis. A variable $\bar{\Delta}x(t)$ is defined to represent for the change rate of the variable $x(t)$ in percentage due to changes in the parameter value.

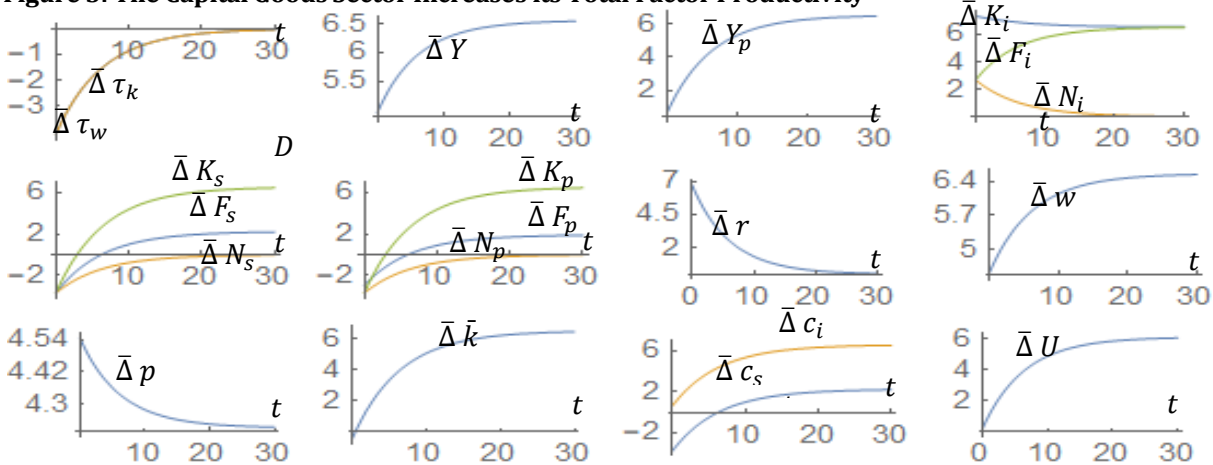
A Rise in the Utility Elasticity for Public Goods: We first examine how the economic dynamics is affected by the following rise in the utility elasticity for public goods: $d_0 = 0.05$ to 0.055. Figure 2 plots the simulation result. Intuitively we see that as the utility level is enhanced with the same level of public goods, the government can enhance the households' welfare by increasing more public goods if the other variables in the utility function not much reduced. The government reacts the rise in the utility elasticity of public goods by increasing the tax rates, resulting in the expansion of the public goods sector. The tax income is increased. The GDP rises initially and falls slightly in the long term. The higher tax rates result in falling in the household's wealth, consumption of goods and services. The rate of interest is enhanced. The wage rate is reduced. The scales of the two private sectors are shrunk. The price of services is reduced. We see that a rise in the utility elasticity in public goods discourages the development of private sectors by absorbing more resources from the economy. The benefit from the increased public goods will not benefit the national economy in terms of the utility level and the GDP.

Figure 2: A Rise in the Utility Elasticity for Public Goods



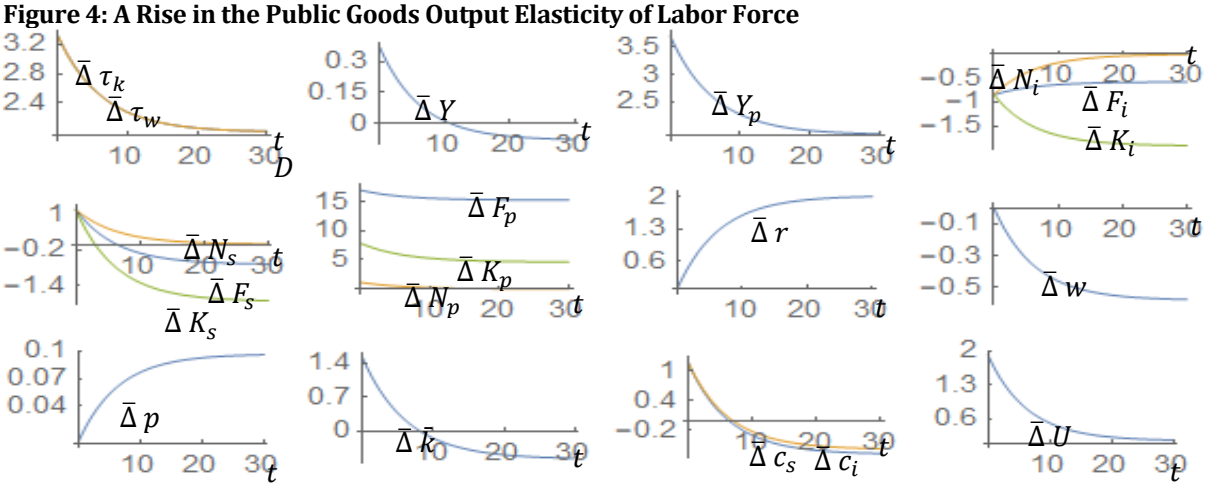
The Capital Goods Sector Increases its Productivity: We now study the transitory and long-term effects of the following improvement in the capital goods sector's total factor productivity: $A_i = 1.1$ to 1.15. Figure 3 plots the simulation result. As its productivity is enhanced, the capital goods sector is expanded. The sector produces more and employs more capital. The labor force employed by the capital goods sector is increased initially but is not changed in the long term. The labor force distribution is not affected in the long term. The tax rates are initially reduced but are not affected in the long term. The public sector initially employs less capital and labor force and produces less, employs more capital and produce more in the long term. The consumer goods sector initially employs less capital and labor force and produces less, employs more capital and produce more in the long term. The rate of interest is initially enhanced and is not affected in the long term. The wage rate is enhanced. The price of services is increased. The representative household has more wealth and consumes more capital goods. The household consumes less consumer goods initially but more in the long term.

Figure 3: The Capital Goods Sector Increases its Total Factor Productivity



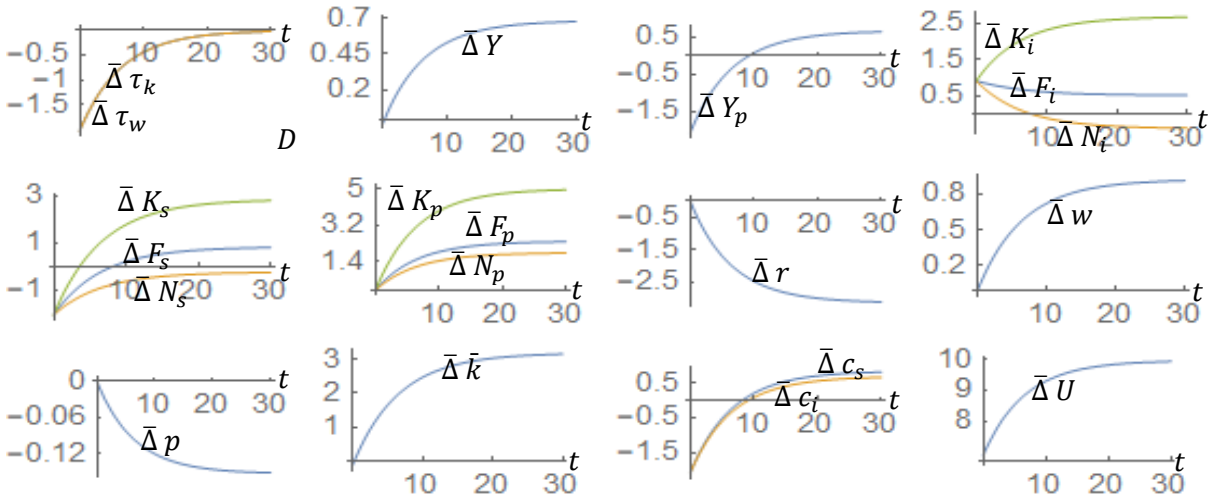
A Rise in the Public Goods Output Elasticity of Labor Force: We now analyze what happen to the economic dynamics if the public goods output elasticity of labor force is increased as follows: $\alpha_{0p} = 0.3$ to 0.32. Figure 4 plots the simulation result. The public sector employs more labor force initially and employs the same number of workers in the long term. The utility level is increased. The public sector expands the scale and employs more capitals. The tax rates are increased. The GDP rises initially but falls in the long term. The capital goods sector is shrunk. The consumer goods sector is expanded initially but shrunk in the long term. The rate of interest is increased. The wage rate is reduced. The labor distribution reminds invariant in the long term. The price of services is increased. The representative household has more wealth initially but less in the long term. The household consumes more capital goods and consumer goods initially but less in the long term.

Figure 4: A Rise in the Public Goods Output Elasticity of Labor Force



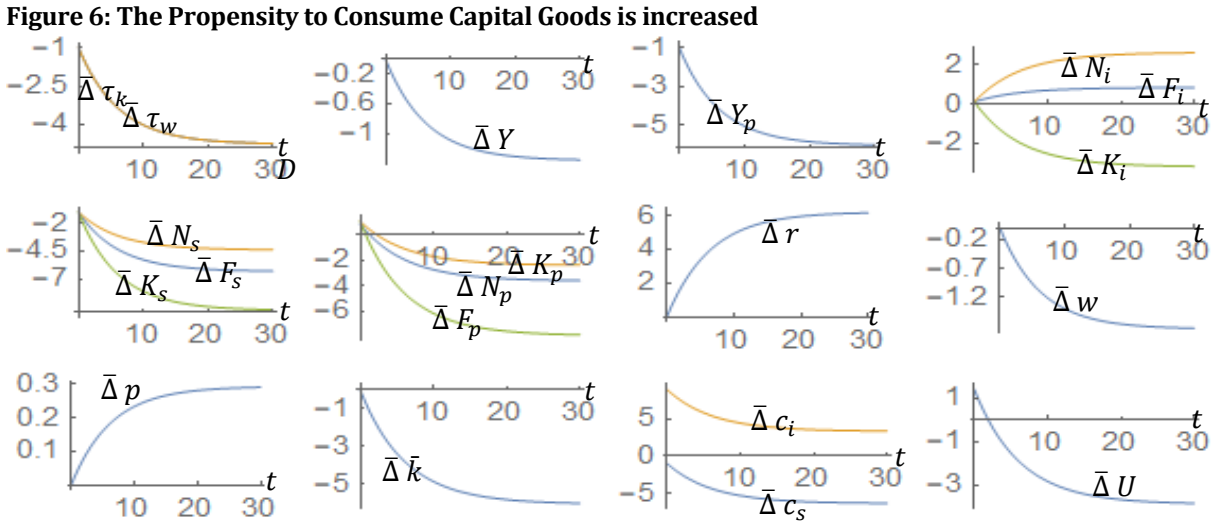
The Propensity to Save is Increased: We now study the case when the propensity to save is augmented as follows: $\lambda_0 = 0.8$ to 0.82. Figure 5 plots the simulation result. The representative household's wealth is increased. The household consumes less capital goods and consumer goods, but more in the long term. The tax rates are reduced initially and are not affected in the long term. The public sector supplies more public goods and employs more capital and labor force. The consumer goods sector employs less labor force. The capital goods sector employs more labor force initially but less in the long term. The GDP and utility level are increased. The rate of interest is reduced. The wage rate is enhanced. The price of consumer goods is decreased. The two private sectors are expanded in the long term.

Figure 5: The Propensity to Save is Increased



The Propensity to Consume Capital Goods is Increased: We now study the case that the propensity to consume capital goods is increased as follows: $\xi_0 = 0.1$ to 0.11. Figure 6 plots the simulation result. The representative household's wealth is reduced. The household consumes more capital goods and less consumer goods. The tax rates are reduced. The public sector supplies less public goods and employs less capital and labor force. The consumer goods sector employs less labor force. The capital goods sector employs more labor force. The GDP is reduced. The utility level is increased initially but reduced in the long term. The rate of interest is augmented. The wage rate is reduced. The price of consumer goods is increased. The capital goods sector's output is increased. The consumer goods sector's output is reduced.

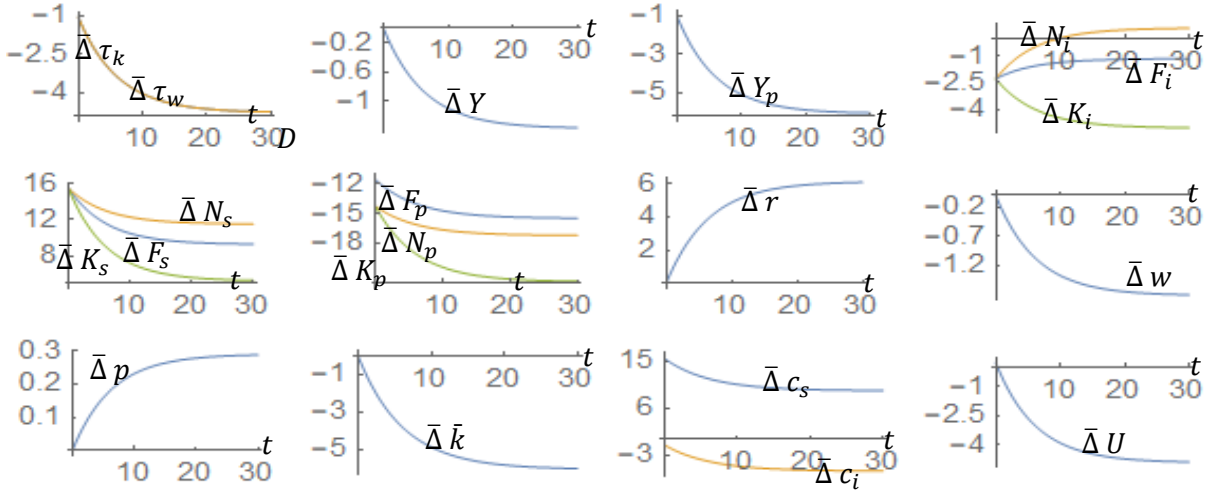
Figure 6: The Propensity to Consume Capital Goods is increased



The Propensity to Consume Consumer Goods is Increased: We now analyze what happen to the economic system if the propensity to consume consumer goods is augmented as follows: $\gamma_0 = 0.06$ to 0.07. Figure 7 plots the simulation result. The representative household's consumption level of consumer goods is increased. The consumer goods sector produces more and employs more input factors. The tax rates are reduced. The government has less tax income. The public sector supplies less public service and employs less input factors. The capital goods sector is shrunk. The GDP is reduced. The utility level is reduced. The rate of interest is augmented. The wage rate is reduced. The price of consumer goods is increased. The model studies a nonlinear dynamic interdependence between economic structure, wealth/capital, and optimal tax rates in perfect competitive markets. The model has a unique stable equilibrium point. The study focuses on effects of changes in

some parameters on the transitional processes and long-term economic structure of the economic dynamics. It should be noted that it is straightforward to conduct comparative dynamic analysis with other variables. It is also possible to get more insights from simulating other forms of production and utility functions.

Figure 7: The Propensity to Consume Consumer Goods is increased



5. Conclusion

This paper analyzes dynamic inter-dependence between economic growth and optimal taxation. We introduced the public sector to the Uzawa two-sector growth model. The public sector supplies public goods and services and financially supported by taxation. Tax is collected from the household's wage income and wealth income under the assumption that the utility level is maximized. We derived the optimal taxation rule and constructed the dynamics of the national economy. We can also extend the model. Our model is based on the two most popular models, the Solow model and the Uzawa two-sector growth model, in the literature of neoclassical growth theory. We can learn many ideas for generalization (Burmeister and Dobell, 1970; Zhang, 2005). The literature of optimal taxation also points out many issues to be further examined. There is a large literature on the role of productive fiscal policy as on sustainable economic growth (Barro, 1990; Turnovsky, 2004; Gómez, 2008). There is an extensive literature on issues related to tax competition in interregional and national economic growth are (e.g., Wilson, 1986; Baldwin and Krugman, 2004; and Ihori and Yang, 2009). As our dynamic models are built in a general dynamic equilibrium framework with microeconomic foundation, it is conceptually not difficult to make extensions and generalizations of the model on basis of past literature on different aspects of taxation.

