بِسدْمِ اللهُ الرَّدْمَنِ الرَّدِيمِ

قال الله تعالى:

اقْرَأْ بِ(الدُم رَبِّكَ الَّذِي خَخَقَلَقَ إِ الإَ نسدَانَ مِنْ عَلَقَ رَأَ لُهِ إَرَبُّكَ الأَ كُرَمُ {3} الدَّذِي عَلَّمَ بِالْقَلَمِ (الإِلْمُلِكَانَ مَا لَمْ يَعْلَمْ {5})

صدق الله العظيم

الآيات (1 – 5) سورة العلق

DEDICATION

This study is lovingly dedicated to my mother, father, son and daughter. Their support, encouragement, and constant love have sustained me throughout my life.

ACKNOLEDGMENT

This study would not have been possible without the assistance of my family who in one way or another contributed to the completion of this study.

I am unable to thank my mother and father enough for taking care of my children in my absence.

My most thanks and gratitude to my precious children Osman and Azza for their patience and support.

My sincere gratitude goes to Dr. Elmuez Eltayeb who supported me when I had trouble visualizing this thesis being finished. I am greatly indebted.

I express my gratitude to Dr. Afraa for her unwavering support and willingness to share her knowledge.

My sincere thanks goes to Dr. Abdalaal, Rehab, Myson, Malaz and Shatha; my friends for all moral support and necessary distraction.

Also My sincere thanks goes to my sisters Amal, Igbal, Manal, Shimaa and my brother Hosam for their love which supported me alot

Before and after I thank our God for blessing my efforts and making it successful

Rabab

Abstract:

The importance of this study stems from discussing the problem of type of expenditure, and its impact on the GDP. The study cover all the period 1982 to 2008, this was the period during new policy were adopted by the government "Decentralization" and hence many change in type of expenditure happened.

The study focus on the expenditure approach which is more important of the calculation of GDP.

The study used the descriptive – analytic approach for the data was given by CBS /Sudan also it use the data from reports and publications from relevant sides like Central Bank of Sudan and Sudan household survey 2006.

The findings of the study that the best model can be get by Prediction Residual Error Sum of Squares method, the prediction sum of squares is a useful statistic for comparing different models.

We use PRESS to assess the model's predictive ability usually, the smaller the PRESS value, the better the model's predictive ability. PRESS is used to calculate the predicted R^2 .

In this study we predict GDP for 2009 and 2010 and compare between the value obtained from the traditional method and PRESS method, we notice that PRESS method model bring estimated value for DGP more relevant to the actual value than traditional method which indicate that PRESS method is the best for estimating the future value.

Based on these findings the study calls for more application of the criteria for selection the best model.

ملخص الدر اسه:

تأتي أهمية هذه الدراسه من تناولها لأنواع الإنفاق في الإقتصاد السوداني و أثره على الناتج المحلي الإجمالي في الفتره من 1982- 2008 و هي الفتره التي تم فيها تطبيق سياسات اللامركزيه، وعليه فقد حدثت تغيرات في أوجه الإنفاق المختلفه.

ركزت الدراسه علي حساب الناتج المحلي الإجمالي من ناحية الإنفاق بإعتباره اكثر أهمية في حساب الناتج المحلي الإجمالي.

استخدمت الدراسه المنهج الوصفي و التحليلي بتطبيقه علي البيانات الأوليه المستقاه من الجهاز المركزي للإحصاء كما استخدمت معلومات ثانويه من تقارير و منشورات الجهات ذات الصله كالنشره الإقتصاديه لبنك السودان المركزي و مسح الأسر لعام 2006م.

من واقع نتائج الدراسه تبين أنه يمكن الحصول علي تقدير أفضل نموذج للناتج المحلي الإجمالي بإستخدام طريقة مجموع مربعات البواقي التنبؤيه، و إحصاء مجموع المربعات التنبؤيه مهم في المقارنه بين مختلف النماذج.

تم إستخدام مجموع مربعات البواقي التنبؤيه لتحديد قدرة النموذج على التنبؤ و نجد أن أصغر قيمه لمجموع مربعات البواقي التنبؤيه توافق مقدرة أفضل لموذج للتنبؤ، و ايضا تم حساب معامل التحديد المُتنبأ.

في هذه الدراسه تم التنبؤ بقيم الناتج المحلي الإجمالي للأعوام 2009-2010 بطريقتي مجموع مربعات البواقي التنبؤيه و الطريقه التقليديه و مقارنة القيم التي تم الحصول عليها منهما مع القيم الحقيقيه له، و لاحظنا أن قيم طريقة مجموع مربعات البواقي التنبؤيه كانت اقرب للقيم الحقيقيه من الطريقه الأخري و هذا يدل على أن طريقة مجموع مربعات البواقي التنبؤيه هي الأفضل في الحصول على تقديرات القيم المستقبليه.

