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**EXTERNAL DEBT, DEBT OVERHANG, CROWDING
OUT EFFECTS AND CAPITAL FORMATION IN
NIGERIA AND SOUTH AFRICA**



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**DOCTOR OF PHILOSOPHY
UNIVERSITI UTARA MALAYSIA
April 2016**

**EXTERNAL DEBT, DEBT OVERHANG, CROWDING OUT EFFECTS AND
CAPITAL FORMATION IN NIGERIA AND SOUTH AFRICA**



BY
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Universiti Utara Malaysia

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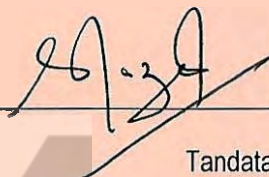
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ABSTRACT

The deficiency of saving in Sub-Saharan Africa, as represented by Nigeria and South Africa has led to shortages in funding capital formation, thereby necessitating external borrowing. This has slowed down and restrained economic growth and development. The questions of external debts determinants, effects and causal relationships with capital formation are yet to be adequately responded to; mainly due to weak and non-rigorous methods employed in the previous studies. The focus has not been effective and specific. The objective of this study is fourfold; determine factors affecting external debt accumulation, examine effects of external debt on capital formation, assess impact of debt overhang and crowding out effects on capital formation and investigate causal relationships between external debt and capital formation in Nigeria and South Africa. Autoregressive distributive lag (ARDL) and Vector Autoregressive (VAR) modeling on time series data covering three decades were employed in the study. The results have established that, interest rate and external debt service are the most statistically significant variables explaining external debt accumulation scourge in the selected countries. Additionally, the study has discovered that, external debt has significant negative effects on capital formation in the same manner with debt overhang and crowding out effects. However, these impacts are proven to be more pronounced on capital formation in Nigeria than in South Africa. It is also established that external debt and capital formation Granger causes each other. The overall implication of the research findings is that speed of capital formation has been retarded by the negative effects of external debts. Measures by the government should be tailored towards improving capital formation by designing policies that will reduce the burden of debt accumulation and reducing the cost of external debt services. This can be done through enhancing the debt management process and improving efficiency in funds utilization, so as to ensure timely repayment and servicing of debts.

Key Words: External Debts, Capital Formation, ARDL, VAR, Granger Causality

ABSTRAK

Kekurangan tabungan di Sub-Sahara Afrika seperti yang berlaku di Nigeria dan Afrika Selatan telah mengakibatkan kekurangan bagi membiayai pembentukan modal yang membawa kepada keperluan pinjaman luar. Hal ini telah memperlahan dan menghalang pertumbuhan dan pembangunan ekonomi. Persoalan berkaitan dengan penentu hutang luar, kesan dan hubungan sebab dan akibat dengan pembentukan modal masih belum dapat dijawab dengan sebaiknya. Hal ini disebabkan oleh kaedah kajian yang digunakan sebelum ini lemah dan tidak padu di samping tumpuannya yang tidak khusus dan tidak berkesan. Empat objektif kajian ini ialah untuk menentukan faktor yang mempengaruhi pengumpulan hutang luar, memeriksa kesan kesesakan keluar hutang luar ke atas pembentukan modal, menilai kesan dari belunggu hutang dan kesan yang membebaskan ke atas pembentukan modal serta menyiasat hubungan sebab dan akibat antara hutang luar dan pembentukan modal di Nigeria dan Afrika Selatan. Pemodelan Autoregresif Lat Distributif (ARDL) dan Vector Autoregresif (VAR) ke atas data siri masa selama tiga dekad telah digunakan dalam kajian ini. Keputusan kajian telah membuktikan bahawa kadar bunga dan perkhidmatan hutang luar adalah pembolehubah yang paling signifikan secara statistik bagi menjelaskan kemelut pengumpulan hutang luar di negara-negara yang dipilih. Kajian ini juga telah mendapati bahawa hutang luar mempunyai kesan negatif yang besar ke atas pembentukan modal dengan cara yang sama dengan belunggu hutang dan kesan kesesakan keluar. Walau bagaimanapun, kesan ini telah terbukti menjadi lebih ketara ke atas pembentukan modal di Nigeria berbanding Afrika Selatan. Selain itu, hutang luar dan pembentukan modal didapati penyebab Granger antara satu sama lain. Implikasi keseluruhan dapatan kajian menunjukkan bahawa kelicinan pembentukan modal telah tergugat dengan kesan negatif daripada hutang luar. Kerajaan perlu mengambil langkah yang sesuai ke arah meningkatkan pembentukan modal dengan membentuk dasar yang akan mengurangkan beban pengumpulan hutang, merendahkan kos perkhidmatan hutang luar melalui peningkatan proses pengurusan hutang dan meningkatkan kecekapan dalam penggunaan dana untuk memastikan pembayaran balik dan khidmat hutang tepat pada masanya.