Appendix: We now check the Lemma. From (3), (6) and (9), we get:

$$z \equiv \frac{w}{r_\delta} = \bar{\alpha}_i\, k_i = \bar{\alpha}_s\, k_s = \bar{\alpha}_p\, k_p, \quad (A1)$$

where

$$k_j \equiv \frac{K_j}{N_j}, \quad \bar{\alpha}_j \equiv \frac{\beta_j}{\alpha_j}, \quad j = i, s, p.$$

Insert (A1) in (3)

$$r(z) = \alpha_i\, A_i \left(\frac{z}{\bar{\alpha}_i}\right)^{-\beta_i} - \delta_k, \quad w(z) = z\, r_\delta. \quad (A2)$$

From (A1) and (4), we have

$$p(z) = \frac{r_\delta}{\alpha_s\, A_s} \left(\frac{z}{\bar{\alpha}_s}\right)^{\beta_s}. \quad (A3)$$

Insert $k_j = z/\bar{\alpha}_j$ and $N_j = K_j/k_j$ in (28)

$$\bar{\alpha}_i\, K_i + \bar{\alpha}_s\, K_s + \bar{\alpha}_p\, K_p = z\, h\, \bar{N}. \quad (A4)$$

From (A2) and $K_i = K - K_s - K_p$, we have

$$K_p = \alpha_x\, z\, h\, \bar{N} - \alpha_x\, \bar{\alpha}_i\, K - (\bar{\alpha}_s - \bar{\alpha}_i)\, \alpha_x\, K_s,$$

$$K_i = K - K_s - K_p, \quad (A5)$$

Where $\alpha_x \equiv 1/(\bar{\alpha}_p - \bar{\alpha}_i)$. From (14) and (25), we have

$$\gamma\, \hat{y}\, \bar{N} = p\, F_s. \quad (A6)$$

Substituting $r_\delta = \alpha_s\, p\, F_s/K_s$ into (A6) yields:

$$\gamma\, \hat{y}\, \bar{N} = \frac{r_\delta\, K_s}{\alpha_s}. \quad (A7)$$

By (22) and (24), we get

$$\hat{y} = \frac{y_0}{1 + d\,\rho}. \quad (A8)$$

Insert (A8) in (A7)

$$K_s = \frac{\alpha_s\, \gamma\, \bar{N}\, y_0}{(1 + d\,\rho)\, r_\delta}. \quad (A9)$$

By (3) (A9) and (A19), we have:

$$F_s = A_s\, K_s \left(\frac{\bar{\alpha}_s}{z}\right)^{\beta_s}. \quad (A10)$$

By (24), (16), and (20), we get

$$\tau_w = \frac{d\,\rho\, y_0}{(1 + d\,\rho)\,(\omega\, \mathrm{R} + h\, w)}. \quad (A11)$$

Insert (A9), (29), and (7) in (A5)

$$\tilde{R}\, y_0 = h\, z - \bar{\alpha}_i\, \bar{k}, \quad (A12)$$

in which we also use (24) and

$$\tilde{R}(z) \equiv \left(\frac{d\,\rho\, \alpha_p}{\alpha_x} + (\bar{\alpha}_s - \bar{\alpha}_i)\, \alpha_s\, \gamma\right) \frac{1}{(1 + d\,\rho)\, r_\delta}.$$

From the definition of y_0 and (A12), we solve

$$\bar{k}(z) = \frac{(z - w\,\tilde{R})\, h}{(1 + r)\,\tilde{R} + \bar{\alpha}_i}. \quad (A13)$$

We obtain the values of the variables as functions of z with the following computational order: $\bar{k}$ by (A13) $\rightarrow$ r and w by (A2) $\rightarrow r_\delta = r - \delta_k \rightarrow \tau_w \rightarrow \tau_k$ by (16) $\rightarrow y_0$ by definition $\rightarrow K_s$ by (A9) $\rightarrow K = \bar{k}N \rightarrow K_i$ by (A5) $\rightarrow K_p$ by (A5) $\rightarrow k_j = z/\bar{\alpha}_j, j = i, s, p \rightarrow N_j = K_j/k_j \rightarrow F_j$ by (1), (3) and (5) $\rightarrow U$ by (19) $\rightarrow p$ by (A3) $\rightarrow \hat{y}$ by (A6) $\rightarrow c_s, c_i$ and s by (13) $\rightarrow T_p$ by (15) $\rightarrow Y_p = T_p$. By (9), (14) and this procedure, we have

$$\dot{\bar{k}} = \tilde{\Psi}(\bar{k}) \equiv s - \bar{k}. \quad (A14)$$

The derivative of (A13) in time implies:

$$\dot{\bar{k}} = \frac{\partial \bar{k}}{\partial z}\, \dot{z}. \quad (A15)$$

From (A14) and (A15), we have

$$\dot{z} = \tilde{\Psi}\left(\frac{\partial \bar{k}}{\partial z}\right)^{-1}. \quad (A16)$$

We thus proved the Lemma.

Acknowledgements: The author is thankful to the important comments of the anonymous referee.

References

Auerbach, A. J. (1985). The Theory of Excess Burden and Optimal Taxation. In Handbook of Public Economics, edited by Auerbach and Feldstein, 69-127.

Barro, R. J. (1990). Government Spending in a Simple Model of Endogenous Growth. *Journal of Political Economy*, 98(S5), S103-25.

Baldwin, R. E. & Krugman, P. (2004). Agglomeration, Integration and Tax Harmonization. *European Economic Review*, 48(1), 1-23.

Burmeister, E. & Dobell, A. R. (1970). Mathematical Theories of Economic Growth. London: Collier Macmillan Publishers.

Diamond, P. & Mirrlees, J. A. (1971a). Optimal Taxation and Public Production I: Production Efficiency. *American Economic Review,* 61(1), 8–27.

Diamond, P. & Mirrlees, J. A. (1971b). Optimal Taxation and Public Production II: Tax Rules. *American Economic Review,* 61(3), 261–78.

Gómez, M. A. (2008). Fiscal Policy, Congestion, and Endogenous Growth. *Journal of Public Economic Theory*, 10(4), 595-622.

Ihori, T. & Yang, C. C. (2009). Interregional Tax Competition and Intraregional Political Competition: The Optimal Provision of Public Goods under Representative Democracy. *Journal of Urban Economics,* 66(3), 210-17.

Lai, Y. B. (2019). Environmental Policy Competition and Heterogeneous Capital Endowments. *Regional Science and Urban Economics*, 75(2019), 107-19.

Mas-Colell, A., Whinston, M. D. & Green, J. R. (1995). Microeconomic Theory. Oxford: Oxford University Press.

Ramsey, F. (1927). A Contribution to the Theory of Taxation. *Economic Theory*, 37(145), 47-61.

Slemrod, J. (1990). Optimal Taxation and Optimal Tax Systems. Journal of Economic Perspectives 4(Winter), 157-78.

Solow, R. (1956). A Contribution to the Theory of Growth. *Quarterly Journal of Economics*, 70(1), 65-94.

Stiglitz, J. E. (1987). Pareto Efficient and Optimal Taxation and the New Welfare Economics. In Handbook of Public Economics 2, edited by Auerbach, A. and Feldstein, M, 991-1042.

Turnovsky, S. J. (2004). The Transitional Dynamics of Fiscal Policy: Long-Run Capital Accumulation and Growth. *Journal of Money, Credit, and Banking*, 36(5), 883-910.

Uzawa, H. (1961). On a Two-Sector Model of Economic Growth. *Review of Economic Studies*, 29(1), 47-70.

Wildasin, D. E. (1988). Nash Equilibria in Models of Fiscal Competition. *Journal of Public Economics*, 35(3), 229-40.

Wilson, J. D. (1986). A Theory of Interregional Tax Competition. *Journal of Urban Economics*, 19(3), 296-315.

Wilson, J. D. & Gordon, R. (2003). Expenditure Competition. *Journal of Public Economic Theory*, 5(2), 499-417.

Zhang, W. B. (1993). Wages, Service Prices and Rent - Urban Division of Labor and Amenities. *Seoul Journal of Economics*, 6(1), 97-113.

Zhang, W. B. (2005). Economic Growth Theory. London: Ashgate.

Zhang, W. B. (2008). International Trade Theory: Capital, Knowledge, Economic Structure, Money and Prices over Time and Space. Berlin: Springer.

Zhang, W. B. (2016). Public Debt and Economic Growth in Uzawa's Two-Sector Model with Public Goods. *International Journal of Economic Sciences*, 5(4), 52-73.

Zodrow, G. R. & Mieszkowski, P. (1986). Pigou, Tiebout, Property Taxation, and the Under-provision of Local Public Goods. *Journal of Urban Economics*, 19(3), 356-70.

Journal of Social and Development Sciences (JSDS)
Vol. 10, No. 3, September 2019 (ISSN 2221-1152)

The Socio-Political Dynamic Import of Citizens Participation in Public Resource Management in Relation to Good Governance for South Africa

Andrew Osehi Enaifoghe*[1], Tafadzwa C. Maramura[2], Israel K. Ekanade[3], Hannah Muzee[4]
[1]Department of Public Administration, University of Zululand, KwaZulu-Natal, South Africa
[2]Department of Governance and Public Administration, University of Fort Hare, South Africa
[3]Department of Development Studies, University of Venda, Thohoyandou, Limpopo, South Africa
[4]Pan African University, Institute of Governance, University of Yaoundé II, Soa, Cameroon
andyransey@gmail.com

Abstract: This article looks at the social fundamentals in Africa's political governance in relation to basic leadership and its system of administration regarding public office holders vis-a-vis political leaders. In an attempt to address the research question, it conceptualizes the dynamics of having a transparent government, in the changing pattern in leadership in relation to good administration of governance and the management of public goods and delivery of services to general public, a system for which the discourse changes in Africa's legislative issues. This article focuses on the structures of interaction from the national to local level it then brings up development of events that seem to be basic to all African politics, which may have been inciting the changes in the original patterns. It identifies socio-political and economic policies as bedrock that is central to a country's stability and development. Inevitably, a properly established economic policy is needed to ensure the sustainability, strength, development, and delivery, of public goods efficiently. This article contributes to the political discourse in Africa, which may have continued to this day and findings shows the obvious failures on the part of political leaders' and their inability to manage public resources, thereby making them deviate from their campaign manifestos or become detached from people-centred fundamental issues of governance. Qualitatively, this article is conducted and guided by Stewardship and Corporate Governance theory. It objectively looks at the keys of good governance as its objective in the post-independence African public sector in providing an enabling environment and effective regulatory framework.

Keywords: *Political processes, governance, interaction, accountability, economic performance.*

1. Introduction

The general understanding of the term 'governance', portrays the processes by which organizations are led, controlled and held to account for their actions. It comprises the authority, accountability, stewardship, leadership, course, and control employed to manage public resources within the organization. Governance and public administration are two fundamental issues, which can be described as two sides of a coin. These two concepts are linked through to one and another – government (Hasan, 2019). The traditional use of "governance" and its dictionary access defines it as a synonym for "government" that signifies the exercise of authority over territory or system, or in an institution, a state, or an organization (Stoker 1998). While Badun (2004), sees governance to be primary to government, and one of "the pillars of government is public administration." Hasan (2019), states that the growing work on governance comprises a variation in its use and construction. It would not be far from truth to say that in recent times "governance" has become a buzzword, thereby replacing commonplace "government". In the era of clamouring for change, fast-tracking globalization and growing uncertainty many countries are in search of a new form of governance.

That is well adapted to the modern era to advance in economic competitiveness and build substantial and sustainable social growth and public resource management having good governance in place helps to bring about performance in terms of the social, political, environmental and economic impact on the people and society the typical reactions to public sector resource management deficiencies in most underdeveloped Africa states have intensified to a great extent on a combination of specific productivity advancement reforms, dependent on neo-liberal models with the New Public Management (NPM) tools and standards. The predominant scholarly, strategy and scholars debates often show up locked up in an unlimited sphere, therefore repeating minor withdrawal from a similar issue, with will-powers and processes for improvement. However, in the public sector and the executive leadership in developing nations in the industrialized global world, given the obscured parameters between the "global North and South", it is under expanding strain to

achieve. According to Brinkerhoff and Brinkerhoff (2015), the reiteration of current problems is very much perceived in conveying quality administrations of good governance with less resource.

To different public users in banding together viably the private and non-profit spaces then reacting adaptably and quickly to shifts in demands and needs of the public, where guaranteeing citizens' wellbeing and security is an invigorating infinite but fair economic development opportunity. These are undeniably progressively hard to pinpoint (Brinkerhoff and Brinkerhoff, 2015). Adapting proactively to transnational dangers in these current challenges and difficulties in public management by the government and public office holders, calls for considerations beyond the traditional public sector with the management approaches and tools. As a political office holder, one has committed to take up a career in the public sector as a political leader or civil servant, in order to serve and represent the interests of the people. This means making ethical decisions in accordance with public sector values, otherwise known as principles and standards of the good administration of governance. The question is; what is the capacity of standards of good administration in the public sector? The appropriate response is not extensive as the standards of good administration urge public managers to rise above the impediments of reasoning in lawful terms.

The lawful ramifications of activities are basic to any choice of decision; they are likewise all, characterized or defined as simple to decide and easy to apply. Alternately, by scrutinizing an activity in connection to qualities and practices, a public administrator must almost certainly face the essential moral viewpoints. The standards of the good administration of governance serve to direct public office holders in their jurisdictions to act in the public interest consistently to accomplish developments. The World Bank defines governance as "how power is exercised in the management of a country's economic and social resources for development" World Bank (1991: 1). The definition by the World Bank is further emphasised by Enaifoghe & Maramura (2018), who said that governance is “concerned with efficiency and the capacity of state institutions beyond the public sector to the rules and institutions that create a predictable and transparent framework for the conduct of public and private business, as well as accountability for economic and financial performance”. However, in most African nations, people with power have figured out how to dissolve any similarity to responsibility, authenticity, democratic government, and equity.

Which has been a premise of significant disillusionment to the organizers, financial analysts, policy-makers, and economist who need African governments to present a sensible and aggregate attack on the quest to reduce poverty, and diseases like HIV/AIDS, improve education, and solve other problems to advance developments in the continent, these considerations, definite “frantically required the components of good administration of governance” (Olukoshi, 2018). The incorporation of mainstream investment in good administration of governance, responsibility, and straightforwardness, end corruption, increase security and access to information and respect for human rights, decentralization, improve infrastructure, and devolution of power. This article looks at how the government manages public resources. More so, what could form the poor decision making in governance, does it have some social link to environmental factors because most leaders step into government with promises of alleviating the people's suffering, but end up failing to fulfil their mandates and campaign promises. They neglect the fundamental social issues that brought them to power in the first place. Could this be regarded as power playing or corruption?

2. Methodology

This paper adopted a content analysis method that allows researchers to study and basically consult and make sense of written materials or documents which may be available either in the public or private domain (Mogalakwe, 2006). The above definition recommends that researchers determine the relevance of the documents that they consult on the basis of their significance to the study. Furthermore, Dey (2005: 105) argues that in documentary analysis, the criteria for selecting documents, or for focusing on particular extracts, should reflect the issues on which the researcher is seeking evidence. It made it possible for the researchers to explore and address the research question on how well public resources are managed by the government for efficiency or deficiency through the changing patterns in leadership. It conceptualizes social dynamics in open administration in connection to good administration of governance and public management, a structure for the discourse with some examples of variations in African legislative issues. This article centres on the structures of good governance, the interaction and the administering of public goods

through political offices at the 'national to local' levels of government. This study recognizes the fact that economic policies are central to the bedrock of the country's stability and development.

Inevitably, a properly established economic policy is needed so as to ensure sustainability, strength, and development of a country. No wonder the lavish lifestyles lived by presidents and political leaders across the continent of Africa, despite having a plethora of natural resources the continent still wallows in abject poverty due to corruption, non-accountability, and recklessness of the political gatekeepers in Africa. This has caused backwardness, economic recessions, and infrastructural decay on the continent. Good Governance has assumed different definitions to fit into diverse situations. 'Good Governance' as an ideology gained popularity with the emergence of donor discourse at the end of the Cold War in 1990. The World Bank took the lead by becoming the 'numero uno' as a prominent donor agency and even adopted 'good governance' as a criterion to be fulfilled before developing countries could access loans (cited in Udo, 2004). The study objective explores the key to good administration of governance in the post-1994 South African public sector, in an effort to provide an enabling environment and effective regulatory policy framework. Thus, the study sought to plug the gap on bad governance in most of Africa's public sector in the direction of enabling public participation in political administration for good governance to be achieved.

3. Conceptual Literature Considerations

The World Governance indicators place the majority of African countries in the bottom 50th percentile of their six dimensions of governance, with the inclusion of South Africa. Meaning that in terms of governance indicators, Africa is the least to achieve good governance (WB, 2012; McKinsey Global Institute, 2016). Likewise, the "Corruption Perceptions Index which is produced" by the "Transparency International in Africa", reveals that a total of 30 countries out of the 47 countries that were surveyed and were established to have extensive "corruption and only three countries, including Botswana, Cape Verde, and Mauritius, scored above the global average for corruption" (WB, 2012; McKinsey Global Institute. 2016: 2). In light of this background, Akonor (2013: 9), argues that "weak political leadership is often co-located with bad practices of governance" which are de-linked from the participatory dynamic of the citizens. This simply implies that the inclusion of citizens in the governance structures should actually be "co-located" with good practices of governance. One key component of good governance is that of participatory decision-making of citizens and all the relevant stakeholders within the government, that enjoy a sense of belonging through their participation in the procedures (Chigudu, 2018).

In the same manner, the social dynamics in public participation actually acknowledge that better participation in decision-making is an enabler for good governance. Hence, this study confirms that public participation enables citizens and every relevant stakeholder to actualize their right to demand "accountability and transparency" from the government, in respect of the Batho Pele principles. For the renewal of the continent, the practice of good governance in the public sector is essential. However, the current deficiencies and gaps located in the good governance structures of Africa is an indication to sort for help in Africa and to actually move forward socio-economically. This is crucial because, among other things, good governance contributes to macroeconomic stability and enhances the implementation of socio-economic development (Obeng-Odoom (2015; Gulrajani, 2015; Ayittey, 2004). Central to this component is the literature on good governance that is affirmed by Grindle (2007: 4). It opts for "feasible and best-fit solutions to core public management problems". The literature has had a robust stream of analysis and practice pointing out the importance of public participation predating to the pre-colonial era, in this context which dates this study to the apartheid era in South Africa (Brinkerhoff & Brinkerhoff, 2015).

The US Agency for International Development argues for attention to be given to the country's system and understanding how their structures and processes facilitate" for good governance (USAID, 2014; UN-Habitat, 2016). Brinkerhoff & Brinkerhoff (2015), advocate on how problem-driven public sector transformation and its related public management diagnostics glimmer an inward interest on the grassroots levels who engage in supportive, fulfilling and promoting public sector reforms. Within the South African public sphere, the new public management approach rationalizes the characterization of the "principal-agent" rapport which exists between the public sector and the citizens in commercial expressions in which the citizens are deemed basically as the customers who anticipate fulfilment from the government (Obeng-Odoom, 2015).

Correspondingly, in line with the Batho Pele principles, in facilitating for the provisions of public participation which are aligned with good governance, the government is meant to account to the electorate by ensuring, "value for money, transparency, accountability and redressing imbalances of the past" among other Public Sector ethos. However, in general, governance should not simply be about politics and governments as according to (Ayittey, 2004). Conversely, modern research tributaries have been encouraging the public sector and the citizens to distance its line of thinking away from the twofold, the primary proxy of philosophy which only envisions the supply-side and demand-side of governance. Instead redirect the line of thinking to focus on a collective accomplishment to any public sectoral challenges (Booth and Cammack, 2013; Booth, 2012). This line of thought is aimed at directing towards the idea that, any governance challenges in which the government succumbs to are not essentially two-fold or defined in binary terms, because unfortunately, any governance challenges affect both the electorate and the government in retrospect (Grindle, 2007). Thus, the social dynamics in public participation are actually about all the relevant stakeholders devising solid strategies as highlighted below.

