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POVERTY REDUCTION AND INFORMAL TRADE

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Abstract

This paper analyses poverty reduction through informal trade in Mozambique, using questionnaire data and a logit model. The Mozambique economy is dominated by informal trade. Informal trade is an alternative to nonexistent formal jobs and represents a strategy for escaping poverty. Results indicate that informal traders adopt this strategy as an alternative to formal jobs, and that there is an awareness that this strategy is adopted as a means of evading poverty. Other covariates enable the clarification of this relationship in the context of the theoretical background. Policy implications are derived.

Keywords

Mozambique, Maputo, informal trade, poverty reduction, questionnaire data.

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(Professor Carlos Barros has passed away recently, loss that we deeply sorry, so we would like to point out that this is a posthumous publication.)

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1. INTRODUCTION

This paper analyses the relationship between poverty perceptions and informal trade in Mozambique, based on data from questionnaires undertaken in Maputo, the capital of Mozambique, in 2012, adopting a logit model. Research on African poverty is common and usually focuses on microcredit (Spiegel, 2012) and there is very little focus on informal trade, which is so prevalent in Africa (Reddy, 2007; Leonard, 2000). Therefore, this paper contributes to this literature, by focusing on informal trade in Mozambique and it establishes a relationship between informal trade and poverty perception. The motivation for this research is threefold. Firstly, although there is a tradition to analyse poverty in the African context (Ivi and Senbeta, 2012), the relationship between informal trade and poverty perception has not attracted much attention by researchers. This paper thus contributes to the development of the literature and it focuses on informal trade in Maputo and also the perceptions of poverty by informal traders. Secondly, although the theory of Lewis (1954) predicts that informal trade workers will later pass to the formal sector, this is a long-term issue, and for a specific generation of traders, no transfer is possible, owing to the low level of education. Therefore the persistence of informal trade justifies this research. Finally, Mozambique is one of the poorer African countries and no sensible anti-poverty policies have been adopted, Lyons, Brown and Msoka (2012), therefore this informal trade will persist in the future, which is a justification for this research.

This paper is organized as follows: after this introduction the conceptual framework is presented, followed by the contextual setting. The literature survey is then

presented, followed by the data and the results. Next a robustness test is presented, and finally the discussion and conclusions are presented.

2. CONTEXTUAL SETTING

The literature on poverty reduction in Mozambique is unanimous concerning the efficiency of the public policies that enhance the well-being of the population. For more information about the analytical framework of poverty reduction in Mozambique, see Bolnick (2000). Most of the studies shows that poverty is not being reduced, but that, on contrary, in the main cities of the country it is increasing (Cunguara and Hanlon 2010). When comparing Mozambique with Vietnam, Arndt et al (2010, 2011) argue that “variation in multipliers across sectors indicates that the composition of growth is a key determinant of a country’s growth-poverty relationship”, with Vietnam investing on agriculture, whilst Mozambique is not channeling resources to this sector, which explains the differences of the performances of the two countries. However, some time ago, Cramer and Pontara (1998) pointed out the fact that public policies in Mozambique were neglecting the countryside. As highlighted by Cunguara and Hanlon (2010), agriculture is officially the leading sector for structural transformation in the country, but it is the one with the lowest allocation of financial resources and support, the first one being the Presidency. This is one of the contradictions discussed by De Brito et al (2012) when they analyse the main public policy instrument of the country, namely the *Plano de Acção para a Redução da Pobreza*, which is one of the Poverty Reduction Strategic Papers. They find that the policy framework does not

reflect the reality of the country's economic structure and that it is a vehicle for maintaining aid dependency to cover the national budget, whilst the elite engages in capitalist accumulation of wealth through the minerals industry, benefiting from alliances with global financial capitalists (Castel-Branco 2010). The PRSP is not connected to other policy instruments in the other sectors of the economy. In fact, the very idea of not being sanctioned by the national parliament is a telling story.

Nevertheless, the ruling elite have adhered unconditionally to the Washington Consensus, which assumes that the attraction of Foreign Direct Investment and the control of macroeconomic instruments will, per se, automatically trigger growth and development. Mozambique has been observing a 7-8% growth rate, but with very little social improvement, with the multinational covering a large share of that growth. This fundamental contradiction, combined with the political negligence of agriculture, is fuelling the informal sector. The informal economy in Mozambique is characterized by unregistered economic activities, or activities which are registered in municipalities for paying tax. Based on previous research, 75% of the Mozambican population was in informal employment in 1975 (Byiers 2009).