بناء علي هذه النتائج اوصت الدراسه بإجراء دراسات مستقبليه مستخدمه خصائص أفضل نموذج.

CONTENTS

Subject	Page no
الآيه	i
Dedication	ii
Acknowledgement	iii
Abstract (English)	iv
Abstract (Arabic)	V
Contents	vi
List of tables	viii
List of figures	ix
CHAPTER ONE RESEARCH PLAN	
	1
1-1: Introduction	1
1-2: Problem of the study	2
1-3: Important of the study	2
1-4: Objectives of the study	3
1-5: Hypotheses of the study	3
1-6: Methodology of the study	3
1-7: Study data	4
1-8 :Previous study	4
1-9: Study structure	4
CHAPTER TWO	
LITERATURE REVIEW	
2-1: Gross Domestic Product	6
2-1-1:Importance of GDP accounting	6
2-1-2:Method of calculating GDP	6
2-1-3: Component of GDP by expenditure	9
2-2: Background of Sudan economy	10
2-2-1: Geography and ecology	10
2-2-2: Demography	11
2-2-3: Economic Picture	11
2-2-4: Political landscape	12
2-2-5: Socio-cultural scene	12
CHAPTER THREE	
STATISTICAL METHODOLOGY	
3-1: Introduction	13
3-2: Regression analysis	14
3-3: Linear regression model	14

3-3-1:Simple linear regression analysis	14
3-3-2: Ordinary least square method	17
3-3-3: coefficient of determination R ²	18
3-3-4: General linear model	18
3-4: Model selection	23
3-5: Cross validation	24
3-5-1: Purpose of cross validation	25
3-5-2: common types of cross validation	26
3-5-3: Computational issues	27
3-5-4: Relation to other forms of validation	28
3-6: PRESS statistic	28
CHAPTER FOUR	
ANALYSIS	
4-1: Introduction	31
4-2: The sufficient of the sample	31
4-3: Descriptive of the study variables	32
4-3-1: Government expenditure	32
4-3-2: Consumption expenditure	33
4-3-3: Investment expenditure	34
4-3-4: External expenditure	35
4-3-5: Gross Domestic Product expenditure	36
4-4:Relationship between GDP and type of expenditure	37
4-4-1: Relationship between GDP and government exp.	37
4-4-2: Relationship between GDP and consumption exp.	38
4-4-3: Relationship between GDP and investment exp.	38
4-4-4: Relationship between GDP and external exp.	39
4-5:Test the normality of the data	39
4-6: Multiple regression model and the significance test	40
4-6-1: Descriptive statistics of the variable of the model	40
4-6-2: The significance test of the model	41
4-7: Prediction residual sum of square (PRESS)	43
4-7-1: Summary of PRESS	43
4-8: prediction	44
CHAPTER FIVE	
CONCLUSSION AND RECOMMENDATION	
Concussion	45
Recommendation	46
References	47
Appendix	48

List of Tables:

Table Name	Page no
Table (4-1): KMO and bartletts	32
Table (4-2): Government expenditure	32
Table (4-3): Consumption expenditure	33
Table (4-4): Investment expenditure	34
Table (4-5): External expenditure	35
Table (4-6): GDP in Sudan	36
Table (4-7): Normality test of the data	39
Table (4 -8): Normality test of the transforming data	40
Table (4 -9): Descriptive statistics	40
Table (4 -10): Summary of the model	41
Table (4 -11) :ANOVA table	41
Table (4 -12): Significance of the coefficient of the model	42
Table (4 -13): Statistics of the residual	42
Table (4 -14): Summary of PRESS	43

List of Figures:

Figure Name	Page no
Fig. (3-1): Scatter diagram	15
Fig. (3-2): Equation for straight line	15
Fig. (4-1): General trend for government expenditure	33
Fig. (4-2): General trend for consumption expenditure	34
Fig. (4-3): General trend for investment expenditure	35
Fig. (4-4): General trend for external expenditure	36
Fig. (4-5): General trend for GDP	37
Fig. (4-6): relationship between GDP and government expenditure	37
Fig. (4-7): relationship between GDP and consumption expenditure	38
Fig. (4-8): relationship between GDP and investment expenditure	38
Fig. (4-9): relationship between GDP and external expenditure	39