Stakeholder Involvement: Stakeholder involvement in good governance is crucial and it is essential that which has a major impact on the local government as has been exemplified by the dynamics surrounding good governance and involvement of all relevant stakeholders involved (Castells & Himanen, 2014). Hence, it fundamentally begins with identification and acknowledgment of who the relevant stakeholders are to ensure efficient and effective public participation towards good governance. Besides, the "state (government) and the people (the governed) represent two actors identified within governance, as such, it is the responsibility of governments to inspire and propel the governed" for public participation (WB, 2012). Unfortunately, in practice, the South African government appears to have substantiated to be a bad example of such concern.

Public Consultation: Public consultation is a critical component in the social dynamics of public participation in relation to good governance because it helps to generate direct contact between the local governments as the grass-roots level closer to the people (Healey, 2004), thereby dissolving the element of South African citizens being isolated from the public participation progression. Roe (1993) asserts that public consultations are essential tools that actually enable the identification of problems within governance structures and they ultimately encourage citizens to be willing to partake in the solution-finding process. In retrospect, this paper confirms that the aim of public consultations is to place pressure on the service provider in creating a sense of responsibility to improve good governance according to the needs of the public.

Transparency and Right to Information: Chigudu (2018) espouses that, stakeholder involvement in policymaking and public consultation are essential components to ensuring transparency and the right to information in the public service provision cycle. Hence, this paper confirms that public participation ultimately results in the development of transparent platforms between the public who have the right to information from the service providers towards enabling good governance.

Citizens' Satisfaction: Akonor (2013) highlights that the satisfaction of citizens by the level of service delivery and in this similitude good governance fundamentally culminates and ultimately escalates with a derivation from the three components aforementioned. This implies that citizenry satisfaction can be enabled through the improvement in rationalizing public service processes to be more integrative of the public as the service users and relevant stakeholders towards attaining good governance in South Africa (Kelsall, 2016). Citizen's satisfaction goes beyond citizens and the government actually finding alternative and suitable ways of being able to act collectively in their own best interests (Booth, 2012). As a result, a collective action approach enables the identification of more creative and productive solutions to good governance which go beyond simple sources of customer demand. The Mo Ibrahim Index of African Governance is regarded as the world's most comprehensive ranking of African governance, by measuring 48 African sub-Saharan states on the basis of their quality of governance.

That is, based on "safety and security, transparency and corruption, human development", participation and human rights (Booth, 2012, WB, 2012, Chigudu, 2018). Additionally, research places emphasis on good governance, which is hinged upon public participation, this makes it imperative for the integration of public participation into good governance. Unfortunately, in practice, the South African government appears to have

substantiated to be a bad example of such concern. Likewise, the "African Good Governance Network, Kelsall, (2016), notes that "governance in South Africa has been hinged mainly on governments and politics". Rather, it is incumbent upon the governed to be proactive and have the will to stay on the course through on-going consultations by building with key stakeholders during implementation processes by making use of available tools such as public participation. The hypothesis contends and takes a look at an alternate type of inspiration for supervisors drawn from authoritative hypothesis. Administrators are seen as faithful to the organization and keen on accomplishing superior.

4. Theoretical Consideration of Stewardship and Corporate Governance

Much the same as the organization hypothesis, the stewardship hypothesis expects that public office managers are stewards whose practices are lined up with the goals of their principals. According to Al Bondigas (2019), "the dominant motive, which directs managers to accomplish their jobs, is their desire to perform excellently. Specifically, managers are conceived as being motivated by a need to achieve, to gain intrinsic satisfaction through successfully performing inherently challenging work, to exercise responsibility and authority, and thereby to gain recognition from peers and bosses". GLCRC (2011) stated that the "theory also argues that an organization requires a structure that allows harmonization to be achieved most efficiently between managers and owners. In the context of the firm's leadership, this situation is attained more readily if the CEO is also the chairman of the board". This initiative structure will help them to accomplish better execution than the degree that the CEO practices total experts over the organization and that their job is unambiguous and unchallenged. In this circumstance, power and expertise are moved in a solitary individual. "Most theories of corporate governance use personal self-interest as a starting point. Stewardship theory, however, rejects self-interest. Agency theory begins from self-interested behavior and rests on dealing with the cost inherent in separating ownership from control. Managers are assumed to work to improve their own position while the board seeks to control managers and hence, close the gap between the two structures"-Walter (2019).

Public office and stewardship hypotheses start from "two very different premises". Walter (2019) further elaborates the fact that the essential office issue spins around people viewing themselves as just as people with no other significant connections. The stewardship hypothesis holds that people in the executives' positions do not essentially think about themselves as secluded people. Rather, they view themselves as a feature of the firm. Public office managers, as indicated by stewardship hypothesis, should combine their inner self and feeling of worth with the notoriety of the firm. Accordingly, the stewardship hypothesis, supervisors should look for different closures other than money-related ones (Walter, 2019). These incorporate a feeling of worth, philanthropy, great notoriety, a vocation well done, a sentiment of fulfilment and a feeling of direction. The stewardship hypothesis holds that supervisors naturally look to work admirably, expand organization benefits and convey great outcomes to investors. They do not really do this for their very own monetary intrigue, but since they feel a solid obligation to the firm or the office they hold, and a sense of responsibility to the people they serve. Subsequently, the assumptions regarding corporate initiative will be clearer and progressively steady both for subordinate supervisors and for the individuals from the corporate board. Accordingly, there is no space for vulnerability concerning who has a specialist or duty over a specific issue. Carothers and Saskia (2014) argued that the association will appreciate the advantages of solidarity of course and of solid direction and control.

The Agency Theory on Good Governance: The organization's relationship is viewed as a legally binding connection between the principals that give mandate to the organization or institutions and the administration (operator) who runs the organization or public office. The principals draw in the specialist to play out certain administrations for their sake and would typically designate some basic leadership experts in terms of making decision (GLCRC, 2011). In any case, as the unpredictability of activities developed, the executives, who had the skill and basic information to work the organization, progressively increased compelling control and set them in a place where they were inclined to seek after their own advantages. The writing on organization hypothesis tends to three kinds of issues that could unfold from the partition of possession and the executives, which may thus influence the institution's value. They are the exertion issue, the advantages' utilization issue, and differential hazard inclinations issue.

The exertion issue concerns whether administrators apply legitimate exertion in overseeing organizations in order to expand participator's interest. Issues emerge on the grounds that principals are not ready to decide whether the administrators are playing out their work fittingly (Walter, 2019). Administrators may not apply similar high exertion levels required for firm esteem augmentation as they would in the event that they possessed the firm. Similarly, there could be "the use of assets problem concerned the insiders who control corporate assets" or control corporate resources. They may manhandle these benefits for purposes that are unsafe to the interests of investors, for example, redirecting corporate resources, guaranteeing over the general public, the top compensations and controlling exchange costs of advantages with different substances they control. Brinkerhoff and Brinkerhoff (2015) argued that the differential hazard inclinations issue emerges on the grounds that the main and directors or public office managers should have distinctive perspectives on hazard taking.

Chiefs may not act to the greatest advantage of investors and may have distinctive premiums and dangers inclinations. For instance, administrators have a more extensive scope of financial and mental needs, to expand pay, security, status, and to help their own notoriety, which might be unfavourably influenced by a venture that builds an association's all out hazard. This may result in public office holders being excessively careful in making decisions and therefore neglecting to expand and put the people into considerations. Hence, scholars of public office managers prescribed that corporate administration instruments are expected to diminish these organizations' clashes and to adjust the interests of the operator to those of the central. These systems incorporate motivation plans for directors which remunerate them monetarily to amplify investor premiums. Walter (2019) expressed that, such plans ordinarily incorporate procedures whereby senior officials procure shares, possibly at a deal value, along these lines adjusting budgetary interests of administrators to those of the general public. This shows itself in the manner in which it works together.

Different systems incorporate fixing official remuneration and dimensions of advantages to the public interest and having some portion of official pay conceded to the future to compensate long-run value expansion of the partnership. Essentially, Bondigas (2019), states that the stewardship hypothesis holds that proprietorship does not generally possess an organization; it's simply holding it in trust. The activity might be a vehicle for a higher calling or intended to respect a founder's initial or underlying vision, so making a benefit regularly takes "back seat" to fulfilling an organization. He further noted that the Stewardship models may incorporate ecological concerns, where an organization trusts it ought to work with a meagre effect as conceivable on the earth. Different organizations may support human or every living creature's common-sense entitlement, forgoing utilizing items that are made in sweatshops or tried on live subjects. Still others may respect the proprietor's religious convictions that show themselves as worker authority (Bondigas, 2019), argued that these models will, in general, become emotional, with the executives deciding the limit capacity between socially mindful or unreliable conduct.

The African Political Landscape in Relation to Good Governance: The evolutions which have occurred on the African political scene in the course of the recent time have been multidimensional. They happened as much at the dimension of formal governmental issues, in the field of the informal processes that support the political framework. They have also produced the components within the political framework and those outside to it, requiring a local introspection regarding the settings in which the developments are happening (Olukoshi, 2018). Besides, while residential, local and national-level contemplations are basic to the meaning of the procedure of progress, outer variables and universal actors likewise keep on playing an imperative, even, at certain conjunctures, determinant job in moulding results (Olukoshi, 2018). Naturally, a great part of the consideration which has been centred on political change in Africa has been focused on the formal organizations and methods of legislative issues in light of the fact that these are both progressively noticeable and quantifiable. However, as is the "case with politics elsewhere in the world, important as institutions and procedures are, they do not, in and of themselves, tell the whole story." Consequently, it is imperative that consideration is paid likewise to the procedures that support and shape/remould formal organizations and methodology, including particularly the actors and on-screen characters whose activities and inactions offer life to the political framework. And this can be done without a resort, as Chabal and Daloz (1999) do, "to stereotyping African politics almost as a domain of abracadabra where the more one sees, the more one gets mystified."

According to Holomisa (2017), who stated that with "a socio-political approach, puts context at the centre stage and it assumes that politics matter? It must be understood that policy choices, that are not rooted in a deep understanding of how societies work will not produce the desired results". It was further suggested that, "a socio-political approach which focuses on histories, social relationships, identities, capacities, power-dynamics, how resources are distributed and contested and it delves deeper into formal structures to expose underlying interests, incentives and institutions that determine how politicians act, how governments perform and how policy choices play out" (Holomisa, 2017). This is where the leader must understand the four key principles of; "accountability, transparency, participation, and inclusion—have in recent years become nearly universal features of the policy statements and programs of international development organizations" (Carothers and Saskia, 2014). However, this evidently widespread new consensus is deceptive or beguiling: behind the ringing affirmations lie fundamental gaps over the value, what's more, utilization of these ideas. Understanding and tending to these divisions is critical to guaranteeing that the four standards become completely inserted in global advancement work. The figure is also said to be six times the aid given by Americans to Europe after the war under the Marshall plan (Blair, 2005).

Ethics on Corporate Governance and Human Governance: The Anti-Corruption Commission (ACC) empowers government-connected organizations (GLCs) and privately-owned institutions to sign the corporate respectability vow with an end goal to stamp out debasement and corruption. Apparently, the move was set to make a business condition or institution free of debasement and corrupt practices. The GLCs and privately-owned businesses are therefore urged to do as such to mirror an accord among enterprises to fight corrupt practices and upgrade the certainty or "confidence among foreign investors that there is healthy competition among businesses in Malaysia" Chabal and Daloz (1999). It was pointed out that stiff competition among various organizations both private and public sectors had caused some to resort to corrupt practices. Nonetheless, companies with high ethics would use their actual capabilities to obtain a contract. But there are also those who take the easy way out by offering bribes. This move is seen as an enhancement of corporate governance in Africa's political leadership and framework for good governance (GLCRC, 2012a). Among the imperative components of the promise was the Corporate Integrity Pact, which would be marked by organizations associated with the acquisition of an undertaking, this study believes it is imperative to address the issue of corrupt practices in the public management sector, so as enhance to accountability, efficiency, and socio-political and economic development.

Africans have recognized that advancement must be redone by a vote-based methodology utilizing the strength and dedication of Africans —who alone can make improvements maintainable. The above acknowledgment came out of the Arusha Conference "Putting the People First" of February 1990, held by the United Nations Economic Commission for Africa and gone to by more than 500 appointments speaking to grassroots associations, non-governmental associations, United Nations offices, and various governments. The African Charter for democratic Participation in Development and Transformation, which was received by the plenary, holds that the non-appearance of the majority rule system of government is a key purpose behind the diligent improvement challenges confronting Africa. In this article we insist that countries cannot be built without the prominent help or support and full investment and participation of the general population, nor can the financial crisis be settled and the human and monetary conditions improved without the full and viable commitment, innovativeness, and well known eagerness of by far most of the general population. All things considered, it is to the general population that the very benefits of development should and must accumulate. We are convinced that neither can Africa's current interminable economic crisis survive, nor can a brilliant "future for Africa and its population see the light of day", except if the current structures, design, and political setting of the financial advancement process and development are properly modified.

Democratic political changes must be accentuated as key factors in the assurance of future financial support for Africa, in order to experience socio-political development through democratic practices. It was stated by the Development Advisory Committee for Economic Cooperation and Development put on record that in support of "participatory advancement," there is a need to consider following factors democratization, improved administration, and human rights (Olukoshi, 2018). The condition that political changes or reform have been attempted is currently joined at any rate logically to practically almost all Western support. France proposes more prominent freedom and majority rules system of democracy, Great Britain suggests great

administration of government, the United States centres around great administration, Japan discusses connecting support and helps to decrease in military uses (Brinkerhoff and Brinkerhoff, 2015). However, paying little respect to the approach, there is progressively concrete understanding among contributors that "political changes in Africa must outcome in decreased corruption and increased financial responsibility, better recognition of human rights". Having autonomous media and a free legal executive, participatory governmental issues, and a "changed market economy so as to draw nearer to a definitive objective of important monetary development and advancement" (Brinkerhoff and Brinkerhoff, 2015).

Good Governance and Governance: Clarifications: The World Bank (1993) conceives governance as a system through which 'power is exercised in the management of a country's political, economic and social resources for development'. On this note, the World Bank hinges on the use of power to exercise control upon the political and economic endowments of a country. The main purpose of governance is to obtain political power so as to influence the economic prowess of a nation on the path to the attainment of growth. In other words, it places emphasis on utilizing a country's wealth to the advantage of the country. This definition applies to the western world, but it is not in consonance with what is obtained in the less developed countries, mainly African states. The majority of leaders on the African continent hardly demarcate private government administration.

This category of leaders manages a country like sole trader and general wealth for private enrichment in collaboration with their cohorts. The IMF (2016) describes the role of governance as having the oversight on how the state is being governed in all facets, its economic strategies, and proper regulatory structures. It implies that governance is concerned with the entirety of government's actions and activities specifically tailored with the aim of achieving and attaining economic policies. According to Kofi Annan former United Nations envoy, he conceptualizes 'good governance' as 'the single most important factor in eradicating poverty and promoting development' (Annan, cited in UN 1998). The absence of good governance will perpetuate hunger and underdevelopment. Good governance propels citizens to feel the effect of governance, especially with reference to economic growth and development. The UNDP (2002) submits that 'good governance' is concerned with contending for the rule of law, transparency, equity, effectiveness/efficiency, accountability, and strategic vision in the use of political, economic, and administrative authority. To date, over $380 billion have been allegedly purloined by both Khaki and Camouflage-Boys and the political gatekeepers. This amount is equal to all the financial and technical assistance received by Africa from the West for about 40 years and also equivalent to 300 years of British aid released to the continent. Statistics have shown that from 1970 to 2000, the population of Nigerians living on less than one dollar a day (below the poverty line) rose sharply from 36% to over 70%, that is, from 19 million to a shocking 90 million (Watts, 2007).

Nigeria and the Independence Governance: Governance in Nigeria dates back to the period before independence. This was the era of the British colonial hegemonial administration. In the 59-year history of Nigeria, the military-ruled for 29 years while civil rule accounted for 30 years of stewardship (Makinde (2013). Simply put, good governance could be viewed as a process in which government sector workers and institutions execute public affairs, and control public resources efficiently through the aforementioned conditions. Over the years, the military has been blamed for maladministration and governance woes in Nigeria. Furthermore, it was alleged that the military prepared the grounds to fruition the culture of corruption in Nigeria. However, Omotoso (2008) posits that with the advent of democracy in Nigeria since 1999, studies have revealed that corruption cannot be tied to a specific regime type but it has been a typical feature in the Nigerian system. Political and bureaucratic corruption has been adduced as another proof and outcome of failure of governance in Nigeria. Corruption as an integral feature of poor governance can be simply defined as the misuse of public office for private gain. In Nigeria corruption has assumed alarming and ridiculous levels as Gunnar Myrdal labels the country as the "folklore of corruption" (Amuwo, 2005). This situation has abruptly left Nigeria in the quagmire of instability, economic challenges, Islamic fundamentalism and terrorism, kidnapping, crime rate, pervasive unemployment and fidgety state.

5. Conclusion

This paper set out to assess the management of public resources by African governments. The central argument of the paper lay in the fact that economic policy is central to a country's stability and development and the paper also argues that the progress of African governments is hinged on the full support and participation of its citizens. It is believed that Africa's interminable monetary crisis cannot survive; neither can a brilliant future for Africa and its population see the light of day, except if the structures, design, and political setting of the procedure of both economic and financial advancement and development are properly modified. Democratic political changes must be accentuated as key factors in the assurance of future financial support for Africa, in order to experience socio-political development through democratic practices this notwithstanding the fact that African governments are chronically besieged by high levels of corruption, violation of human rights restriction of media freedom.

These vices grossly affect the functioning of government and hence the adherence to good governance principles. This paper, therefore, emphasizes the need for increased and improved avenues of citizen participation in governance so as to ensure accountability and transparency, and a change in the market economy so as to achieve monetary development and advancement. Finally, the import of having the citizens participate in democratic governance cannot be overemphasized, as they play a key role in ensuring that the public office holders are held accountable to their office. Their participation helps to promote good governance through their involvement in policy implementation, and they also serve as checks and balances. This study recommends that economic policies are central to the bedrock of the country's stability and development. Inevitably, a properly established economic policy is needed so as to ensure sustainability, strength, and development of a country.

