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DETERMINANTS OF AGRO-DEALERS' PARTICIPATION IN THE LOAN MARKET IN NIGERIA

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OUTLINE OF PRESENTATION

- Introduction
- Methodology – Participation in the Loan Market
- Factors Influencing Agro-dealers Borrowing Decision
- Determinants of Demand for Business Loan
- Opportunities & Constraints on Agro-dealership
- Suggestions for Improved Financing of Agro-dealership
- Conclusions

INTRODUCTION

Research Questions

How have the agro-dealers been financing their operations and how reliable are the sources of finance? What variables influence their decisions to borrow? What factors determine their demand for loan? What sort of financial mechanisms will enable them to perform their roles creditably?

Rationale

A private sector that is weak, unorganized and financially incapacitated must be not be allowed to scuttle a strong policy commitment and stymie investment and growth in the agricultural sector.

Objectives

Examine the constraints and opportunities for agro-dealership financing, analyse their participation in the loan market and articulate improved financing framework.

PARTICIPATION IN THE LOAN MARKET (ECONOMETRIC MODEL)

Regression equation: $d_i^* = x_i\beta_i + \varepsilon_{1i}$ (1)

Selection model: $b_i^* = z_i\gamma_i + \varepsilon_{2i}$ (2)

$d_i = d_i^*,\ b_i = 1$ if $b_i^* > 0$ (3)

d_i not observed, $b_i = 0$ if $b_i^* \leq 0$ (4)

where b_i^* is a latent endogenous variable and z_i is a vector of exogenous variables determining whether an agro-dealer will borrow or not. If b_i^* is greater than a threshold value of zero, then b_i, the observed dummy variable = 1 and otherwise $b_i = 0$. The regression equation observes value d_i (value of loan) only for $b_i = 1$ (i.e for the borrowers).

PARTICIPATION IN LOAN MARKET CONT'D (HECKMAN SELECTION MODEL)

- The predictors included in the probit model are indicated as follows.

- $bi = \gamma o + \gamma 1\ AGE + \gamma 2DEBT + \gamma 3ASSET + \gamma 4CUSTOMER + \gamma 5REGION + \gamma 6ASSOC + \gamma 7EDUCATION + \gamma 8BIZYEARS + \mu$

- The estimating equation for loan demand has the following variables.

- $di = \beta o + \beta 1IR + \beta 2AGE + \beta 3DEBT + \beta 4ASSET + \beta 5BIZYEARS + \beta 6ASSOC + \beta 7LSOURCE + \varepsilon$

FACTORS INFLUENCING BORROWING DECISION

- Region has no significant effect on borrowing decision
- Education and business experience do not significantly affect agro-dealers' borrowing decision
- The probability of loan participation is higher among agro-dealers that belong to trading associations than non-members.
- Agro-dealers who have wider customer outreach to rely on for their business operations may decide not to borrow while those with previous borrowing experience are likely to decide to borrow.
- The change in probability of participation is indeed extremely slim with regard to debt, asset and customer outreach compared to the observed changes in the case of age and membership of trading associations.

RESULTS OF ESTIMATED PROBIT MODEL

Dependent Variable: Agro-dealers' Borrowing Status (Dummy)

Variable	Coefficient	S.E.	P[|Z|>z]
Age	0.161***	0.046	0.000
Asset	-8.72e-07**	4.07e-07	0.032
Business Experience	-0.035	0.064	0.579
Education	0.064	0.059	0.288
Debt	1.20e-05***	2.62e-06	0.000
Association	0.940**	0.500	0.060
Region (North/South)	-0.051	0.217	0.815
Customer outreach (no)	-0.0011**	0.0005	0.041
Constant	-2.736***	0.598	0.000

Log likelihood = -150.11
LR chi2(6) = 64.60
Prob > chi2 = 0.000
Pseudo R2 = 0.18
Number of obs = 300

MARGINAL EFFECTS OF VARIABLES IN THE PROBIT MODEL

Variable	Coefficient	S.E.	P[|Z|>z]
Age	0.053***	0.015	0.000
Assets	-2.88e-07**	0.000	0.033
Business experience	-0.011	0.021	0.580
Education	0.021	0.019	0.288
Debt	3.97e-06***	0.000	0.000
Association	0.219***	0.069	0.002
Region	-0.017	0.071	0.815
Customer outreach	-0.0004**	0.0002	0.040