The first survey carried out by the national institute of statistics in Mozambique (INE) in 2005 points to 75% of population being economically active in informal employment (INE 2006). This figure is close to the projections made by Francisco and Paulo (2005), who mention a rate of about 90%. On the other hand, Byiers (2009) quotes that the Ministry of Planning and Development (Ministério da Planificação e Desenvolvimento) stated that the informal activity of the country represented 41% of GDP in 2003, and 40%

in 2004. The author refers to the figures in Scheider¹, which locates contribution of the informal economy to GDP at around 42.4%. He adds that the official estimation for the urban labour force operating in the informal sector is 68%. These numbers does not tell the entire story. In fact, the informal sector's contribution to GDP has grown over recent years.

The demographic profile of the urban informal sector is characterised by people with very low academic skills, large families, with females in dominance. The most numerous segment is street vendors, who sell diverse types of goods, ranging from cosmetics to homemade food. Apparently, unemployment constitutes the element of social pressure that impels these individuals to develop an activity for generating revenue. Low competitive academic qualifications, both in the public and private sector, may constitute the cause for people opting for informal activity. In general, the informal sector can be seen as the consequence of non-inclusive governance, and the excessively punitive character of the national regulatory environment, which goes against the political consensus that was established about the need to address the problem of the informal economy (Chivangue 2012).

Baptista-Lundin (2003, 2011) and Francisco and Paulo (2006) place the emergence of the informal sector in Mozambique as being during the period of the centrally planned economy, whilst Chichava (1999) locate it at the beginning of the colonial period. Nevertheless, Mosca (2011) places this phenomenon during the 1980's, during the Mozambican economic crisis, which was reflected by the shortage of goods in the market

¹ Schneider, F., (2007), "The Size of the Shadow Economies of 145 Countries all over the World: First Results over the Period 1999 to 2003", *Journal of Population Economics*, Vol. 20 (3), pp495 – 526.

due to stock-outs. This in turn triggered State repression of informal labour, known at the time as *Candongá*, which was the result of the trade of products from the formal sector, to the informal one.

With the economic liberalisation through the Adjustment Programme, commonly known in Mozambique as the *Programa de Reajustamento Estrutural* (PRE), under the aegis of the International Monetary Fund and the World Bank, the informal economy grew, gaining more and more of a role as an option for additional revenue and employment, and even as a strategy for survival. Moreover, the measures proposed by the “Washington Consensus” were made on the assumption that liberalisation would be the driving force for transforming informal operators into small and medium entrepreneurs. In the meantime, these predictions did not turn in to reality. Francisco and Paulo (2006, 39) argue that “the PRE converted part of the national repressed economy into a consensual informal economy.”

During the middle of the 1990’s, the government incentivised the informal labour to organise itself into trade unions but, despite this, its approach to treating street vendors and other segments were reminiscent of persecution, especially by municipal authorities. As Chivangue (2012) shows, the action of government is sectorially disconcerted and politically incongruous, which blocks the prospects for exploring the beneficial aspects of informal commerce in Mozambique.

THE MUKHERO

The *mukhero*² can be defined as informal micro-importation³, characterised by the fact that traders cross the border at Ressano Garcia into South Africa, where the *mukheristas* buy a variety of goods to sell, generally in large quantities, in the Maputo markets. In this paper, those who practice these activities are classified as being informal micro-entrepreneurs. Meanwhile, it is important to point out the fact that this definition is simplified, being adopted only for the purpose of this analysis. The *mukhero* can be placed in the category of informal cross border commerce and a similar phenomenon occurs at the main border areas of the country, especially “Machipanda”, where cross border commerce is called *Madjolidji*, or *jumper border*⁴.

The nature of *mukhero* can be identified by the two sub classifications in the typologies of legitimate opportunities for revenue seeking in urban areas, as presented by Hart (1973,69-71), namely “tertiary enterprises”, and “distribution in small scale”. The first classification represents the pinnacle of informal legitimate activities and is practiced by individuals who possess accumulated savings gained by alternative means and then reinvested them in diverse activities. The second classification differs from the first with regards to the individual’s position in the distribution chain of transacted goods: some are transporters, others buy and sell for further re-sale, and some provide small amounts of credit. All of them

² Etymologically, the word *mukhero* comes from the English expression “carry”. On the Namaacha border, foreigners crossing on foot use to ask the natives for help with carrying their baggage and then paid a small tip. Quickly this practice became generalised, and the locals called it *mukhero* (Chivangue 2007).