References

Akonor, K. (2013). Foreign aid to Africa: A hollow hope? *International Law and Politics*, 40, 1071–1078.

Amuwo, K. (2005). The Peripheral State: Critical perspectives on the structure and role of the public bureaucracy. *Journal of Development Alternatives,* 24(3-4), 119-130.

Annan, K. (2004). The causes of conflict and the promotion of durable peace and sustainable development in Africa. *African Renaissance,* 1, 9-43.

Arusha. (1990). African Charter for Popular Participation in Development Transformation. International Conference on Popular Participation in the Recovery and Development Process in Africa, 12–16.

Ayittey, G. B. N. (2004). Why Africa is Poor: And what Africans can do about it. Johannesburg: Penguin Books.

Bondigas, A. (2019). Stewardship Theory of Corporate Governance.

Badun, M. (2004). Governance and public administration in the context of Croatian accession to the European Union. In: Ott K (ed) Croatian accession to the European Union: institutional challenges. Institute of Public Finance and Friedrich Ebert Stiftung, Zagreb

Blair, D. (2005). #220bn Stolen by Nigeria's Corrupt Rulers. The Telegraph.

Booth, D. (2012). Development as a collective action problem: addressing the real challenge of African governance. Synthesis report of the Africa Power and Politics Programme. Overseas Development Institute: London.

Booth, D. & Cammack, D. (2013). Governance for Development in Africa: Solving Collective Action Problems. Zed Books: London.

Brinkerhoff, D. W. & Brinkerhoff, J. M. (2015). Public Sector Management Reform in Developing countries: Perspectives Beyond NPM Orthodoxy. *Public administration and development,* 35, 222–237.

Carothers, T. & Saskia, B. (2014). Transparency, Participation, and Inclusion: A New Development Consensus?

Castells, M. & Himanen, P. (2014). Reconceptualizing Development in the Global Information Age (Oxford: Oxford University Press).

Chabal, P. & Daloz, J. P. (1999). *Africa Works: Disorder as Political Instrument***,** James Currey, Oxford.

Chigudu, D. (2018). Corporate governance in Africa's public sector for sustainable development: The task ahead, *The Journal for Trans disciplinary Research in Southern Africa,* 14(1), a512.

Dey, I. (2005). Qualitative data analysis. London: Routledge, Taylor and Francis Group.

Enaifoghe, A. O. & Maramura, T. C. (2018). The Quest for Economic Development and the Impacts of Good Governance in Africa Developing Countries. *Journal of ACTA Universitatis Danubius (AUDA)*, 10(1), 17-38.

Government-Linked Companies Research Centre (GLCRC). (2011). Corporate Governance Theories-Stewardship theory.

Government-Linked Companies Research Centre (GLCRC). (2012a). Corporate Governance and Human Governance: Ethics.

Grindle, M. S. (2007). Good enough governance revisited. *Development Policy Review*, 25(5), 533–574.

Gulrajani, N. (2015). Dilemmas in donor design: organization reform and the future of foreign aid agencies. *Public Administration and Development*, 35(2), 152–164.

Hasan, S. (2019). Governance and Public Administration. In: Farazmand A. (Eds) *Global Encyclopaedia of Public Administration, Public Policy, and Governance.* Springer, Cham

Healey, P. (2004). Creativity and Urban Governance, *Policy Studies*, 25, 87-102.

Holomisa, B. (2017). Socio-political impact on Governance, Risk and Compliance Address by Mr. B Holomisa, MP (UDM President) at the IT Web Governance, Risk and Compliance 2017. United Democratic Movement (UDM).

International Monetary Fund. (2016). The IMF and good governance. Washington, D.C.: Communications Department.

Kelsall, T. (2016). Thinking and working with political settlements (London: ODI).

Makinde, T. (2013). Global Corruption and Governance in Nigeria. *Journal of Sustainable Development*, 6, 8.

McKinsey Global Institute. (2016). Lions on the move II: Realizing the potential of Africa's economies (New York: McKinsey & Company).

Mogalakwe, M. (2006). Research Report. The Use of Documentary Research Methods in Social Research. *African Sociological Review*, 10(1), 221-230.

Obeng-Odoom, F. (2015). Africa: On the rise, but to where? *Forum for Social Economics*, 44, 234–50.

Olukoshi, A. (2018). *Changing Patterns of Politics in Africa.*

Omotoso, F. (2008). Corruption, Democracy, and Development in Nigeria. *Ife Social Sciences Review,* 1(23), 105-117.

Roe, E. (1993). Against power: For the politics of complexity, *Transitions*, 62, 90-104.

Stoker, G. (1998). Governance as theory: five propositions. *Int Soc Sci J,* 50(155), 17–28.

Udo, E. S. (2004). Defining good governance–The conceptual competition is on. Berlin: Wissenschaftszentrum.

UN-Habitat. (2016). World Cities Report 2016. Urbanization and Development: Emerging Futures (Nairobi: UN-Habitat).

United Nations Development Programme. (2002). Human development report 2002: Deepening democracy in a fragmented world. New York: UNDP.

USAID (US Agency for International Development). (2014). Local Systems: A Framework for Supporting Sustained Development. USAID, Bureau for Policy, Planning and Learning: Washington, DC.

Walter, J. (2019). Stewardship Theory of Corporate Governance. MANAGEMENT, Biz fluent

Watts, M. (2007). Crisis in Nigeria. Retrieved April 22, 2019. www.counterpunch.org.

World Bank. (1991). Managing Development: The Governance Dimension. Discussion paper.

World Bank. (1993). Governance. Washington, D.C.: World Bank.

World Bank. (2012). The World Bank's approach to public sector management 2011–2020: better results from public sector institutions. Washington, DC: World Bank, Public Sector and Governance Board.

Journal of Social and Development Sciences (JSDS)
Vol. 10, No. 3, September 2019 (ISSN 2221-1152)

Suitability of the HIV/AIDS Control Program in the HIV/AIDS Control Policy in Banjarmasin to Achieve "Getting to Zero"

Nana Noviana[1], Sri Suwitri[2], Bambang Supriyono[3], Sutopo Patria Jati[4]
[1]Regional Research and Development Agency, South Kalimantan Province, Indonesia
[2]Doctoral Public Administration, Diponegoro University, Semarang, Indonesia
[3]Brawijaya University, Surabaya, Indonesia
[4]Public Health Faculty, Diponegoro University, Semarang, Indonesia
gadysnoviana@gmail.com

Abstract: Increasing HIV/AIDS infection has made Banjarmasin City government increasingly worried, so that the realization of policy implementation is needed to solve the problem. Because if the problem of HIV/AIDs is allowed to have an impact on regional development, budgeting and also have an impact on poverty. Based on these, this research is focused on the suitability of the program with the needs of the community in implementing HIV/AIDS control policies. This study aims to describe, analyze and interpret matters relating to the suitability of the program with the need to implement policies in an effort to control HIV/AIDS in the city of Banjarmasin. The qualitative research method uses a descriptive approach based on a public policy perspective. This study seeks to present the empirical facts of the Banjarmasin City government's naturalistic actions and reveal hidden values. So it is expected to illustrate the phenomenon of the implementation of government policies regarding the suitability of the program with the need to control HIV/AIDS in the city of Banjarmasin. Based on the results of the study, it can be concluded that the suitability of the program with the needs in the Implementation of HIV/AIDS Control Policy in the city of Banjarmasin has not run in accordance with the contents of the local regulations. Incompatibility of HIV/AIDS control programs with community needs in the city of Banjarmasin and the lack of stakeholder support and coordination in efforts to control HIV/AIDS based on these findings and the suggestion of this research, it will help the Banjarmasin City Government take HIV/AIDS control policies that are oriented towards the needs of the people in Banjarmasin City. This research also aims to contribute to the public policy scientific literature and individuals involved in controlling HIV/AIDS in the City of Banjarmasin.

Keywords: *Getting to zero, HIV/AIDS Control Program, HIV/AIDS, HIV/AIDS Control Policy Regional Regulation Banjarmasin.*

1. Introduction

The role of policy implementation will continue to be needed in the realization of practices to solve social problems that will influence the formation and opinion of policies. To realize good public policies, policy implementation must be appropriate and able to meet the needs of the community. Its implementation is mentioned in the book Public Policy, Parsons (1997). Limited efforts for prevention and implementation services at various provincial and district levels influence the implementation of HIV/AIDS control policies. The increase in HIV/AIDS infections has made the government increasingly worried that the role of policy implementation will continue to be needed in the realization of practices to solve it because it will have an impact on regional development, budgeting and also have an impact on poverty. To realize this goal, it is necessary to do various health efforts such as policies regarding the Program made by the Banjarmasin City Government on Regional Regulation No.11 of 2012 on controlling HIV/AIDS. With the HIV / AIDS Control Program, it must be able to prevent the number of HIV infections and improve the quality of life of the people. Most AIDS programs do not specifically see and overcome obstacles to HIV/AIDS services. Providers of HIV/AIDS control services must be carried out optimally to achieve comprehensive and sustainable services according to the needs of the community. To achieve comprehensive and sustainable HIV/AIDS control services, the service program provided to the community must be in accordance with the needs of the community. Thus, the services carried out by the government can touch directly to the public. In accordance with this research, the theory of Goerge C. Edwards III and Ira Sharkansky in Suwitri et al (2009) states that public policy is government action in the form of government programs to achieve goals or targets. In this case the Banjarmasin City Government's actions in implementing HIV/AIDS control with the aim of suppressing the incidence of HIV/AIDS in Banjarmasin City with the existence of regional regulations governing HIV/AIDS control in the city of Banjarmasin it is hoped that it can accelerate the success.

2. Research Methods

This research is a qualitative study using a descriptive approach based on a public policy perspective. System analysis method from policy data, guidelines, and implementation of HIV / AIDS control programs in the city of Banjarmasin this study seeks to present empirical facts of the action of the Banjarmasin City government in a naturalistic way and also seeks to uncover hidden values so that it is expected to be able to illustrate the phenomenon of the suitability of HIV / AIDS control programs with community needs in implementing HIV / AIDS control policies in Banjarmasin City. The selection of informants is based on certain considerations according to the information needs needed taken from people who better understand the implementation of HIV / AIDS prevention programs in the city of Banjarmasin, namely: AIDS Prevention Commission (KPA), Banjarmasin City Health Office, Banjarmasin City Social Service, City Education Office Banjarmasin, Banjarmasin City Tourism Office, Puskesmas (Counselors), NGOs, PLWHA, Community (Community leaders). Data collection techniques using interviews using interview guidelines as a guide in conducting interviews. The observation method in this study is connected together to enrich the research by presenting additional data to support the data obtained from the interview. Data collection techniques using interviews using interview guidelines as a guide in conducting interviews. This observation activity is expected to get a more detailed and real picture of the process of implementing HIV / AIDS control policies in the city of Banjarmasin. Documentation is used to obtain secondary data in the form of written data relating to HIV / AIDS control programs that have been carried out in the form of decisions, documents, archival guidelines, books, data, report relating to research.

3. Results

Table 1: HIV/AIDS Control Policy

Policy	Research Results Data In-depth Interviews	Review the Document	Analysis
-Regional Regulation Number 11 of 2012 - Minister of Health Regulation Number 21 Year 2013 - Regulation of the Minister of Social Affairs Number 6 Year 2018 - Socialization of Regional Regulation Number 11 of 2012	Most respondents stated that the policy that became a reference in the implementation of HIV / AIDS control was from the ministry of health, while for local regulations there was no socialization or guardianship.	From the results of the document review, there was no mayor's regulation as a reference for implementing HIV / AIDS control	Based on the results of interviews and document review, the policy used to control HIV / AIDS is Permenkes No. 21 of 2013, and no guardian was found to support the implementation of the program

Source: Interview (processed by researchers), 20

Table 1 can be seen that the results of research using the interview method and document review on the implementation of HIV / AIDS prevention policies in the city of Banjarmasin is the Banjarmasin City Health Office implementing an HIV / AIDS control policy based on the Minister of Health Regulation No. 21/2013, while the Banjarmasin City Social Service is based on Regulation of the Minister of Social Affairs Number 6 Year 2018, while for the Banjarmasin City AIDS Commission carry out activities from the budget of the Office of Health and Foreign and Private Aid. In addition, regional regulation number 11 of 2012 concerning prevention of HIV / AIDS has never been socialized, especially to agencies involved in implementing HIV / AIDS control in the city of Banjarmasin.

Table 2: Suitability of the HIV/AIDS Control Program

Policy	Research Results Data In-depth Interviews	Review the Document	Analysis
- HIV / AIDs control program in Banjarmasin City	Based on the results of interviews with respondents stated that the suitability of HIV / AIDS control programs is not in accordance with the needs of the community and does not match the facts in the field.	Based on the review of documents that there is no record of the implementation of special programs for high-risk communities, namely MSM communities	The HIV / AIDS Control Program is not focused and does not meet the needs of the risk communities.

Source: Interview (processed by researchers), 2019

In an effort to achieve policy objectives, the policies offered should be in accordance with the needs of the target group. The policy on HIV / AIDS prevention has been accommodated regarding efforts to provide health services for people at risk of becoming infected with a virus which weakens the human immune system (Human Immunodeficiency Virus), in Presidential Regulation No. 2 of 2018 concerning minimum service standards, which stated that one type of service provided is to people at risk of HIV infection. This Presidential Regulation is clarified in Minister of Health Regulation No. 4 of 2019 concerning technical standards for fulfilling the quality of basic services at minimum service standards in the health sector. In this SPM technical standard in the health sector, it is explained in more detail about the provisions regarding the Types and Quality of Basic Services which are the Obligatory Government Affairs that are entitled to be obtained by every citizen at a minimum.

The control policies offered by the Banjarmasin City Government as stated in Regional Regulation No. 11 of 2012 are efforts that include prevention and control of HIV / AIDS. The health offices together with related agencies carry out an HIV / AIDS control program in the city of Banjarmasin. Almost all members of our community are close to digital media, so it will be very easy to spread information about HIV / AIDS prevention through digital media. This is because the increase in cases of HIV / AIDS every year is increasing significantly. One of the strategic steps taken by the Health Office is to strengthen the AIDS Commission at all levels. Following is the scope of the interview with A from the Banjarmasin City Health Office: "..... Like we said, if the local regulation is implemented, it is white and gray, so we are unclear ... and too broad, the role of the PL in Outreach and Assistance is not comprehensive which results in incompatible with the main tasks and functions of the outreach ...."(Interview 25 February 2019). The following activities are carried out in the HIV / AIDS control program:

Table: 3 HIV/AIDS Control Programs

HIV / AIDS Control based on Regional Regulation No.11 of 2012	HIV / AIDS Control Program from the Health Office Banjarmasin City	Fast Track Response from the Ministry of Health	Banjarmasin City AIDS Commission
a. not engaging in unhealthy and distorted sexual relations; b. loyal to one partner; c. use condoms for every sexual contact who is at risk of contracting HIV-AIDS d. transfused blood must be free of HIV; e. use of sterile and	. VCT & VCT mobile services . Knowledge level survey . High-risk population outreach . Mapping of key populations . Partnership meeting with the related LP / LS . Promulgation of HIV / AIDS control . ABAT Campaign . Increased participation of KPA and NGOs . Improve and develop programs	The combination of intensive control (comprehensive_ in areas of high prevalence, including: Condom High coverage among key populations Pre-exposure prophylaxis for certain populations Young women and girls BLT Circumcision for men	-Distribution of Condoms - HIV Intervention Program -International coordination -Coordinate Management -Coordination of Stakeholders

disposable syringes; f. use of sterile medical devices; g. ODHA mothers are obliged to prevent HIV transmission to the babies they are carrying; h. removal of organs and body tissues must be free of HIV;	by focusing on access to quality services, strengthening service networks, collaboration on HIV TB . Improve and strengthen HR development, logistics management, M&E program activities and program promotion.	medically and voluntarily Focused communication and open requests by utilizing new media and digital media

Source: Interview (processed by researchers), 2019

Based on the data obtained during the study, the relevant agencies that carry out HIV/AIDS control seem to only carry out routine programs from the previous year's programs. The programs carried out do not seem to be in order of priority, such as the number of people living with HIV/AIDS in the majority of MSM communities, but programs specifically to prioritize HIV/AIDS control by MSM communities by distributing condoms, but condoms that are distributed not to MSM communities but in general.

4. Discussion

HIV/AIDS Control Policy: National government HIV / AIDS prevention efforts contained in the National AIDS Strategy 2015-2019 are a reference for HIV / AIDS prevention efforts in the city of Banjarmasin. In addition to the National HIV / AIDS Prevention Strategy, the government is also implementing an accelerated / Fast-track program in the prevention of HIV / AIDS as an intensive and comprehensive prevention effort suitable for areas of high prevalence. The issuance of Presidential Regulation number 76 of 2005 as a commitment of the government in the prevention of HIV / AIDS. The commitment of the government in the prevention of HIV / AIDS can be seen from the formation of the AIDS Commission with the issuance of Presidential Regulation Number 76 of 2005. Although in the course of the policy the changes occurred because they were informed that the validity period of the KPAN (National AIDS Commission) had expired based on Presidential Regulation Number 124 Year 2016 on 31 December 2017. Nonetheless, the efforts to prevent HIV / AIDS by the KPAN continued under the auspices of Ministry of Health in the Director General of P2P Ministry of Health. The National HIV / AIDS Strategy a proof of the government's commitment to tackling HIV / AIDS and this is the Blue Print to fight HIV / AIDS in Indonesia. Therefore, national, provincial and global government policies are the basis for consideration in efforts to prevent HIV / AIDS in the city of Banjarmasin. The response of the Banjarmasin City Government in efforts to prevent HIV / AIDS is by issuing Local Regulation Number 11 of 2012 concerning HIV / AIDS Control in the City of Banjarmasin. The response to the issuance of this Regional Regulation is a top-down policy model because it is assumed to be a government initiative itself and is run by the government (Van and Horn, 1975).

