Explaining Rural Poverty in Developing Countries: Evidence from Senegal

Barassou Diawara
Faculty of Economics, Kyushu University, Fukuoka, Japan

Priyanga Dunusinghe
Department of Economics, University of Colombo, Sri Lanka

and

Bhim Prasad Bhusal
Graduate School of Economics, Kyushu University, Fukuoka, Japan

Key Words: *Rural poverty, food market, probit, Senegal*

Introduction

Despite global progress in poverty reduction, around 2.5 billion people still live on less than USD 2 per day. Most of these poor live in rural areas (Otte et al., 2008). In Africa, poverty is still increasing (Collier, 2007), and is so catching the attention of researchers and the international community.

Poverty in Senegal generally follows the same pattern as described by Otte et al. (2008) with a higher percentage of poor people living in rural areas. For example, rural poverty has dropped from 71.0 percent in 1994/1995 to 65.2 percent in 2001/2002 and to 57.79 percent in 2005 (IMF and IDA, 2006 and ESPS, 2005). Given that the bulk of poor are located in rural areas, looking at the factors affecting rural poverty is necessary to reduce poverty in Senegal.

For decades, poverty reduction has been at the center of the preoccupation of different governments in Senegal. This can bewitnessed by, for instance, the Poverty Reduction Plan formulated in 1997 and the recent Poverty Reduction Strategy Papers (PRSPs) of 2002 and 2006 (IDA and IMF, 2002; IMF and IDA, 2006). However, to efficiently fight against, or to reduce poverty, it is essential and wiser to target the most affected social stratum and investigate the main determinants of the phenomenon.

We pay attention to rural poverty and the role of proximity to local food markets. Availability of markets is important in rural areas because it can help create and foster social capital and also encourage economic activities among individuals in the community.

Theoretical Foundations

The theoretical basis underlying this study draws from the literature on the determinants of poverty (Datt and Jolliffe, 2005). The main idea is that education and the existence of markets not only enable individuals to have higher earnings but also influences their behavior and decisions and consequently affects their fulfillment of basic needs and avoidance or escape from poverty.

Although research on the impacts of the existence of markets on rural poverty is scarce in the case of Senegal, it is to be noted that afew studies have been done in the context of Sub-Saharan African countries. For example, Ellis and Mdoe (2003) have shown that rural poverty in Tanzania is strongly associated with, among other factors, the lack of land and livestock. In addition, Khan (2000) has reviewed the factors explaining rural poverty in developing countries stressing the importance of markets.

Objectives

The objective of this study is to analyse the determinants of rural poverty in Senegal using the household heads data and paying attention to the role of the availability of markets. Specifically, we investigate the importance of (1) household characteristics, (2) community related factors and (3) asset ownership.

Methodology

The econometric model in this study follows the theoretical foundations described in Datt and Jolliffe (2005) and extensively used in the literature. The econometric model can specified as follows:

$$P*_i = H_i\alpha + C_i\beta + A_i\delta + X_i\gamma + \varepsilon_i \qquad (1)$$

where P* stands for the poverty status of household head i, H is the vector of household characteristics, C represents the vector of community related factors, A is the vector of asset ownership, X means the vector of other controls and ε_i the error terms.

Given the nature of the dependent variable, a probit estimation method [and instrumental variable (IV) probit model] is used to investigate the factors affecting rural poverty.

