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**AN ECONOMIC ANALYSIS OF PARTICIPATION IN
CREDIT MARKET AND CREDIT RATIONING AMONG
FARMERS IN KANO STATE, NIGERIA**



**DOCTOR OF PHILOSOPHY
UNIVERSITI UTARA MALAYSIA
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**AN ECONOMIC ANALYSIS OF PARTICIPATION IN CREDIT MARKET AND
CREDIT RATIONING AMONG FARMERS IN KANO STATE, NIGERIA**



**Thesis Submitted to
School of Economics, Finance and Banking,
Universiti Utara Malaysia,
In Fulfilment of the Requirement for the Degree of Doctor of Philosophy**

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ABSTRACT

Apart from providing fertilizer and machineries, agricultural credit provides access to all other resources, which may lead to remarkable improvement in output. However, due to lack of farm credit, agricultural production particularly in Kano-State, Nigeria does not significantly improve over the years. Therefore, this study aims at estimating the demographic and socio-economic indicators that are responsible for influencing farmers' decision to participate in credit market and factors that constraint them from accessing the farm credit. Micro data is used in this study involving 835 households and 45 microfinance banks, respectively. The result of the logistic model reveals that commercial farming, credit information, neighbourhood credit participation, traditional title and possession of radio and television relate positively to the credit market participation whereas a negative impact is noticed on the application of traditional tools. Similarly, results from the discrete choice models show that farmers who are either being engaged in subsistence farming or trading have a significant effect on the choice of credit market and credit rationing with the greatest impacts found on the farm profit and farmers' location. Moreover, the result of the partial proportional odds model indicates that the amount of credit received by farmers shows a positive relationship on irrigation, vehicle, farm record, number of creditors, financial literacy and location, albeit negatively related to subsistence farming. Even though proximity to lenders seems to play a role in credit supply equation, creditworthiness in general and its staff in particular are even more important. In conclusion, this research attests that poorer farmers are more likely to be excluded from the credit market than better-off households. Consequently, the finding in the credit market model recommends that there is need to build trust, encourage commercial farming, apply modern farming tools, strengthen property rights and increase financial literacy among farmers.

Keywords: agricultural credit, credit participation, credit choice, credit rationing, partial proportional odds model

ABSTRAK

Kredit pertanian bukan sahaja melibatkan penyediaan baja dan mesin, tetapi juga menyediakan akses kepada sumber-sumber lain yang boleh membawa kepada peningkatan keluaran pertanian. Bagaimanapun, pengeluaran pertanian di Kano-State, Nigeria tidak mengalami perubahan yang signifikan selepas beberapa tahun disebabkan oleh kekurangan kredit pertanian. Oleh itu, kajian ini bertujuan untuk menganggarkan indikator demografi dan sosioekonomi yang mempengaruhi keputusan petani untuk mengambil bahagian dalam pasaran kredit dan faktor-faktor lain yang mengkekang mereka daripada akses kepada kredit pertanian. Kajian ini menggunakan data mikro yang melibatkan 835 isi rumah dan 45 buah bank pembiayaan mikro. Keputusan model logistik menunjukkan bahawa pertanian komersil, maklumat kredit, jiran yang menyertai pasaran kredit, kedudukan status tradisional, pemilikan radio dan televisyen mempunyai hubungan positif dengan penyertaan pasaran kredit. Sebaliknya, penggunaan peralatan tradisional mempunyai kesan negatif terhadap penyertaan pasaran kredit. Keputusan model pilihan diskrit juga menunjukkan bahawa petani yang terlibat dalam pertanian sara-diri atau menjalankan perdagangan mempunyai kesan yang signifikan kepada pemilihan pasaran kredit dan catuan kredit. Kesan yang terbesar dapat dilihat ke atas keuntungan ladang dan lokasi petani. Selain itu, keputusan daripada model ganjil berkadar separa menunjukkan bahawa jumlah kredit yang diterima oleh petani mempunyai hubungan positif dengan pengairan, kenderaan, rekod ladang, bilangan pembiayaan, literasi kewangan dan lokasi, tetapi berhubungan negatif dengan amalan pertanian sara-diri. Walaupun lokasi pemberi pinjaman penting dalam persamaan kredit pertanian, namun boleh ubah bilangan kakitangan pembiayaan mikro merupakan boleh ubah yang lebih penting. Kesimpulan umum kajian ini menunjukkan, petani miskin lebih cenderung tersisih atau terkeluar daripada pasaran kredit berbanding isi rumah yang lebih kaya. Penemuan analisis model pasaran kredit mencadangkan pentingnya untuk membina kepercayaan, menggalakkan perladangan komersil, menggalakkan penggunaan alat pertanian moden, mengukuhkan hak harta dan meningkatkan literasi kewangan dalam kalangan petani-petani yang terlibat.