When a policy in the form of government initiative and formulated by the government does not guarantee that the policy that has been made will run well. The implementation of HIV / AIDS control policies in the city of Banjarmasin is inseparable from the national HIV / AIDS prevention and control policy. Efforts to prevent, control and deal with AIDS are mandated in Presidential Regulation No. 75 of 2006 to avoid major health, social, political and economic impacts. This response effort is also contained in the National Strategy and Action Plan for the Prevention of HIV and AIDS 2015-2019 which has the general objective of accelerating 3 zero, namely zero new infections, zero deaths from AIDS, zero stigma & discrimination. The national HIV / AIDS strategy and plan is a reference for regions to implement HIV / AIDS control and control programs. However, the success of controlling HIV / AIDS in an area will differ depending on the characteristics and conditions of the area. As in the area of Banjarmasin City which is the highest AIDS number from 13 regencies / cities in South Kalimantan Province. From the data of the South Kalimantan Provincial Health Office in 2018, the city area of Banjarmasin has the highest accumulation of AIDS, amounting to 387 people. The increase in HIV / AIDS cases in Banjarmasin City was in response to the Banjarmasin City government by issuing Regional Regulation No. 11/2012 on controlling HIV / AIDS in Banjarmasin City. The existence of this regulation is expected to be a legal umbrella for local governments in implementing HIV / AIDS control efforts

as an effort to suppress the spread of HIV / AIDS in the city of Banjarmasin. The rate of spread of HIV / AIDS in the city of Banjarmasin has increased from year to year, since Regional Regulation No. 11 of 2012 has been set up until now there has been an increase in the number of cases of HIV / AIDS by 787 people until 2019.
This explains that with the increasing number of people with HIV / AIDS from year to year there are still many HIV / AIDS sufferers who have not yet been identified, this is because the characteristics of HIV / AIDS is an iceberg phenomenon that is identified only on the surface. The health office, AIDS Prevention Commission and NGOs have tried to screen and collect data on people infected with HIV / AIDS, but to detect someone infected with HIV requires a considerable time of about 5-10 years. This means that if someone is infected with HIV then the symptoms of illness will appear in a long period of time. With the increase in HIV / AIDS cases in Banjarmasin City, the government has tried to control HIV / AIDS by making regional regulation number 11 of 2012 on controlling HIV / AIDS in Banjarmasin City, but the implementation of these regional regulations has not been maximized, due to several agencies involved in the regulation the area did not know the local regulation. In an effort to achieve the goal it is not easy, considering the increase in the number of people with HIV / AIDS is increasing and requires a long time until the onset of symptoms. This is because the spread of HIV / AIDS is like an iceberg phenomenon which suggests that there will continue to be an increase in AIDS sufferers because it has not been identified from time to time. The table below will show the number of HIV / AIDS sufferers by age group in Banjarmasin City from 2012 to 2018.

Table 4: HIV/AIDS Sufferers by Age Group in Banjarmasin City for the Period 2012 - 2018

Age Group	2012	2013	2014	2015	2016	2017	2018
≤ 1 years	0	0	0	0	0	0	0
1 – 4 years	1	3	4	3	1	5	3
5 – 14 years	0	0	3	0	0	1	0
15 – 19 years	0	3	2	1	4	7	3
22 – 29 years	25	22	31	48	57	78	48
30 – 39 years	34	18	29	30	54	59	43
40 – 49 years	10	7	20	14	20	20	26
50 – 59 years	6	0	1	6	6	12	13
≥ 60 years	0	2	1	1	2	0	0
Total	76	55	91	103	144	182	136

Source: 2019 Banjarmasin City Health Office (processed by researchers)

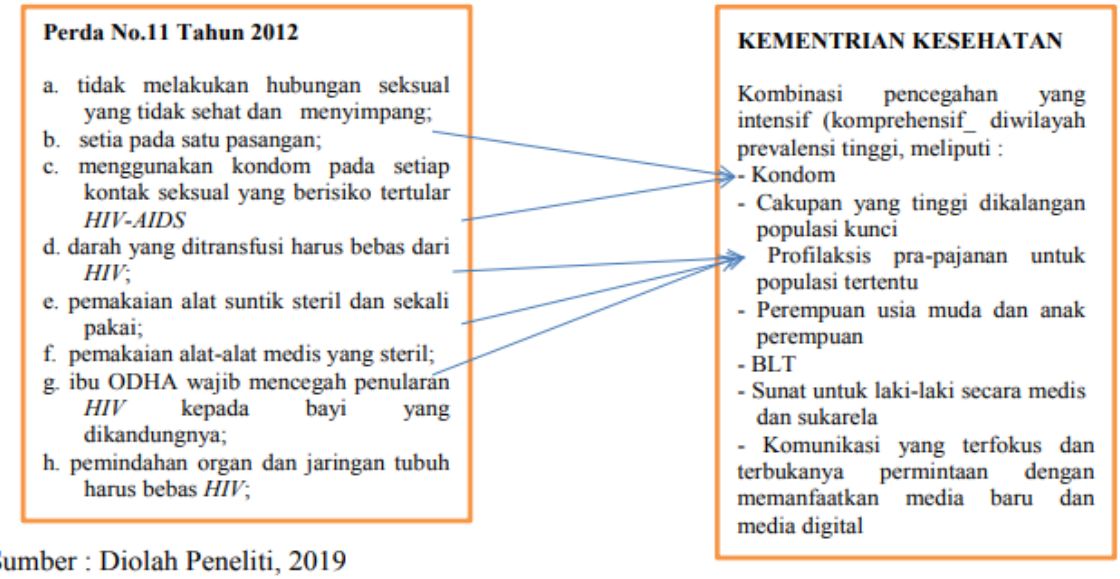
The number of people registered as HIV / AIDS sufferers was formally determined from the Banjarmasin City Health Office Report, 2019. The picture above is an explanation of the increasing number of HIV / AIDS cases in Banjarmasin City in the period 2012-2018. The increase in cases of HIV / AIDS in the city of Banjarmasin from 2012 amounted to 76 people and continues to increase until 2018 by 136 people, this has contributed to an increase in the number of sick people and increased the number of unemployed people due to the inability of HIV / AIDS sufferers to carry out activities. HIV / AIDS prevention efforts in the city of Banjarmasin will not be separated from the national HIV / AIDS response, while the national government's HIV / AIDS prevention efforts have been included in the National AIDS Strategy in 2015 - 2019. In addition, the National Government has also made efforts to accelerate HIV prevention / AIDS through the acceleration / Fast-track program which is an intensive and comprehensive control effort suitable for areas of high prevalence.

The Suitability of HIV/AIDS Control Programs with Community Needs: Regional Regulation Number 11 of 2012 concerning HIV / AIDS Prevention in the city of Banjarmasin was made to achieve the stated goals. Efforts to prevent HIV / AIDS require the spread of information to the whole community, especially to the productive age group because the high number of HIV / AIDS sufferers in the city of Banjarmasin is focused on the productive age group. This is also based on the findings of the fact that policy implementation has not been carried out in accordance with the contents and objectives of the local regulations that have been issued. This requires communication and information focused on the target group, and also the need for the use of digital media in disseminating information. Communication through digital media is very appropriate, considering the target group is a productive age community which is very close to technological progress. With the goals set in the regional regulation with the intention to be able to reduce the rate of transmission of HIV / AIDS cases in the city of Banjarmasin. The implementation of HIV / AIDS prevention policy cannot be

separated from the values and culture that exists in the community this will lead to conflict both personally and in groups in the community. HIV / AIDS prevention efforts in the city of Banjarmasin that have been implemented are as follows:

Figure 1

Gambar 6.3 Upaya Pencegahan HIV/AIDS



Sumber : Diolah Peneliti, 2019

To find out whether the policy implementation is carried out appropriately or not, we must know the suitability of the program with the needs of the target group (Ripley, 1986). Delay or mismatch in the implementation of policies with the needs of the target will cause failure in achieving the stated policy objectives. Ripley also mentioned that what affects the implementor's compliance to run the policy is the complexity of a program that is seen from the rules of the program and seen from the dynamic implementation instructions. In addition, the compliance of the implementer to implement prevention programs is one that supports the successful implementation of policies (Ripley, 1986). In this case the HIV / AIDS prevention policy in the city of Banjarmasin does not yet have a mayor union or technical guidelines for the implementation of HIV / AIDS prevention so the instructions for implementing the HIV / AIDS prevention policy cannot be said to be successful. HIV / AIDS prevention efforts based on regional regulation Number 11 of 2012 in Banjarmasin City aims to control AIDS in Banjarmasin City. If seen from the prevention efforts that are carried out are still low, HIV / AIDS prevention efforts carried out only in general as a routine carried out like the previous program and not focused on the largest AIDS community target group, namely MSM. The compliance of HIV / AIDS prevention policy implementers in Banjarmasin City in implementing regional regulation number 11 of 2012 in Banjarmasin City is still low.

This means that more attention needs to be given to the MSM community, because apart from the MSM community it is still veiled and the possibility of spreading is higher because sexual activities can be carried out to fellow men and women alike. This situation shows that the HIV / AIDS prevention program in the MSM community has not yet become the main consideration in efforts to prevent HIV / AIDS. Therefore, the prevention program implemented by the Ministry of Health, namely fast-track or efforts to accelerate the high coverage among key populations can be applied in the city of Banjarmasin. In addition, prevention programs carried out by the government are not focused on one organization so it will be difficult to monitor the success of a program. Therefore we need an organization or institution that focuses on coordinating prevention, so far the role has been carried out by the AIDS Commission, but due to limited funds, the AIDS Commission in the city of Banjarmasin since the end of 2018 has not carried out activities in HIV / AIDS prevention efforts. This is in addition because the local regulation has not been socialized so that the

implementer concerned does not feel responsible. In addition, also because it considers that HIV / AIDS prevention efforts are still not urgent (priority) because there are still more priority agency programs. The low compliance of the implementer is also due to the opinion of stakeholders that if the case of HIV / AIDS is raised it will affect the position of Banjarmasin City as a recipient of Adipura.

5. Conclusion

Based on the results of the analysis that has been presented, it can be concluded that the Implementation of the HIV/AIDS Control Policy in the City of Banjarmasin has been followed up with the issuance of regional regulations concerning HIV/AIDS control. However, there are still gaps in the implementation making efforts to control HIV/AIDS seem ineffective. This is also based on the findings of the fact that policy implementation has not been carried out in accordance with the contents and objectives of the local regulations that have been issued. In addition, the implementation of HIV/AIDS control policies is not in accordance with the needs of the community and this policy has not touched the high risk community in the city of Banjarmasin. Another fact is the lack of participation of many actors and coordination support in efforts to control HIV/AIDS. However, this research has revealed empirical facts and phenomena from the actions of the Banjarmasin city government in implementing HIV/AIDS control policies. In view of these findings, the recommendations of this study are presented for consumption by policy makers in Banjarmasin City and non-governmental organizations engaged in efforts to control HIV/AIDS. There must be government efforts for HIV/AIDS control programs that are appropriate to the needs of the community. And the need for a multisectoral approach to carrying out efforts to control HIV/AIDS.

Thank-You Note: Thank you to the Provincial Government of South Kalimantan for your support of this research. Thank you to the Banjarmasin city government and related agencies for their support of the smooth running of this research.

Author's Contributions: All co-authors have made a substantial contribution to the manuscript they revised it critically for important content and approved the final version.

Author's Affiliations: Researcher at Regional Research and Development Agency of Kalimantan Province Chandidate Doctor at Doctoral Public Administration, Diponegoro University Semarang Indonesia.

References

Creswell, J. (2014). Research Design Qualitative, and Mixed Approach (Fourth edition).
SAGE Publication South Kalimantan Provincial Health. (2017). 2015 and 2016 annual activity report. South Kalimantan Provincial.
Banjarmasin City Health. (2017). Annual activity report. South Kalimantan Province.
Banjarmasin City Health. (2019). Annual activity report. South Kalimantan Province.
South Kalimantan Provincial Health. (2014). 2014 Data Pocket Book. South Kalimantan Province.
Directorate General of Disease Management & Environmental Health Ministry of Health Republic of Indonesia (2016). Technical Guidelines for HIV / AIDS Control Program and PIMS First Level Health Facilities.
Goggin, M. (1990). Implementation, Theory and Practice. Toward a Third Generation. Forasmann and Company. USA
Hajer, M., A. & Wagenar. (2003). Deliberative Policy Analysis: Understanding Governance in the Network Society. Cambridge, New York
Kabayakgosi, M. (2008). Beyond Public Administration? HIV/AIDS Policy Networks and the Transformation of Public Administration in Botswana
AIDS Commission in ASIA. (2015). Independent Commission Redefining AIDS in ASIA - Crafting an Effective Response.
National HIV and AIDS Commission. (2015). National Strategy and Action Plan 2015-2019: HIV and AIDS Prevention in Indonesia.
AIDS Commission. (2015). Research Report: Overview of Community Sector Response to HIV / AIDS Control in Indonesia.
South Kalimantan Province AIDS Control Commission. (2016). Performance Report on the AIDS Commission.

Banjarmasin City AIDS Commission. (2019). Narrative Report on NFM Phase Global Fund Support Program Quarter 8 Semester, 4. The Indonesian Ministry of Health. Health Law No. 36 of 2009 concerning Health.

Ripley, R. B. (1986). Policy Analysis in Political Science. Chicago: Nelson-Hall

Ritzer, G. J. & Douglas. (2008). Teori Sosiologi Modern. Kencana. Jakarta

Parsons, W. (2014). Public Policy : An introduction to the theory and practice of policy analysis. Edition reprinted. Edward Elgar. Cheltenham, UK. Lyme,US.

Parsons, W. (1997). Public Policy : An introduction to the theory and practice of policy analysis. Edition reprinted. Edward Elgar. Cheltenham, UK. Lyme,US.

Pacton, J. & Stephen. (2007). Challenges to the Meaningful involvement of HIV-positive people in the response to HIV/AIDS in Cambodia, India and Indonesia. Regional Regulation of the City of banj No. 11 of 2012 concerning HIV-AIDS Control in the City of Banjarmasin Presidential Regulation No.75 of 2006 concerning the National AIDS Commission.

Suwitri, S., Afriani, H., Sagala, R. & Slamet, S. (2009). Implementation of HIV and AIDS Management Policies in Central Java (Study of Regional Regulation of Central Java Province Number 5 Year 2009).

UNAIDS. (2013). HIV Estimates 2012. GARPR 2013

UNAIDS. (2014). On the Fast-Track to end AIDS.

UNAIDS. (2004). Report on Global HIV/AIDS Epidemic: 4th Global Report. UNAIDS. Geneva

Van, M., Donal, S., Carl, E. & Van, H. (1975). The Policy Implementation Process: A Conceptual Framework, Administration & Society, 6.

Journal of Social and Development Sciences (JSDS)
Vol. 10, No. 3, September 2019 (ISSN 2221-1152)

Compressive Strength of Concrete Using Different Curing Methods

Daniel Yaw Osei[1], Zakari Mustapha[2] and Mohammed D.H. Zebilila[3]
[1 &3] Civil Engineering, Cape Coast Technical University, Cape Coast, Ghana
[2]Department of Building Technology, Cape Coast Technical University, Cape Coast, Ghana
mustapha.zakari.@cctu.edu.gh

Abstract: The structural use of concrete depends largely on its strength, especially compressive strength. Various tests were carried out to ascertain the properties of concrete materials, whereas test performances of the concrete with different mix ratios at specific ages of curing were undertaken. The study determined the compressive strength of concrete using different curing methods. Four different methods of curing (ponding, continuous wetting, open-air curing and sprinkling with water) were used. Seventy-two (72) cubes were cast using a mix ratio of 1:2:4 and 1:3:6 with 0.5 water cement ratio and with 0.6 waters cement ratio respectively. The compressive strengths were determined after 7 days, 14 days and at 28 days of curing. Findings show that for 1:2:4 concrete, maximum of 28-day compressive was the highest for concrete cured by ponding and the least was by sprinkling water. Further findings show that for 1:3:6 concrete, maximum of 28-day compressive strength was obtained using ponding and the least was open air curing. Despite ponding method producing the highest compressive strength of concrete, it is practically impossible to cure cubes above ground structural elements. Wet-covering method is recommended for structural elements, such as columns, beams and slabs in other to produce concrete
of a required compressive strength.

Keywords: *Control strength; compatibility; curing conditions; concrete development; concrete production.*

1. Introduction

There are different types of curing: shading concrete work, covering concrete surfaces with hessian or gunny bags, sprinkling of water, ponding method, membrane curing and steam curing. The nature of work and climatic conditions as indicated by Padhi (2014), determines the curing method. Bushlaibi (2004) studied "the effect of curing methods on the compressive strength of silica fume high strength concrete" posited that there are five curing conditions such as: "water curing" for (28 days), "no curing", "sprinkle curing" (sprinkling two times in a day for 7days), "plastic curing" (sprinkling two times in a day with plastic cover sheet for 7 days) and "burlap curing" (sprinkling two times in a day with burlap cover for 7 days) and concluded as follows:

- "The compressive strength of the silica fume high strength concrete, as in normal strength concrete was related to curing duration".
- "The adverse effect on the development of concrete compressive strength increases with increasing temperature and test duration" and
- "The curing ages of 28 days and beyond, the strength reduction reaches up to 12% of the control strength in some curing conditions".

Several researchers' (Ogah, 2016; Padhi, 2014; Goel, et al., 2013; Raheem, et al., 2013; Bushlaibi, 2004) have different views on the suitable method of curing concrete. Out of the several curing methods suggested by Padhi (2014) and Goel, et al. (2013) "water curing" was found to be the most suitable curing method for concretes. Raheem, et al. (2013), were of the view that "moist sand" curing method was the most suitable curing method for concretes, "Drier curing" conditions was found by several researchers: Bingöl & Tohumcu, 2013; Ferreira et al. (2012); Silva et al. (2012) to perform worse than "wet curing" conditions. Bediako et al. (2015) emphasized that the importance of curing is to primarily help cement achieve more complete hydration, whereas Jackson and Akomah, (2018), ascertained concrete needs to be cured for a maximum number of days to attain the maximum strength required. Shih-Wei Cho (2013) posited that silt with fine content of 5% and less is optimum for concrete strength and durability. The study determines the compressive strength of concrete using different curing methods. Results showed OPS concrete were in consonance with conventional lightweight concrete.