Results

The empirical results are shown in the Table 1

Table 1. Determinants of rural poverty: Results

	Simple probit (1)	IV probit (2)	IV probit, Female (3)	IV probit, Male (4)
Educated household head	-0.142**	-1.718***	0.928	-2.006***
	(0.069)	(0.452)	(1.152)	(0.424)
Distance to closest market	0.088***	0.061***	0.079	0.055***
	(0.014)	(0.018)	(0.048)	(0.019)
Ownership of land	-0.006	0.002	-0.563***	0.007
	(0.012)	(0.011)	(0.209)	(0.011)
Ownership of tractor	-0.655***	-0.525**	-	-0.425*
	(0.250)	(0.243)		(0.246)
Ownership of plough	-0.142***	-0.159***	-0.462	-0.149***
	(0.055)	(0.051)	(0.324)	(0.051)
Ownership of cart	-0.110**	-0.083	0.003	-0.086
	(0.053)	(0.052)	(0.266)	(0.053)
Farmers	0.459***	0.243**	0.428**	0.199*
	(0.050)	(0.097)	(0.201)	(0.104)
Married household head	-0.151	-0.171*	-0.398	-0.005
	(0.102)	(0.095)	(0.280)	(0.125)
Age of the household head	0.006	-0.002	-0.038	-0.005
	(0.010)	(0.010)	(0.037)	(0.010)
Squared age	-0.000	-0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Female headed household	-0.244***	-0.387***	-	-
	(0.093)	(0.092)		
Size of the household	0.075***	0.062***	0.128***	0.053***
	(0.005)	(0.009)	(0.044)	(0.010)
Constant	-2.198***	-0.795	-1.473	-0.598
	(0.296)	(0.584)	(1.061)	(0.644)
Observations	3,673	3,673	328	3,343
R-squared	0.175			

Notes: The dependent variable is headcount poverty; Dakar is taken as a base group for the regional dummy variables. t-statistics are given within parentheses. *, ** and *** represent the significance at 10%, 5% and 1% respectively. The variable 'education' has been instrumented and the instruments used are the distance to closest primary school and closest secondary school. The regional dummies are not included in the table due to space limitations.

Educated household heads are generally less likely to be poor; exception is made for the case of female headed households probably because female education is not very well encouraged. Household heads (mainly male) closer to the food markets are less likely to be poor mostly because of the opportunities given and the exchanges taking place. Besides, farmer household heads are more likely to be poor compared to the household heads working in other sectors.

The results also show that the ownership of tractor and plough is negatively and significantly associated with the poverty status of rural household heads.

Conclusion and Policy Recommendations

This study empirically investigates the determinants of rural poverty classifying the factors into household characteristics, community factors and asset ownership. The findings show that the proximity to local foods market is an important factor that affects the poverty status of household heads living in rural areas. Education and assets ownership are the other factors correlated with the poverty status of rural household heads.

As policy recommendation, existing educational efforts should be geared toward every person living in rural areas while markets should be created or encouraged to motivate the households not only to acquire physical capital but also to exchange their products.

References

Collier, P. (2007), " Poverty reduction in Africa", *Proceedings of the National Academy of Sciences*104(43), pp:16763-16768.

Datt, G., and Jolliffe, D. (2005). Poverty in Egypt: Modeling and policy simulations. EconomicDevelopment and Cultural Change, 53(2), 327-346.

ESPS (Enquête de Suivi de la Pauvreté au Sénégal, 2005), Agence Nationale de la Statistique et de la Demographie (ANSD) de la Republique du Senegal, www.ansd.sn.

IDA (International Development Association) & IMF (International Monetary Fund)(2002). Senegal: Poverty reduction strategy paper. Washington, D.C: International DevelopmentAssociation. Joint staff assessment prepared by the staffs of the InternationalDevelopment Association. Report No. 25127 SE.

IMF (International Monetary Fund) & IDA (International Development Association)(2006). Senegal: Second poverty reduction strategy paper.Washington, D.C.: The InternationalDevelopment Association. Joint staff advisory note prepared by the staffsof the International Monetary Fund and the International Development Association.Report No. 38131-SN.

Khan, M. H. (2000), Rural poverty in developing countries: Issues and policies, IMF Working Paper WP/00/78. International Monetary Funds.

Otte, J., U. Pica-Ciamarra, G. Franceschini, and D. Roland-Holst (2008), "Food Markets andPoverty Alleviation", Pro-Poor Livestock Policy Initiative A Living from Livestock Research Report RR Nr. 08-11.