FACTORS INFLUENCING LOAN DEMAND

- The main determinants of loan demand are interest rate, debt, value of asset, and source of credit.
- A one-percent increase in the rate of interest will reduce the demand for loan by 0.05 percent. If the amount of debt increases by one-percent it is likely to be associated with an increase of 0.01 percent in the value of loan whereas an increase of one-percent in the asset value will lead to an increase of 0.02 percent in the demand for loan.
- A change from non-bank to commercial bank sources is associated with an increase of 0.11 percent in loan demand
- Becoming a member of input trading association seems not to have a statistically significant effect on loan demand.

RESULTS OF ESTIMATED HECKMAN'S SELECTION CORRECTION MODEL

Estimated Demand Model	Coefficient	S.E.	P>|t|
Interest Rate (%)	-0.148**	0.073	0.042
Age (yrs)	0. 118	0.077	0.125
Value of Asset (₦)	1.892-06**	1.14e-06	0.098
Business experience (yrs)	-0.030	0.083	0.716
Debt (N)	-6.95e-06***	3.08e-06	0.024
Membership of Association	1.004	0.928	0.279
Credit Source	1.386***	0.250	0.000
Constant	7.448***	1.668	0.000
Estimated Selection Model			
Age (years)	0.157***	0.046	0.001
Value of asset (₦)	-9.02e-07**	4.13e-07	0.029
Business experience (yrs)	-0.058	0.066	0.381
Education	0.052	0.059	0.372
Debt	1.23e-05***	2.66e-06	0.000
Membership of Association	0.945**	0.508	0.059
Region	-0.022	0.217	0.917
Customer outreach	-0.0012**	0.0005	0.030
Constant	-2.657***	0.599	0.000

Elasticity Coefficients of the Variables in the Heckman Selection Correction Model

Variable	Coefficient	S.E.	P[|Z|>z]
Interest Rate	-0.052**	0.025	0.043
Age	0.089	0.062	0.151
Asset	0.021*	0.012	0.085
Biz experience	-0.006	0.016	0.718
Debt	0.012**	0.005	0.043
Association	0.093	0.089	0.295
Credit Source	0.114***	0.023	0.000

CONSTRAINTS AND OPPORTUNITIES FOR AGRO-DEALERS' PERFORMANCE

OPERATIONAL CONSTRAINTS

-Limited management skills

-Delays in product supply

-Poor knowledge of products

-Unfavourable policy

MARKETING CONSTRAINTS

-Inadequate input supply

-High prices charged by input suppliers

-Poor product quality

LOGISTIC CONSTRAINTS

-High cost of transportation

-Problem of insecurity

-Inadequate storage capacity

FINANCIAL CONSTRAINTS

-Lack of credit facilities

-High cost of borrowing

-High level of indebtedness

OPPORTUNITIES

-Private Sector Companies Experienced In Importation And Marketing of Agro-inputs