³ In this article, the concept of informal is related to the absence of the registration of an activity with the formal authorities, and the process of border crossing is, in many cases, characterised by semi-legal, or illegal procedures.

⁴ For further information on cross border informal trade in Mozambique, see Macamo (1999) and Batista, Rungo and Navalha (2001).

maintain a flexible attitude towards their role as a vendor, and they are able to change from one good or activity to another, or to combine both.

The set of activities which comprise *mukhero* can be classified into six categories, namely: fresh goods (including vegetables such as potatoes, onions, cabbages, garlics, tomatoes, fruit, etc.), diverse goods (milk, milo, cooking oil, whole wheat, eggs, juice, yogurts, etc.), dishes (plastic articles, porcelain, glass, etc.), beauty products, clothing and beverages (Chivangue 2007). Currently many non-perishable goods are imported from China, from where some *mukheristas* import office supplies, living room furniture, sanitary ware, etc.⁵

Of particular relevance is the way that those engaged in the informal sector perceive the possibilities to get a job in the formal sector, where they feel that the process of selection is not based on meritocracy, as cronyism is rife. If they are unable to practice *mukhero*, micro-importers would be willing to change their current informal activity and leave the relatively high-earning informal sector, to embark on a stable career in the formal sector (Chivangue 2012).

The present tendency is found in the writings of Iyenda (2005,65), when he refers that 79% of those engaged in the informal sector in Kinshasa would leave what they were doing in exchange for a secure and well-paid job in the formal sector. The same conclusions were found by Heintz and Pollin (2003), Peberdy (2000), Macamo (1999) and Hart (1973). Maloney (2004, 1163) added the fact that those operating in the informal sector “would enter the formal sector initially as a way to accumulate human capital”.

⁵ The importation of goods from China by informal operators is now being studied and the article of Lyons and Brown (2010) is a very interesting example. Their reflection discusses the integration of informal traders in the global networks of supply and also their influence in reducing urban poverty in Sub-Saharan Africa.

Contrary to what Lyons e Snoxell (2005) highlighted when they observed that other members of the family enter the informal sector by means of people who are already practicing their activity, in the case of *mukhero*, this pattern does not occur. It is virtually unheard of for someone engaged in *mukberista* to be a relative of the owner. The majority originate from other informal activities, having evolved gradually. This is consistent with the analysis provided by Chen (2007), Maloney (2004) and Heintz e Pollin (2003). More recent studies have established that the informal sector does not “absorb simply, or even primarily, those employed in the formal sector” (Maloney 2007, 1163).

Another interesting aspect which is worth mentioning is related to the differences in the size of income between the formal and informal sectors, and also the dynamic relationship that conditions those engaged in both sectors. Nzatzola (2006), when analysing the informal sector in Angola, mentions a study published by PNUD⁶ which reveals that the medium wages in the informal sector are higher than those of the formal sector. Macamo (1999, 26) made a reference to this aspect in the case of Mozambique, concluding that “the informal sector satisfy their basic needs, whilst those employment in the formal sector, earning a minimum wage, barely survive.”

Although there is differences of revenues that needs to be emphasised, the *mukhero* fits the logic of the previous paragraph, in that if the literacy of those engaged in the informal sector is taken into account, then most of them would earn less in the formal sector than that which they actually do. The minimum wage in public administration is around 2,500 meticaís (USD 72), whilst average revenues in *mukhero* is 8,000 meticaís (USD 232). The

⁶ PNUD (1997): *Relatório do Desenvolvimento Humano*. Angola.

minimum wage does not cover the basic goods for a family of five during one month (Chivangue 2012).

It is important to note that, in general, all the segments of the informal sector in Mozambique would prefer their actual activity to employment in the public sector. Research carried out by War on Want (2006) indicates that “60% of those interviewed in Maputo mentioned the preference for their actual occupation in the informal economy, as opposed to salaried employment” (War on Want 2006, 25).

The border crossing process constitutes another relevant question. Although many of the traders argue that this passage is legal, evidence shows that border crossing is semi-legal, or even illegal. The presidents of their informal trades unions have confirmed this fact. In the case of woman, there are situations where some have to offer sexual intercourse as an additional bribe to the customs officials for their passage, as the excerpt from Baptista-Lundin and Taylor clearly shows:

None of us have a passport or a valid visa, we cross the border through the fence. We have special arrangements with the officials, we pay and they don't see us. Despite this, the agreement is sometimes disrespected, because we pay and they then denounce us. When that happens, we don't have a choice but to pay with sexual services for more than one of them, because if we didn't do so, then the risk of losing our merchandise or being arrested is huge. The *mukbero* activity is not an easy one, but it is the only now for us to survive (Baptista-Lundin e Taylor 2003, 99).