2. Literature Review

Several studies on curing of recycled materials and alternative materials used in concrete production have been conducted by (Bingöl and Tohumcu, 2013; Ferreira et al., 2012; Silva et al., 2013; Mohamed, 2011; Fonseca et al., 2011; Ling and Teo, 2011; Al-Gahtani, 2010; Teo et al., 2010; Yazıcı et al., 2009; Velosa and Paulo, 2008). Silva et al. (2013) conducted a study on selected plastic waste aggregates (polyethylene terephthalate (PET) as partial replacement of course aggregate and concluded that there was a decrease in durability of concrete with plastic aggregates when compared to conventional concrete. All samples performed poorly under drier curing regimes and concrete with plastic aggregates deteriorated less under progressively drier curing conditions than conventional concrete. The volume of permeable voids (VPVs), sorptivity, water permeability, chloride diffusion coefficient and time to corrosion initiation from the 90-day salt ponding test, and Rapid Chloride Penetrability Test (RCPT) were the metrics used for the durability assessment. In another study by Ling and Teo (2011) where they determined the effect of four curing methods (full water curing, air dry curing, 3-day curing and 7-day curing) and use of waste rice husk ash (RHA) and expanded polystyrene (EPS) beads as partial replacement of cement and course aggregate respectively in lightweight concrete bricks production reported a decrease in water absorption capacity with a decrease in RHA.

Properties investigated were hardened concrete density, compressive strength and water absorption of the EPS RHA concrete bricks as well as scanning electron microscopy (SEM) analysis. Teo et al. (2010) conducted a study on oil palm shell (OPS) replaced with course aggregate under four curing conditions. Yazici et al. (2009) investigated the dependence of compressive strength, flexural strength, and toughness of reactive powder concrete (RPC) produced with class-C fly ash (FA) and ground granulated blast furnace slag (GGBFS) cured under three conditions (standard, autoclave and steam curing). An increase in compressive strength and a decrease in flexural strength and toughness were recorded under autoclave and steam curing. Increasing the GGBFS and/or FA content improved the toughness of RPC under all curing conditions. However, Fonseca et al. (2011) did not notice any difference in the compressive strength, splitting tensile strength, modulus of elasticity, and abrasion resistance of recycled aggregate concrete (RAC) and conventional concrete (CC) under different curing methods. Ferreira et al. (2012) noticed a fall in compressive and splitting tensile strength and modulus of elasticity of concrete, and increase in wear resistance to abrasion in laboratory conditions, wet chamber, and outer environment curing conditions when increasing the plastic waste replacement of course aggregates.

Bingöl and Tohumcu (2013) reported a decrease in compressive strength under air curing in a study of three curing methods (air curing, water curing and steam curing) on the compressive strength of Self Compacting Concrete (SCC) produced from silica fume (SF). For steam curing optimum performance was obtained at 70 °C for 16 hours. Mohamed (2011) reported 28 days curing having higher compressive strength than 7 days curing in a study to determine the compressive strength of self-compacting concrete (SCC) with two cement content fly ash (FA) and silica fume (SF)). This is expected since concrete strengthens with age. In BS 882 (1992) the upper allowable limit of silt content is 8% and the average silt content of sand for preparing concrete is 3.33%. However, Olanitori (2012) reported a maximum value of 3% as silt content suitable for concrete production in his study. Velosa and Paulo (2008) also studied the mechanical properties and curing methods of concrete produced from hydraulic-lime binder and pozzolanic material, a residue from expanded clay production. Al-Gahtani (2010) investigated curing of Type I, silica fume, and fly ash cement concrete specimens with wet burlap covering, by applying curing water-based and acrylic-based compounds. Strength development was found to be higher with covering with wet burlap than the other two methods of curing.

3. Methodology

This section presents the various methods used during the laboratory experiment. The use of "Hessian sac" in the form of mulch to maintain water on the surface of the concrete cubes and it is important to ensure that all the sides of the cubes were covered (Mohamed and Najm, 2019). As soon as the concrete cubes were sufficiently hardened, wet materials were used to cover the cubes to prevent surface damage. Through the curing period, the sac was kept saturated with water. Materials used were Ordinary Portland cement, fine washed sand as fine aggregate and granite of nominal size 20mm as coarse aggregate, and clean drinkable

(pipe borne) water. Concrete mixes of 1:2:4 and 1:3:6 by weights with water/cement ratio 0.5 and 0.6 respectively for the production of different types of concrete. Slump and compaction factor test done based on the BS 1881-102 and BS 1881-103 respectively, to determine the workability of the fresh concrete. Seventy-two (72) concrete cubes, as shown in Table 1 were cast and compacted, in iron - molds with internal measurement of 150mm × 150mm × 150mm were used in casting the concrete cubes. Three (3) cubes each for the mix ratio 1: 2: 4 at 0.5 water cement ratio and 1: 3: 6 at 0.6 water cement ratio were tested after their respective curing days. All specimen from the laboratory test were used (Jackson, Mustapha, & Kotey, 2019; Tijani and Mustapha, 2017).

Table 1: Number of Cubes for Casting and their Respective Days

Curing Method	**Number of Cubes**					
	Mix Ratios					
	1:2:4 at 0.5			1:3:6 at 0.6		
	Days			Days		
	7	14	28	7	14	28
	Number of cubes for each Day			Number of cubes for each Day		
Ponding	3	3	3	3	3	3
Sprinkling	3	3	3	3	3	3
Open air	3	3	3	3	3	3
Wet covering	3	3	3	3	3	3

Curing Method and Test Performance: Four methods (Ponding, Sprinkling, Air Curing and Wet- covering) curing were used on concrete mix (Nahata et al., 2014; Surana et al., 2017), both in its fresh and hardened states for the experiments. The first method of curing was "Ponding". Cubes were immersed in-side water throughout the curing period and the water for the curing was maintained at an average laboratory temperature of 28C to prevent thermal stresses that could result in cracking. The second method of curing was "Sprinkling water". Sprinkling with water is an excellent method of curing when the ambient temperature is well above freezing and the humidity is low. The third method of curing was "Wet-covering". The fourth method of curing was 'Totally uncured types" (open air). Throughout the curing period, concrete cubes were in the open air without any curing applied. During the Test Performance: Sieve analysis was performed on crushed granite and the fine aggregate, as prescribed in the BS 812: section 103.1: 1985. First, the performance of "Silt test" according to the BS 812 to determine the amount of silt, clay, or any other fine dust that may be present in the sand sample. Then, "Slump test", according to BS 1881-102 standard and the difference in slump in time recorded Followed by "Compaction factor test" according to BS 1881-103. This test was done to measure the degree of compaction resulting from the application of standard amount of work. Finally, the "Compressive test" was performed after a curing period of 7days, 14days and 28days. The cubes were loaded until failure and test was performed as prescribed in BS 1881: part 116:1983 (Neville 2010).

4. Results and Discussion

This section presents the results of the laboratory experiment conducted on different types of cube. Table 2 shows the average silt content as 3.33% and this was in accordance with BS 882 (1992), with sample 2 having percentage by volume of silt depth to sand thickness and thickness of visible silt two times than the other two samples.

Table 2: Silt Test Results (Sand)

Determination of Silt Content

Observation Sheet

Number	Description	Sample No		
		Sample 1 (ml)	Sample 2 (ml)	Sample 3 (ml)
1	Level of content (ml)	150	150	150
2	Depth of sand without silt - V1 (ml)	80	80	80
3	Thickness of visible silt V2 (ml)	2	4	2
4	Volume of Water (ml)	70	70	70
5	Percentage by volume of Silt depth to sand thickness (%) $\frac{V2}{V1} \times 100$	2.5%	5%	2.5%
	Average Content		3.33%	

Compacting Factor Test and Slump Test of Concrete (1:2:4): The compacting factor test and slump test on concrete using a mix ratio 1:2:4 by weight and water/cement ratio of 0.5 shows that the slump with the highest figure of 21 had the highest compacting factor of 0.91 and the remaining two slump with a similar figures had a compacting factor difference of 0.02. A low degree of workability from the slump and compacting factor test (Neville, 2010) were recorded from the mix.

Compacting Factor Test and Slump Test of Concrete (1:3:6): The compacting factor test and slump test on concrete using a mix ratio 1:3:6 by weight and water/cement ratio of 0.6 shows that the slump with the highest figure of 80 had the least compacting factor of 0.82, and indicates a medium degree of workability for the concrete mix (Neville 2010). Table 3 shows the seven (7) day compressive strength test result for 1:2:4 concrete. "Ponding" had the highest average compressive strength of 17.3N/mm^2, followed by "sprinkling" and the cube with least average compressive strength was "open air curing,"

Table 3: Seven (7) Day Compressive Strength

Name of cubes	Mass in air (g)	Mass in water(g)	Density of cubes (kg/cm^{-3})	Peak load (kN)	Compressive strength (N/mm^{-2})	Average Compressive strength (N/mm^{-2})
Sprinkling						
S1	8038	3955	1969	355.6	15.8	
S1	7952	4567	2349	315.8	14.0	14.6
S1	7998	4580	2340	316.5	14.1	
Ponding						
P1	8270	4785	2373	406.0	18.0	
P1	8460	4879	2362	404.4	18.0	17.3
P1	8133	4684	2358	356.1	15.8	
Wet covering						
W1	8117	4614	2317	287.5	12.8	
W1	8259	4754	2357	310.2	13.8	13.6
W1	8212	4751	2373	316.5	14.1	
Open air curing						
O1	7923	4521	2329	277.8	12.3	
O1	8095	4613	2325	303.0	13.5	12.9
O1	7774	4444	2335	289.8	12.9	

Table 4 shows the 14-day compressive strength test result for 1:2:4 concrete. Ponding" had the highest average compressive strength, followed by "wet-covering" and the cube with least average compressive strength was "sprinkling."

Table 4: Fourteen (14) Day Compressive Strength

Name of cubes	Mass in air (g)	Mass in water(g)	Density of cubes (kg/cm^{-3})	Peak load (kN)	Compressive strength (N/mm^{-2})	Average Compressive strength (N/mm^{-2})
Sprinkling						
S5	7961	4534	2323	351.8	15.6	
S5	8083	4605	2324	349.0	15.5	15.4
S5	7842	4408	2211	343.2	15.2	
Ponding						
P5	8246	4735	2468	414.1	18.4	
P5	8202	4744	2475	431.8	19.2	18.4
P5	8346	4682	2428	398.6	17.7	
Wet-covering						
W5	8004	4519	2313	351.8	15.6	
W5	7628	4545	2331	365.1	16.2	15.9
W5	8188	4508	2306	355.6	15.8	
Open air curing						
O5	8172	4720	2456	379.8	16.9	
O5	7911	4550	2334	335.6	14.9	15.5
O5	8117	4706	2446	332.2	14.8	

Table 5 shows the twenty-eight (28) day compressive strength test result for 1:2:4 concrete. "Ponding" had the highest average compressive strength, followed by "wet-covering" and the cube with least average compressive strength was "sprinkling."

Table 5: Twenty-Eight Day Compressive Strength

Name of cubes	Mass in air (g)	Mass in water(g)	Density of cubes (kg/cm^{-3})	Peak load (kN)	Compressive strength (N/mm^{-2})	Average Compressive strength (N/mm^{-2})
Sprinkling						
S7	8083	4640	2314	398.9	17.2	
S7	8051	4604	2291	333.5	14.8	16.7
S7	8097	4666	2332	407	18.1	
Ponding						
P7	8334	4835	2450	444.5	19.8	
P7	8185	4734	2478	460.4	20.5	20.3
P7	8245	4777	2408	464.0	20.6	
Wet-covering						
W7	8157	4707	2310	382.2	17.0	
W7	8224	4728	2374	446.1	19.8	19.4
W7	8416	4837	2451	479.5	21.3	
Open air curing						
O7	8326	4742	2383	413.0	18.4	
O7	8069	4580	2276	431.2	19.2	18.4
O7	8067	4577	2274	394.9	17.6	

Table 6 shows the seven (7) day compressive strength test result for 1:3:6 concrete. "Ponding" had the highest average compressive strength, followed by "wet-covering" and the cube with least average compressive strength was "sprinkling."

Table 6: Seven Day Compressive Strength

Name of cubes	Mass in air (g)	Mass in water(g)	Density of cubes (kg/cm^{-3})	Peak load (kN)	Compressive strength (N/mm^{-2})	Average Compressive strength (N/mm^{-2})
	Sprinkling					
S1	8071	4625	2342	226.7	10.1	
S1	8034	4597	2338	238.6	10.6	10.6
S1	7929	4574	2364	253.9	11.2	
	Ponding					
P1	819 7	4705	2347	329.8	14.7	
P1	8369	4702	2482	302.6	13.4	13.2
P1	7830	4419	2396	259.0	11.5	
	Wet-covering					
W1	8165	4730	2526	272.1	12.1	
W1	8020	4627	2445	263.8	11.7	12.1
W1	8199	4705	2347	283.5	12.6	
	Open air curing					
O1	8105	4661	2347	278.9	12.4	
O1	8094	4658	2282	237.7	10.6	11.1
O1	8202	4731	2296	234.7	10.4	

Table 7 shows the fourteen (14) day compressive strength test result for 1:3:6 concrete. "Ponding" had the highest average compressive strength, followed by "sprinkling" and the cube with least average compressive strength was "open air curing."

Table 7: Fourteen Day Compressive Strength

Name of cubes	Mass in air (g)	Mass in water(g)	Density of cubes (kg/cm^{-3})	Peak load (kN)	Compressive strength (N/mm^{-2})	Average Compressive strength (N/mm^{-2})
	Sprinkling					
S5	8211	4693	2436	346.3	15.4	
S5	8191	4739	2471	311.1	13.8	13.7
S5	8324	4785	2907	264.7	11.8	
	Ponding					
P5	8249	4734	3467	317.5	14.1	
P5	7834	4448	2966	328.3	14.6	13.9
P5	7600	4320	2186	293.4	13.0	
	Wet-covering					
W5	801	4620	2383	272.0	12.1	
W5	8556	4957	2650	294.5	13.1	12.8
W5	8117	4812	2528	299.8	13.2	
	Open air curing					
O5	8267	4720	2456	262.0	11.6	
O5	7628	4348	2203	277.0	12.3	12.5
O5	8188	4682	2428	308.1	13.7	

Table 8 shows the twenty-eight (28) day compressive strength test result for 1:3:6 concrete. Ponding" had the highest average compressive strength, followed by "sprinkling" and the cube with least average compressive strength was "open air curing."

Table 8: Twenty-Eight Day Compressive Strength Test Results

Name of cubes	Mass in air (g)	Mass in water(g)	Density cubes (kg/cm^{-3})	Peak Load (kN)	Compressive strength (N/mm^{-2})	Average Compressive strength (N/mm^{-2})
	Sprinkling					
S7	8171	4633	2314	354.7	15.8	
S7	8029	4594	2285	284.3	12.6	14.8
S7	8280	4721	2369	362.3	16.1	
	Ponding					
P7	8906	4695	2551	376.1	16.7	
P7	8207	4763	2498	370.1	16.4	17.1
P7	8178	4669	2451	408.7	18.2	
	Wet covering					
W7	8336	4836	2451	367.3	16.3	
W7	8187	4740	2387	352.3	15.7	16.0
W7	8147	4700	2354	363.1	16.1	
	Open air curing					
O7	8157	4684	2344	329.4	14.6	
O7	7926	4505	2229	335.0	14.9	14.5
O7	8060	4584	2278	312.9	13.9	

The 1:2:4 concrete cured during the 7th day, by ponding method had the highest compressive strength with the least compressive strength recorded from open air curing. The strength development continued in the 14th day under all curing conditions with the ponding method still maintaining the highest value of compressive strength. Sprinkling curing recorded the least value of strength which was in contrast to Raheem et al. (2013) who had ponding and open air curing recording highest value of compression on the 7th and 14th day of testing respectively and spray curing having least compressive on the 1st and 2nd week of testing. On the 28th day, concrete cured by ponding method again had the highest compressive strength, but fell short of 25N/mm^2 of equal ratio. Yanusa as cited in Anum et al. (2014) and M20 according to IS: 456 (2000) whereas the least strength was again recorded by sprinkling method. Yanusa as cited in Anum et al. (2014) accorded 1:3:6 ratio with a compressive strength 15N/mm^2 whereas IS: 456 (2000) also prescribed a compressive strength of M10 after 28 days of curing and testing. All the curing methods recorded a strength values that are more than the standards. Concrete cured by ponding method had the highest compressive strength. On the 14th day, concrete cured by ponding method had the highest compressive strength, as the least was open air curing, whiles on the 28th day concrete cured by ponding method had the highest compressive strength and the open air curing recording the least strength.

Summary of Findings: The compressive strength of concrete from all the respective curing methods of ponding, sprinkling and open-air and wet covering for the mix ratio of 1:2:4 and 1:3:6 all exhibited increase in strength from the 7th day to the 28th day of crushing. Ponding method of curing recorded a highest strength development on the 7th day of testing for the various mix ratios but increased 3N/mm^2 after the 28th day crushing for 1:2:4 ratio and 3.9N/mm^2 for the 1:3:6 ratio. Open-air curing method also recorded a difference of 5.5 N/mm^2 and 3.4 N/mm^2, whiles wet covering method recorded 5.8 N/mm^2 and 3.9 N/mm^2 and sprinkling method recording 2.1 N/mm^2 and 4.8 N/mm^2 respectively. "Ponding method" of curing produced the highest compressive strength for both 1:2:4 concrete and 1:3:6 concrete during the 28th day of curing. Irrespective of curing method, the strength of concrete increased with age.

5. Conclusion and Recommendations

The study examined the compressive strength of concrete using different curing methods. In conclusion, concrete cured by "ponding method" produced the desired strength, it gained adequate early strength as there was sufficient water around it to facilitate the necessary chemical reaction of the binding agent for it strength development. Sprinkling, wet-covering and the open-air methods on the other hand had an unsatisfactory strength for the1:2:4, ratio for the 28th strength but satisfied IS standard with the 1:3:6 strength. Sprinkling method of curing should be applicable for areas where there is availability of water, since large volume of water is required. "Wet covering method" should be applicable for structural elements, such as columns, beams and slabs. Despite "ponding method" having the highest compressive strength of concrete, it is practically impossible to use "ponding method" to cure above ground structural elements.