Kata Kunci: Hutang Luar, Pembentukan Modal, ARDL, VAR, Granger Sebab dan akibat

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LIST OF ABBREVIATIONS

2SLS	Two-Stage Least Squares
ADF	Augmented Dickey Fuller
AIC	Akaike Information Criterion
ARDL	Autoregressive-Distributive Lag
BOP	Balance of Payments
BUD	Budget Deficits
CAP	Capital Formation
CBN	Central Bank of Nigeria
COE	Crowding Out
CUSUM	Cumulative Sum of Recursive Residuals
CUSUM-Q	Cumulative Sum of Squares of Recursive Residuals
DF	Dickey and Fuller
DMO	Debt Management Office
DOH	Debt Overhang
ECT	Error Correction Term
EDS	External Debt Service
EXC	Exchange Rate
EXD	External Debt
FDI	Foreign Direct Investment
FOLS	Fully Modified Ordinary Least Square
FPE	Final Prediction Error
FPI	FPI: Foreign Private Investment
GEXD	Public External Debt
H-Q	Hannan- Quinn
ICOR	Incremental Capital Output Ratio
IFA	International Finance Agencies
IMF	International Monetary Fund
INR	Interest Rate
IRF	Impulse Response Function
LR	Likelihood Ratio
ML	Maximum Likelihood
OLS	Ordinary Least Square
PEXD	Private External Debt
RESET	Ramsey's Regression Equation Specification Error Test
RHS	Right Hand Side
SAP	Structural Adjustment Programm
SAV	National Saving
SBC	Schwarz Bayesian Criterion
SSA	Sub-Saharan Africa
VAR	Vector Autoregressive
VD	Variance Decomposition
VECM	Vector Error Correction Model
WDI	World Development Indicators

CHAPTER ONE

INTRODUCTION

1.1 Introduction

The research topic and variables of interest are discussed in this chapter. It starts with the background of the study serially discussing the main issues under consideration. The introduction to the concepts of external debt, capital formation and debt overhang was undertaken just as their relationship with other variables. Therefore, this chapter is targeted towards a general introduction of the thesis which is made up of the overall highlights of the study, and an outline of the Nigeria's and South Africa's external debt experiences in relation to capital formation, debt overhang and crowding out effects. It also presents the problem statement, objectives and motivation of the study and the structure of the thesis.

1.2 Background of the Study

External debt or foreign borrowing is as inevitable as the need for capital in economic development while shortage of this capital is one of the major characteristics of underdeveloped economies. The shortage is a resultant product of under savings which makes it compulsory for economies to source for additional funding mostly in form of foreign borrowing (Adepoju, Salau & Obayelu 2007). To this end, a very important role is played by capital accumulation, otherwise known as capital formation; widely established by economists and has been widely observed in the developmental process of many economies, popularly referred to as capital fundamentalism (Youopoulos & Nugent, 1976, Beddies, 1999, Gbura, 1997, Gbura & THadjimichael, 1996).

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