-Growing Capacity For Imports And Marketing of Agricultural Inputs

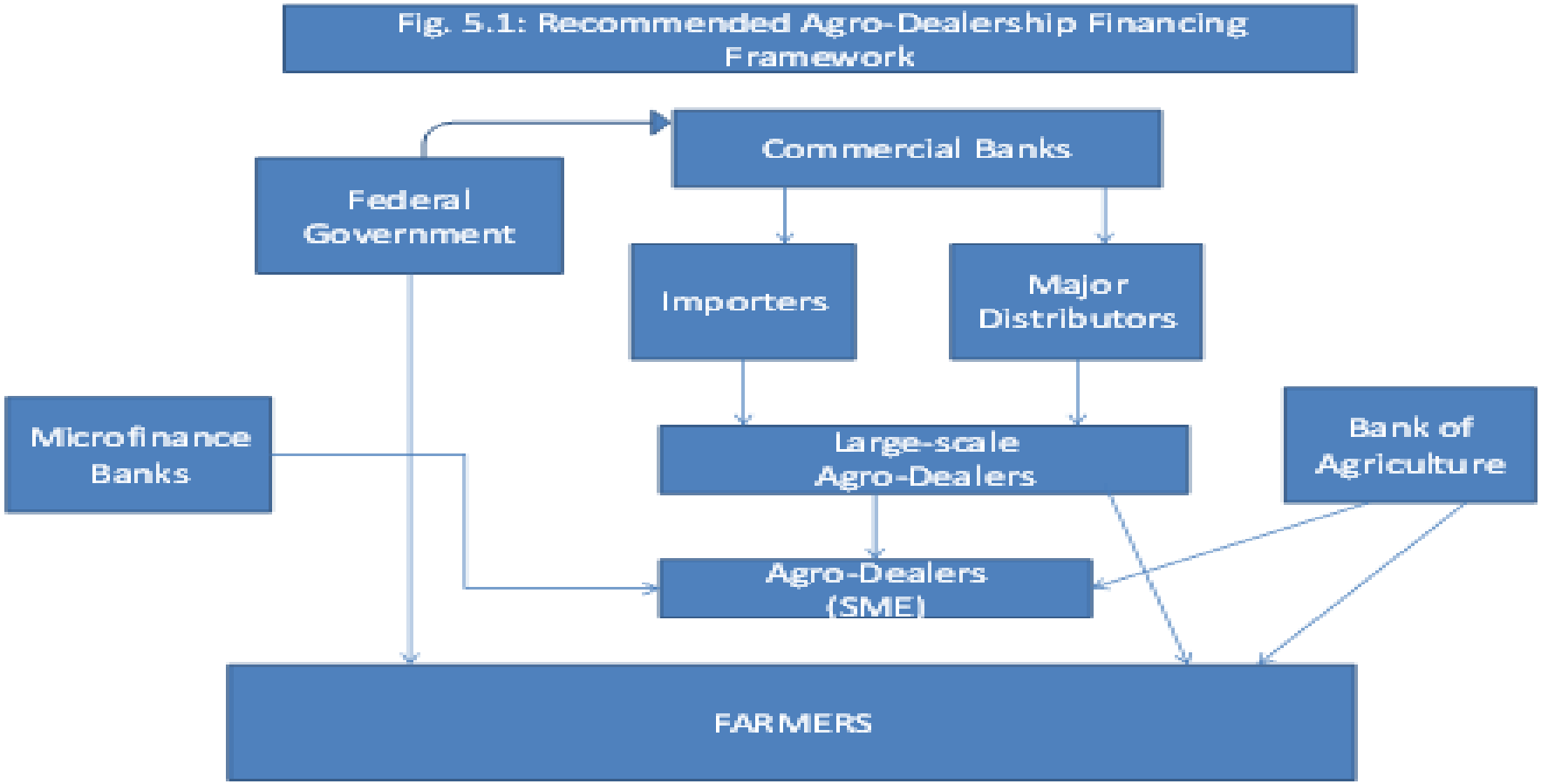
-Rapidly Developing Retail Outlets

-Policy Emphasis on Agro-dealers' Services Under The Ongoing Agric Transformation

SUGGESTIONS FOR IMPROVED AGRO-DEALERSHIP FINANCING

- Value Chain Financing
- Build Human Capital for Improved Agro-dealership
- Support the Development of Agro-input Trading Associations
- Curb Agro-dealers' Black Market
- Subsidy Exit Strategy and Sustainable Agro-dealership Financing

RECOMMENDED AGRO-DEALERSHIP FINANCING FRAMEWORK



CONCLUSIONS

- The equity capital of agro-dealers and finance from informal sources are grossly inadequate to bridge the financing gaps and cannot be relied upon for the development of a modern and competitive agro-input market that can support the vision of the ongoing agricultural transformation agenda.

- Finance must flow from the banking sector which is expected to be catalyzed through the instrumentality of NIRSAL and from the importers, distributors and suppliers of inputs in the form of value chain financing.

- Finance-related policies will not suffice. Finance will not be a substitute for missing input markets nor panacea for infrastructure deficits, social insecurity and low effective demand by agro-dealers' customers. Thus, skill gaps in financial management, business planning and inventory management have to be bridged.

- Finally, the low effective demand reflects a conundrum in terms of agro-dealers turnover being adversely affected by limited farmers' purchasing power. Thus, efforts aimed at improving the input distribution system may not yield the desired outcome unless there is a simultaneous transformation of the output marketing system to improve farmers' income.