Further Research: Further research should be conducted different mix ratios of concrete and same water cement ratio or one of the same mix ratio with two different water cement ratio to compare their respective strengths.

References

Al-Gahtani, A. S. (2010). Effect of curing methods on the properties of plain and blended cement concretes, *Construction and Building Materials*, 24(3), 308-314.

Anum, I., Williams, F. N. & Adole, A. M. (2014). Properties of different grades of concrete using mix design method.

Bediako, M., Kevern, J. & Amankwah, E. (2015). Effect of Curing Environment on the Strength Properties of Cement and Cement Extenders. *Materials Sciences and Applications*, 6, 33-39.

Bingöl A. F. & Tohumcu İ. (2013). Effects of different curing regimes on the compressive strength properties of self-compacting concrete incorporating fly ash and silica fume, *Materials & Design,* 51, 12-18.

BS, 1881. (1992). Method for determination of density of partially compacted semi-dry fresh concrete, part 3, British Standards Institution.

BS, 1881-102. (1983). Methods of testing concrete. Method for determination of slump (AMD 6090) (AMD 6727).

BS, 812. (1985). Testing aggregates - Part 103: Methods for determination of particle size distribution - Section 103.1- Sieve tests. British Standards Institution, London.

BS, 882. (1992). Specification for aggregates from natural sources for concrete. British Standards Institution, London.

Bushlaibi, A. B. (2004). Effects of environment and curing methods on the compressive strength of silica fume high-strength concrete, *Advances in Cement Research*, 16(1), 17-22.

Ferreira, L., de Brito, J. & Saikia, N. (2012). Influence of curing conditions on the mechanical performance of concrete containing recycled plastic aggregate, *Construction and Building Materials*, 36, 196-204.

Fonseca, N., de Brito, J. & Evangelista, L. (2011). The influence of curing conditions on the mechanical performance of concrete made with recycled concrete waste, *Cement and Concrete Composites*, 33(6), 637-643.

Goel, A., Narwal, J., Verma, V., Sharma, D. & Singh, B. (2013). Comparative Study on the Effect of Curing on The Strength of Concrete, *International Journal of Engineering and Advanced Technology (IJEAT)*, 2 (6), 401-406.

IS, 456. (2000). Plain and Reinforced Concrete—Code of Practice—Bureau of Indian Standards, New Delhi.

Jackson, E. N. & Akomah, B. B. (2018). Comparative Analysis of the Strength of Concrete with different Curing Methods in Ghana. *The International Journal of Engineering and Science (IJES),* 7(9), 39-44

Jackson, E. N., Mustapha, Z. & Kotey, S. (2019). Compressive Strength of Concrete Produced with Proportions of Coconut and Palm Kernel Shells. International Journal of Architecture, *Engineering and Construction,* 8(1), 35-41.

Ling, I. H. & Teo, D. C. L. (2011). Properties of EPS RHA lightweight concrete bricks under different curing conditions, *Construction and Building Materials*, 25(8), 3648-3655.

Mohamed, H. A. (2011). Effect of fly ash and silica fume on compressive strength of self-compacting concrete under different curing conditions, *Ain Shams Engineering Journal*, 2, 79-86.

Nahata, Y., Kholia, N. & Tank, T. (2014). Effect of curing methods on efficiency of curing of cement mortar, *APCBEE Procedia,* 9, 222–229.

Neville, A. M. (2010). Properties of concrete, Longman Group Ltd, England.

Ogah, O. (2016). Effect of Curing Methods on the Compressive Strength of Concrete, International Journal of Advanced Trends in Computer Science and Engineering.

Olanitori, L. M. (2012). Cost Implication of Mitigating the Effect of Clay/Silt Content of Sand on Concrete, *Compressive Strength. J. Civil Eng. Urban*, 2(4), 143-148.

Osama, M. and Omar, N. (2019). IOP Conf. Ser.: Mater. Sci. Eng. 471 032059.

Padhi, S. (2014). 6 Methods of curing concrete.

Raheem, A. A., Soyingbe, A. A. & Emenike, A. J. (2013). Effect of curing methods on density and compressive strength of concrete. *International Journal of Applied Science and Technology,* 3(4).

Raheem, A. A., Soyingbe, A. A. & Emenike, A. J. (2013). Effect of curing methods on density and compressive strength of concrete. *International Journal of Applied Science and Technology*, 3(4), 55-64.

Shih-Wei, C. (2013). Effect of Silt Fines on the Durability Properties of Concrete, *Journal of Applied Science and Engineering,* 16(4), 425-430.

Silva, R., de Brito, J. & Saikia, N. (2013). Influence of curing conditions on the durability-related performance of concrete made with selected plastic waste aggregates. *Cement and Concrete Composites,* 35(1), 23-31.

Surana, S., Pillai, R. & Santhanam. (2017). Performance evaluation of field curing methods using durability index tests. Indian Concrete Journal, 91.

Teo, D. C. L., Mannan, M. A. & Kurian, V. J. (2010). Durability of lightweight OPS concrete under different curing conditions. *Mater Struct*, 43(1).

Tijani, A. M. & Mustapha, Z. (2017). Compressive Strength of Concrete Based on Laterite and Sea Sand Mixture. *International Journal of Architecture, Engineering and Construction*, 6(4), 44-49.

Velosa A. L. & Cachim P. B. (2009). Hydraulic-lime based concrete: Strength development using a pozzolanic addition and different curing conditions, *Construction and Building Materials*, 23(5), 2107-2111.

YazicI, H., Yardımcı, M. Y., Aydın, S. & Karabulut, A. Ş. (2009). Mechanical properties of reactive powder concrete containing mineral admixtures under different curing regimes, *Construction and Building Materials,* 23(3), 1223-1231.

Journal of Social and Development Sciences (JSDS)
Vol. 10, No. 3, September 2019 (ISSN 2221-1152)

Socioeconomic Implications of Examination Fraud and Assessment Irregularities in South Africa's Higher Education Sector: A Futuristic View

Chux Gervase Iwu
Cape Peninsula University of Technology, Cape Town, South Africa
chuxiwu@gmail.com, iwuc@cput.ac.za

Abstract: This paper, based on scholarly as well as documentary evidence, intends to highlight the socioeconomic implications of fraud and assessment irregularities in South Africa's higher education. Higher education institutions serve nation building purposes and as such it is expected that what they produce should be of high standard in order to further this purpose. Lately, owing to the rise in assessment malpractices across South African institutions of higher learning, calls have been made by business and society for ways to deal with this. This paper asks a few questions related to what constitutes fraud and assessment irregularities and the sources of these. The paper also points out what these portend for higher education in South Africa while at the same suggesting some recommendations. This paper contributes to the literature on the growing concerns of educators and researchers regarding high levels of examination malpractice and assessment irregularities within higher education sector globally, but in particular South Africa.

Keywords: *Exam malpractice; assessment irregularity; academic integrity; South Africa*

1. Introduction

Globally, almost every society perceives higher education institutions as exclusive priesthoods comprising wise men and women whose subjects are innocent students. However, this notion is speedily eroding owing to reports of corruption, malpractice and irregularities emerging from institutions of higher learning. This affirms that fraudulent practices do not only exist outside of citadels of learning. In fact, some argue that those who take part in corrupt practices in society and in government, fine-tuned their acts while at school. Of interest is the inability of graduates to sufficiently articulate themselves at the workplace often leading employers to re-evaluate job descriptions. Could this be the result of examination malpractice or assessment irregularities?

Several examination malpractices and or assessment irregularities are known to take place across the globe. Many of these are in the form of admissions, accreditations and awards. In Nigeria, it is common to bribe a university official in order to gain admission (Idoniboye-Obu, 2015) and obtain good grades (Jubril, 2010; Dimkpa, 2011). In Vietnam, one is very likely to access a very good, top school if one has the capacity to bribe (Coughlan, 2013; Trines, 2017). In South Korea, owing to the value placed on higher education, most families pursue admission to elite schools for their children. Admission into these elite schools therefore require that intense selection processes are undertaken leading to various sharp practices (Hultberg, Calonge and Kim, 2017). In Kenya, and interestingly, this was scrapped after a short while, legislation required members of parliament to hold a university degree (Mbaka, 2016). Before this legislation was scrapped, many law-makers had already started scheming their way into and out of universities with variants of academic qualifications. These cases are not unique to the developing countries.

There are several examples in the United States of America and the United Kingdom. A remarkable story is told about the University of Wales whose association with some dubious organisations left their qualifications with very little credibility (Jenkins, 2011; Trines, 2017). There was also Dickinson State University in North Dakota, USA that was placed on notice by its accreditor, the Higher Learning Commission after it came out that the university had been graduating international students without authenticated documents or appropriate academic prerequisites (grandforksherald.com, 2013). So, assessment fraud is a global phenomenon.

What constitutes examination fraud?

In 2017, UNIVERS (the independent news source of Tilburg university) reported that a Rotterdam teacher sketched what he considered sound tips for his students. In preparation for examinations, the teacher sent an

email to his students giving them a list of tips. The tips turned out to be exactly the same as the examination paper. The teacher was fired for this. In some other places, offering 'tips' or what some students regard as 'scope' is a fair attempt at ensuring that students do well. It can be argued that what is considered examination fraud in one part of the world, may not necessarily constitute examination fraud in another.

Owing to the difficulty of finding a common definition of examination fraud, I have rather taken the liberty of dismembering the term into their singular states that is, examination and fraud. To get an understanding of what examination stands for, it means a detailed inspection or study, according to the Oxford Dictionary (n.d.). It also refers to a formal test of a person's knowledge or proficiency in a subject or skill. Some words that can be used instead include test, assessment, viva, viva voce, quiz.

With reference to fraud, the Oxford Dictionary (n.d.) defines it as "*wrongful or criminal deception intended to result in financial or personal gain".* The Oxford Dictionary goes further to offer synonyms such as fraudulence, sharp practice, cheating, swindling, trickery, deceit, deception, double-dealing, duplicity, etc.
In line with these definitions and consistent with scholastic thoughts of Akaranga and Ongong (2013), Onyibe, Uma and Ibina (2015) as well as Wilayat (2009) and Fasasi (2006), examination fraud is a malpractice, which is described as a deliberate act of wrongdoing which goes against examinations rules and regulations. Essentially, the malpractice must have the capacity to offer a candidate an unfair advantage over others.

How is examinations fraud conducted? The literature is littered with various forms of examination fraud. Interestingly, the instructive thing about this phenomenon is that examination fraud is not only committed by students. Successful fraudulent examination practices are carried out by both students, lecturers and non-academic staff; specifically, those charged with managing assessments. Commonly known practices according to Onyibe, Uma and Ibina (2015) include:

- Students working together with examinations officials – in exchange of cash or kindness
- Impersonation or misrepresentation – someone else writing the examinations for a candidate
- The use of scribbled [hidden] notes and electronic devices such as smart phones/watches.
- Copying from someone while in the examination hall
- Submitting multiple scripts – this is a case where students hand in multiple scripts and then claiming that the one with the highest mark is theirs
- Not indicating student details on the answer sheet – same as submitting multiple scripts
- Bribing examination officials
- Exchanging answer booklets in the examination venue
- Access to examination papers before the examination

What are assessment irregularities?
Assessment irregularities therefore refer to contravening assessment or examination rules and regulations. The common known fraudulent practices listed above are some of the ways that this breach takes place.

The state of higher education in South Africa
Higher education in South Africa is in a state of flux. Several commentators such as Jonathan Jansen, Adam Habib, Naledi Pandor, and Blade Nzimande have put the blame on a number of factors, namely: Apartheid, affirmative action and broad-based black economic empowerment (BBBEE). The unequal education system of the apartheid era differentiated along racial and gender lines, thus adding to the poor quality of education that is experienced in today's higher education. Basic schooling structure is replete with negligence and dysfunction (Pretorius, 2014; Alston, 2018) to the extent that only a small pool of high school graduates has the necessary grades and subjects to access higher education, not to mention the so-called scarce skills. To improve access to institutions of higher learning, the government has recently lowered entry requirements. In fact, with the further lowering of pass mark, it is feared that the reputation of South Africa's education system slides faster on a slippery slope and thus higher education continues to feel the pressure to deal with students who have been ill-prepared for it.

The frustration within higher education in South Africa was captured by a speaker at a higher education conference in Cape Town in 2018 thus: "Imagine how deeply disturbing it is to read an essay written by a

postgraduate student at a university. The essay, usually riddled with grammatical errors, lacks both syntax and semantics." So basically, the government of today systematically continues to inherit an economy that steadily disadvantages its people.

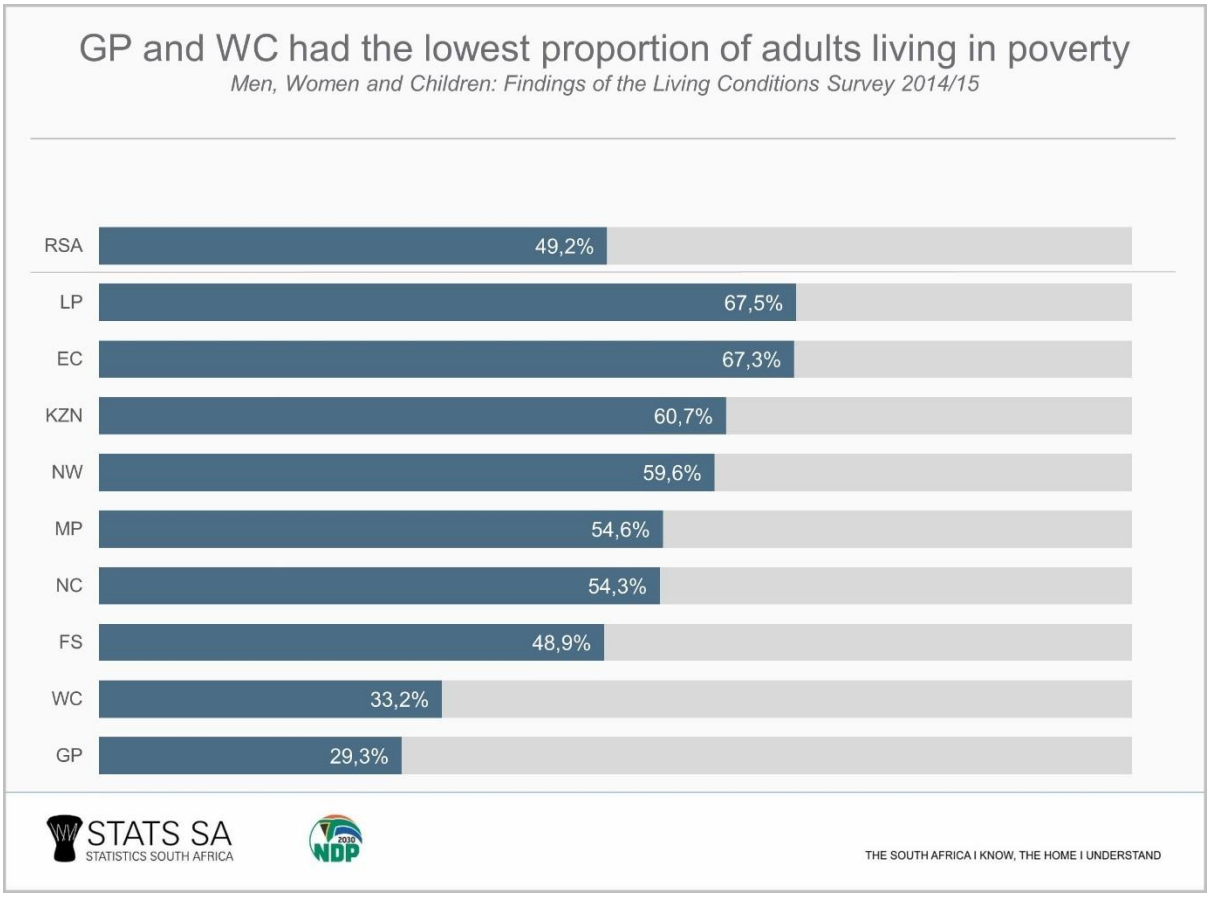
Discussion

In this section, the discussion starts with understanding where the intention to engage in examination fraud is derived from. This is followed by a discussion of the implications or outcomes of assessment irregularities and examinations fraud. The discussion section concludes with recommendations for addressing the phenomena of examination fraud and assessment irregularities.

The influence of society

Within society, there are three main sources from which the intention to cheat in higher education can be located. These include poverty, high premium placed on certificates and lack of role models.

With reference to poverty, it is understood that poverty is entrenched in South Africa to the extent that the three-pronged aims of virtually every government initiative include the reduction of poverty. Figure 1 shows that almost half of the population of South Africa live below the poverty line (StatsSA, 2018). Despite attempts by the government to improve citizens' living conditions, StatsSA notes that adults continue to experience higher levels of poverty. As such, for many South Africans, stepping out of the poverty cycle is a pipe dream.



Key: RSA=Republic of South Africa; LP= Limpopo Province; EC= Eastern Cape; KZN= Kwazulu Natal; NW= North West; MP= Mpumalanga; NC= Northern Cape; FS= Free State; WC= Western Cape; GP= Gauteng Province

Considering the high rate of unemployment, it is not surprising that there are many who see a higher education certificate as the only way out of poverty. In fact, recently, the government of South Africa, in its

desire to expand access to higher education, reduced the pass mark for the entrance examination to university and colleges. Although this is viewed by many as a ticking time bomb, it has, nonetheless, caused a throng of students marching to universities and colleges seeking admission. Some industry commentators have also blamed this rush for higher education on certain personalities who, though they brandished college certificates, were later found to have lied about their credentials. The cases of 'Drs' Belamant, Daniel Mtimkulu, Mohau Pheko, Pallo Jordan, Nico Bezuidenhout of South African Airways, Hlaudi Motsoeneng (former Chief Operating Officer of the South African Broadcasting Corporation), Ellen Tshabalala (WHO) and many others are striking examples of those who lied about their qualifications to stay on their high profile jobs.