Kata kunci: kredit pertanian, penglibatan kredit, pilihan kredit, catuan kredit, model ganjil berkadar separa

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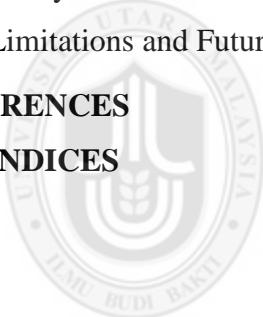
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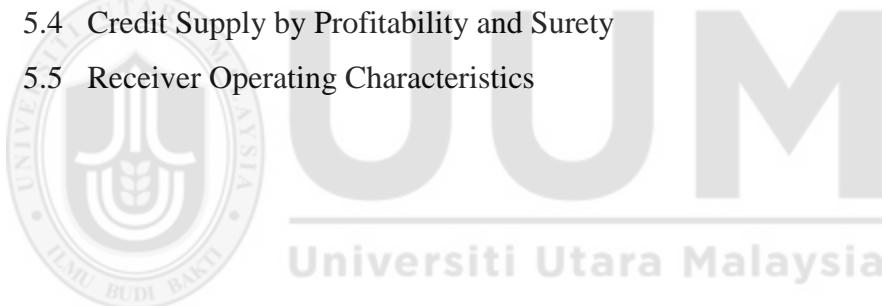
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LIST OF ABBREVIATIONS

Abbreviation	Full Meaning
ACGSF	Agricultural Credit Guarantee Scheme Fund
ACSS	Agricultural Credit Support Scheme
ADP	Agricultural Development Project
AIC	Akaike Information Criterion
ASCAs	Accumulated Savings and Credit Associations
BIC	Bayesian Information Criterion
BOA	Bank of Agriculture
CACS	Commercial Agricultural Credit Scheme
CADP	Commercial Agricultural Development Program
CBN	Central Bank of Nigeria
CDF	Cumulative Distribution Function
DCM	Discrete Choice Model
DEM	Direct Elicitation Method
DMO	Debt Management Office
FAO	Food and Agricultural Organisation
FEAP	Family Economic Advancement Program
FMAWR	Federal Ministry of Agriculture and Water Resources
GDP	Gross Domestic Product
GOLOGIT	Generalized Ordered Logit Model
IM	Information Matrix
KSME	Kano State Ministry of Environment
LPM	Linear Probability Model
LR	Likelihood Ratio
MLM	Maximum Likelihood Method
MNLM	Multinomial Logit Model
NA	Native Authority
NACRDB	Nigerian Agricultural Cooperative and Rural Development Bank
OLS	Ordinary Least Square
PBN	People's Bank of Nigeria
PDF	Probability Normal Density Function
PCP	Percentage of Correct Prediction
PPOM	Partial Proportional Odds Model (GOLOGIT2)
ROC	Receiver Operating Characteristics
ROSCAs	Rotating Savings and Credit Associations
RUM	Random Utility Model

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

About 3.5 billion of the world population live in rural areas in 2014 (mostly in the developing world), 75 percent of them are in the poverty trap. In Sub-Saharan Africa (SSA) or Nigeria in particular, the ratios are higher with rural dwellers amounting to more than 50 percent (Todaro & Smith, 2011; World Bank, 2015a). Most of these people have been bypassed by economic progress, and engaged primarily in subsistence agriculture. Survival is their ultimate goal. Report from the Food and Agricultural Organisation (FAO) indicates that more than a billion people in the world are without adequate food supply to meet the basic nutritional requirement (Babatunde, 2012). This leads to the malnutrition of more than 270 million Africans. There is an increasing concern by economists over the growing number of farmers, missing market, poor rural infrastructure, access to working capital and decreasing agricultural productivity, especially in African nations (Todaro & Smith).

Evidence from the World Development Indicators show that in 2014, only 1.6 percent of the total workforce was committed to agriculture in the United States (U.S.), 12.2 percent in Malaysia and 4.6 percent in South Africa. However, when it comes to Nigeria, more than half of farmers engaged in agricultural sector, but not produce adequate for the country (World Bank, 2015a). In fact, the average cereal crop yield per hectare in Nigeria was three times lower than that of Malaysia (3889.23 kg per hectare) and South Africa

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