Perhaps, many of those who scurry for higher education certificates now feel they need it by any means necessary especially if these so-called role models could get away with fraudulently stating their credentials. A notable frown recently came from the director of the National Qualifications Framework (NQF), Shirley Lloyd, who said "there are plenty of others out there, and there are universities where there has been significant activity, but SAQA (SA Qualifications Authority) has not yet concluded its work so that they can be handed to the Hawks[1],"(Mphahele, 2019). Maghina (2018), in fact, reported that in the "2017/18 financial year alone there were 982 fraudulent qualifications uncovered". According to Maqhina, the then national minister of higher education, Dr Naledi Pandor, even said "There is an upward trend in the number of misrepresented qualifications that have been detected". Faking certificates is not unique to South Africa. It has been reported in many other countries. However, as an emerging economy, South Africa stands to lose especially considering the high levels of unemployment and crime. When high profile South Africans brandish fake certificates and go scot-free, there is nothing untoward that the younger ones will see in their behaviour. If they could get away with it, how about the young student in university or college who thinks he can also get away with cheating in an examination?

Within higher education institutions

Poor study habits: Several studies (for example, Okesina, 2019; Beattie, Laliberté, Michaud-Leclerc, & Oreopoulos, 2019) have examined study habits amongst students. Despite an inconclusive finding in terms of demographics, a common finding is that study habits are indicative of a student's propensity to achieve either a positive or negative outcome. A number of factors have been put forward as impediments to cultivating a good study habit. According to Pitan (2013) and Oluwatimilehin and Owoyele (2012), these include (1) lack of financial ability to provide study materials, (2) a culture of reading denotes the love to read and engage a learning material. Interestingly, often students only read for the sake of passing an examination and so, consequently, no culture of reading is developed. Pitan (2013) acknowledges the influence parents may have in inculcating the culture of reading among their children and claims that children learn from observing their parents who may not have had the habit of reading and invariably, the children develop poor study habits. Poor culture of reading and writing could also come from poor basic education background.

Unconducive environment: may refer to noisy homes and people who are likely to influence a student negatively. In some universities in South Africa, it is common to find overcrowded residential accommodation and that leaves the student who is willing to study very little opportunity to do so. In some cases, noisy parties are held in residences while some universities may be poorly funded and as such severely lack learning materials or facilities. In other cases, libraries close early, or not even open on weekends. Owing to a number of influences, students may not be able to properly manage time. South African universities experienced a wave of protests in 2015 leading to incomplete syllabus, and lecturers not attending lectures regularly.

Sibanda, Iwu and Benedict (2015a&b) found that the smartest paths to achieving good grades include: being present and on time for each lecture; listening and asking questions for clarity; participating and handing in

[1] The Directorate for Priority Crime Investigation, *aka* The Hawks, is established as an independent directorate within the South African Police Service in terms of Section 17C of the South African Police Service Act, 1995. The Directorate responsible for the combating, investigation and prevention of national priority crimes such as serious organized crime, serious commercial crime and serious corruption in terms of Section 17B and 17D of the South African Police Service Act, 1995 as amended.

assignments; but more importantly reading through notes after each lecture. That way students are able to confirm what they learnt and or prepare questions for the next class and or do some more reading. In my experience, first of all, not all the students turn up for lectures and even those who are present are distracted by a number of things. Therefore, note taking and engaging the lecturer are often not experienced.

2. Implications of examination fraud and assessment irregularities

Opinions converge on what constitutes quality in higher education and so far, it is believed that assessment is an important key in determining the quality of education (Kellaghan and Greaney, 2001). Even though opinions still differ on what (outcome or process) and how (method) to measure, the argument that assessment facilitates quality standards remains unchallenged. Therefore, it is fair to suggest that assessments lend credibility to qualifications in higher education. Lack of credibility of qualifications will lead to a number of untoward circumstances.

Firstly, the integrity of the qualifications is compromised. This has the capacity to result in a downgrade of higher education institutions in South Africa, but more significantly may even wreck the struggling economy. Should this be the case, there is the likelihood that graduates of South Africa's higher education institutions are relegated in favour of those with foreign qualifications. Nigeria is a good example of this. Okoh (2014) describes how the relegation of academic credentials in Nigeria has had adverse consequences, which include lack of recognition of academic qualification, unproductive labour force, and lack of confidence in the educational system. Basically, Okoh argues that compromising assessment rules and regulations will derail the course of development of a nation. Essentially, a compromised education system will lead to "delayed absorption of graduates into the labour market" (Dimkpa, 2011).

South Africa continues to face the three-pronged socioeconomic problem namely unemployment, poverty and inequality. With unemployment comes a variety of socioeconomic problems such as poverty, prostitution, teenage pregnancy and drug abuse. Should the perception of the public be that higher education qualifications are tainted owing to compromised assessments that will further strengthen unemployment. Considering that education is seen as a means out of poverty; facilitating employment as well as social integration and financial freedom (Iwu, Mandyoli, and Magoda, 2018), it can be argued that good quality education enables one to attain necessary workplace competencies (Archer and Davison, 2008).

Currently, South Africa's unemployment rate is at over 27% (StatsSA, 2019). Youth unemployment is even higher giving rise to speculations that owing to loss of faith in qualifications, many firms are no longer in a hurry to let their aged population go on retirement. Notwithstanding "benefits such as mental stimulation and social engagement are associated with staving off chronic disease", not allowing an aged workforce to go on retirement has its own demerits (Harvard Medical School, 2018).

Employers these days no longer consider only academic qualifications but a set of skills from "well-rounded, experienced people" (Iwu, Mandyoli and Magoda, 2018, p.292). This is further compounded by the stringent conditions imposed by the private sector in South Africa because of the notion that university graduates are ill-equipped for the world of work. In fact, in 2012, City Press warned that "a university degree or diploma no longer guarantees employment for young South Africans as hundreds of them struggle to obtain employment". Without jobs, many more citizens will rely on social grants for child support, disability and frail care (Iwu, Manyoli and Magoda, 2018). Basically, a downgrade of qualifications may lead to increase in unemployment.

As graduate unemployment is fast becoming a scourge in South Africa, several public-private partnership initiatives such as the Sector Education and Training Authority (SETA) skills development programs, the National Skills Development Agency, and the National Skills Fund have yet to tame this.

Continued perpetuation of bad governance. Dada, Udoaka and Dada (2013) are concerned that much of the governance issues which are common in Africa will continue to erode the democratic sustainability of African nations. Therefore, to assist with nation building, higher education institutions have a role to play. To build a nation requires citizens who are able to read and write. This is what Cornelius-Ukpepi (2015) refers to as

literacy, which enables someone to "govern adequately and act honourably in any position" (p.2). The extent to which citizens crave for certification and the boldness with which it is sought bad governance is perpetuated through those whose assessments were either compromised or have compromised the assessment system.

3. What can be done to address these?

Resources need to be channelled to basic education: I particularly believe that learning does not only take place at schools. The homes are also important learning spaces. But at the same time, basic education should plug the holes that exist at homes. Not too long ago, it was reported that some schools in some South African provinces did not have qualified teachers, and basic infrastructure (Richter & Samuels, 2018; Hannaway, Govender, Marais & Meier, 2019). It must be understood that many students in South African universities these days come from disadvantaged homes. This means that if they are not sufficiently taught at basic education level, and they finally access higher education, they will very likely struggle. This is what Mfaco (2015) regards as one of the significant reasons for high drop-out rate in universities.
According to News 24, "*Proper education has the potential to increase the employability or income generating capacity of South Africa's majority poor thereby enabling them to be employed or become entrepreneurs in their own right [thus] mitigating the high inequality levels in South Africa".*

Improving access to higher education should not mean lowering standards: Lowering standards will not help the nation because what it means is that with mediocre marks, anyone can get into university. There is a growing theory among academics that lowering standards is an admission by government that leaners are unable to achieve good grades and so, to make it easy for them to exit basic education into higher level, pass mark is lowered.

Transformation at higher education institutions: should not be parochial. This is somewhat related to Scott's (2017) argument in the Mail & Guardian:

Transformation is essential for economic development and social cohesion, because both depend on fully recognising and using the talent that exists in the country.

Skills shortage in South Africa led to the recruitment of academics from other parts of the world for nation building purposes, including Africa. The Immigration Amendment Act of 2004 (Act 19 of 2004) (The Presidency, 2004) aimed at attracting the needed scarce skills to assist with the eradication of poverty and underdevelopment. Drawing from the experiences of countries such as Japan and England, one can argue that South Africa's desire to bring in qualified academics from outside its shores was a move in the right direction. However, with what some commentators regard as 'protectionist' elements in the Act, it meant that the hiring of any foreign academic would have to be done only on the grounds that there was a sufficient attempt at finding a local who possess and can do the job. This seems to have been the practice until recently when issues of equity and 'foreign national' identity began to emerge.

With the emergence of the Codes of Good Practice on the Broad-Based Black Economic Empowerment (2015), there seems to be confusion regarding its interpretation in many universities. The recent debate that was begun by the Chair of South Africa's parliament's higher education portfolio committee sought to reduce the number of foreign students and lecturers to below 10% of a university's student and staff population may have spurred some foreign national academics to consider themselves not South African enough to access certain positions irrespective of being in possession of the South African passport. This position seems somewhat to relate to the arguments made in an article by Klaaren (2010) where he argues that the issue of constitutional citizenship in South Africa is a highly contentious one leaving it to several interpretations. Klaaren (2019) further argues that South Africa's citizenship debate must be globally located perhaps suggesting that citizenship of any nation cannot be two-tiered. If the perception among some foreign academics is that they are not South African enough to access certain positions and in fact promotion at South African universities, it may affect the internationalisation posture of the universities.

In discussing the internationalisation dimension of a local South African university, Obadire (2018) notes that the negative perception of foreign (African) academics threatens internationalisation of South African higher education. He goes further to say that "internationalisation can only be sustained in an environment devoid of discrimination, violence and segregation that might encapsulate xenophobic undertones. Manifestations of xenophobia would threaten the success of the process of internationalisation through reducing international student and staff numbers. Ultimately, it might adversely impact on the institutional standing of the university" (p.190).

4. Conclusion

It is important to keep in mind that if practical steps are not taken to eradicate the scourge of examination fraud and assessment irregularities, South Africa's higher education institutions will deteriorate and what they stand for will come to nought. Of importance is that South Africa's National Development Plan 2030 mirrors the United Nations Sustainable Development Goals. With regard to higher education, South Africa's National Development Plan 2030, intends to, among others:

- Increase enrolment at universities by at least 70 percent
- Increase the percentage of academic staff with doctoral qualification in the higher education sector from the current 34 percent to over 75 percent
- Produce more than 100 doctoral graduates per million per year
- Expand science, technology and innovation outputs by increasing research and development spending by government and through encouraging industry to do so [industry partnerships]
- Increase the number of students eligible to study towards maths and science based degrees to 450000

It is not in doubt that should examination malpractice and assessment irregularities continue; it may be difficult to realise these goals. Higher education institutions have an important role to play in the future of South Africa. At least they can help change the course of poverty, unemployment and inequality.

References

Akaranga, S. I. & Ongong, J. J. (2013). The phenomenon of examination malpractice: an example of Nairobi and Kenyatta Universities. *Journal of Education and Practice*, 4(18), 87-97.

Alston, P. J. (2018). Turning around a dysfunctional school: an auto-ethnography (Master's Degree Dissertation, University of Pretoria).

Archer, W. & Davison, J. (2008). Graduate employability. The Council for Industry and Higher Education, London.

Beattie, G., Laliberté, J. W. P., Michaud-Leclerc, C. & Oreopoulos, P. (2019). What sets college thrives and divers apart? A contrast in study habits, attitudes, and mental health. *Economics Letters*, 178, 50-53.

Cornelius-Ukpepi, B. U. (2015). We've got to do better: exam malpractice as a barrier to literacy for good governance and democratic leadership in Cross River State, Nigeria.

Coughlan, S. (2013). Corruption and bribery in the classroom.

Cozijn, R. (2017). https://universonline.nl/2017/12/06/exam-preparation-exam-fraud. Accessed September 11, 2019.

Dada, J. A., Udoaka, E. E. & Dada, E. O. (2013). The imperative of good governance for sustainable democracy in Nigeria. *African Journal of Social Science*, 3(2), 45-60.

Dimkpa, D. I. (2011). Prevalence, causes and effects of academic corruption in Rivers State Universities, Nigeria. *Makerere Journal of Higher Education*, 3(1), 33-44.

Fasasi Y. A. (2006). Quality assurance: a practical solution to examination malpractices in Nigerian secondary schools, *International Journal of Africa and African American Studies*, 5(2), 15-21.

Hannaway, D., Govender, P., Marais, P. & Meier, C. (2019). Growing early childhood education teachers in rural areas, *Africa Education Review*, 16(3), 36-53.

Harvard Medical School. (2018). Working later in life can pay off in more than just income. Available online at: https://www.health.harvard.edu/staying-healthy/working-later-in-life-can-pay-off-in-more-than-just-income. Accessed September 20, 2019.

Hultberg, P., Calonge, D. S. & Kim, S. H. (2017). Education policy in South Korea: A contemporary model of human capital accumulation? *Cogent Economics & Finance*, 5(1), 1389804.

Idoniboye-Obu, S. A. (2015). Corruption in higher education in Nigeria: prevalence, structures and patterns among students of higher education institutions in Nigeria. Unpublished Doctoral dissertation, University of KwaZulu Natal, South Africa.

Iwu, C. G., Mandyoli, B. & Magoda, Z. (2018). Strengthening graduate employability in a developing economy through social entrepreneurs. In Entrepreneurship Education. Opportunities, challenges and future directions. Isaac Oluwajoba Abereijo, I.O. (Ed.). Nova Science Publishers.

Jenkins, C. (2011). University of Wales degree and visa scam exposed by BBC. Available online at: https://www.bbc.com/news/uk-wales-15171830. Accessed 19 August, 2018.

Jubril, M. (2010, November 2). Corruption in academia has increased failure. *The Punch*, 17(20), 730-44.

Kellaghan, T. & Greaney, V. (2001). Using assessment to improve the quality of education. UNESCO, International Institute for Educational Planning.

Klaaren, J. (2010). Constitutional citizenship in South Africa. *International Journal of Constitutional Law*, 8(1), 94-110.

Klaaren, J. (2019). From prohibited immigrants to citizens: the origins of citizenship and nationality in South Africa. *South African Journal on Human Rights*, 35(1), 124-127.

Maqhina, M. (2018). https://www.iol.co.za/news/politics/shock-increase-in-fake-credentials-18264458. Accessed September 11, 2019.

Mbaka, J. (2016). MP aspirants must have degrees before 2017 general election. Available online at: https://www.the-star.co.ke/news/2016-12-01-mp-aspirants-must-have-degrees-before-2017-general-election/. Accessed 19 August, 2018.

Mfaco, B. (2015). The students are alone in this struggle. Available online at: https://www.news24.com/xArchive/Voices/the-students-are-alone-in-this-struggle-20180719. Accessed September 20, 2019.

Mphahele, M. J. (2019). https://www.iol.co.za/mercury/news/fraudulent-qualifications-spark-push-for-legislation-19061337. Accessed September 11, 2019

News@grandforksherald.com. (2013). Higher Learning Commission's decision on Dickinson State accreditation unknown.

News24. (2012). How to fix SA's education system. Available online at: https://www.news24.com/MyNews24/How-to-fix-SAs-education-system-20121106. Accessed September 20, 2012.

Obadire, O. S. (2018). Towards a sustainable anti-xenophobic rural-based university campus in South Africa. *South African Journal of Higher Education*, 32(4), 186-198.

Okesina, F. A. (2019). Causes of Poor Study Habits of Students as Expressed by Primary School Teachers in Nigeria. *Mimbar Sekolah Dasar*, 6(1), 1-10.

Okoh, E. E. (2014). Perceptional evaluation of the causes and effects of examination malpractice among college of education students in Delta State. *African Journal of Education and Technology*, 4(1), 127-135.

Oluwatimilehin, J. T. B. & Owoyele, J. W. (2012). Study habits and academic achievement in core subjects among junior secondary school students in Ondo state, Nigeria. *Bulgarian Journal of Science and Education Policy*, 6(1), 155.

Onyibe, C. O., Uma, U. U. & Ibina, E. (2015). Examination malpractice in Nigeria: causes and effects on national development. *Journal of Education and Practice*, 6(26), 12-17.

Oxford. nd. https://www.lexico.com/en/definition/examination.

Pitan, O. O. (2013). Poor study habit as an educational problem among university undergraduates in the contemporary times and effective management strategies. *International Journal of Humanities and Social Science Invention*, 2(11), 72-76.

Pretorius, S. G. (2014). Educators' perceptions of school effectiveness and dysfunctional schools in South Africa. *Journal of Social Sciences*, 40(1), 51-64.

Richter, L. & Samuels, M. L. (2018). The South African universal preschool year: a case study of policy development and implementation. *Child: care, health and development*, 44(1), 12-18.

Scott, I. (2017). No quick fix for university crisis. Available online at: https://mg.co.za/article/2017-10-13-00-no-quick-fix-for-university-crisis. Accessed September 20, 2019.

Sibanda, L., Iwu, C. G. & Benedict, O. H. (2015a). Factors influencing academic performance of university students. *Demography and Social Economy*, 24(2), 103-115.

Sibanda, L., Iwu, C. G. & Benedict, O. H. (2015b). Academic success factors: implications for teaching, learning and academic administration. *International Journal of Educational Sciences*, 10(2), 269-279.

StatsSA. (2018). http://www.statssa.gov.za/?p=12075. Accessed October 3, 2019.

The Presidency (Republic of South Africa). (2004). Immigration Amendment Act 2004 (Act 19 of 2004). The Department of Home Affairs, South Africa.

Trines, S. (2017). Education in Vietnam. Available online at: https://wenr.wes.org/2017/11/education-in-vietnam. Accessed 25 October, 2019.

Wilayat, M. (2009). Examination malpractice: causes of examination malpractice/unfair means, I.E.R. University of Peshawar.