The justification for the present procedures has to do with the high customs tax, which incentivises customs officials to ask for bribes, which discourages the *mukberistas* from operating legally. As a means of overcoming this situation, the customs authority, (*Autoridade Tributária*), and the informal trades unions of the micro-importers have agreed a new

references tax for most imported goods, of around 50% of the purchasing price (Mapote 2012,02).

3. LITERATURE SURVEY

In the informal sector there is a conceptual distinction between those activities capable of merely enabling survival, and those with the potential to support growth. The first group is filled by all the traders with low incomes that are less than the minimum wages. In this case, poverty and the desperation to cling to life are the main motives for such activities existing. The second category is constituted by small business micro – enterprises – many times composed only by the owner and few family members. These micro-firms are not licensed to work, even in a rudimentary form. According to Rogerson (1996) and Byiers (2009), the latter are those with the potential to flourish and become big formal business.

Consistently, Startine and Trimonis (2010) suggest that the informal economy results from a high tax burden and bad social well-being. They add the fact those transactions that occur in the informal sector would be taxed if they were in the formal sector, which encourages such traders to operate beyond the law. This argument is consistent with those of Chen (2007), when she states that many owners of informal enterprises operate in the semi-legal, or illegal, manner, on account of the regulatory environment, which in many cases is punitive, is a misfit, or simply does not exist.

Another interesting perspective is the one provided by Gough et al (2003), which associates the emergence of the informal sector with the growth of the urban population,

and the consequent seeking of employment, goods and services which is greater than the capacity provided by the national formal sector, more precisely the labour market. Beside this, the passing of the structural adjustment years and the corresponding reduction of the number of Public Administration employees has diminished opportunities in the urban areas, and it is the informal sector that has compensated for these formal failures.

Next in this line of reasoning, Byiers (2009) indicates that the predominance of informal micro-enterprises in developing countries' economies constitutes a symptom of high transaction costs, high level of risk for firms, a low tax base, a poor flux of information, high and complex regulatory barriers and the existence of corrupt government officials. On the other side, surplus labour puts pressure on employment, and when this is scarce in the modern sector, this represent the explicative hypotheses of Tokman (2007). This author argues that the results end up producing low productivity and revenues through the production and sale of anything that can allow the unemployed to survivor. In fact, it is this logic of survival that drive people to engage in informal activities.

Although, the assumption of the segmented informal economy, as described, challenges the preview statement, in that there is evidence of a differentiation of revenues amongst its practitioners (Chen 2007, Mosca 2010). The present idea is not new. Nyssens and Linder (2000) have previously referred to the fact that the segments composing the informal sector are highly differentiated, ranging from activities geared to survival, to those that lead to substantial growth. An alternative explanation was suggested by Hart (1973) in his seminal article, where he suggests that the cause of the emergence of the informal sector is linked to low wages in the formal sector, and it is this which leads people to engage in

seeking alternative sources of income. This statement, although powerful at the time, is now considerably limited, as most are engaged in this activity as their sole source of income.

With regards to the nature of the informal economy, most of the author speak about a growing heterogeneity which is characterised by micro-firms of self-employment, operating outside the law (avoiding taxes), the existence of low barriers to entry (due to low academic skills), together with limited access to formal credit and the necessary capital and a system of informal apprenticeship. Thus this activity, production, consumption, investment and reproduction are all so connected that it is impossible to measure profit (Gulyani and Talukdar 2010, Harriss-White 2010, Sindzingre 2007, Alder 1995).

4. METHODOLOGY

The problem of eliciting truthful answers to sensitive questions is an age-old problem in research based on surveys. The logit regression of Fox and Tracy (1986) is adopted for this context (Tsegai and Kormawa, 2009; Houssou and Zeller, 2013).

Let us consider the Maputo informal trader who was asked to answer a questionnaire about their activity. The main goal is to determine the probability of an informal trader declaring that informal trade decreases poverty, given some characteristics, which is denoted by the vector x_i . One can define a binary random variable y_i , which verifies $y_i = 1$, if the informal trader declares that informal trade decreases poverty, and $y_i = 0$ if the informal trader declares that informal trade does not decrease poverty, then the aimed probability is $P(y_i = 1/x_i)$. Models for determining the probability of an event given a set of

characteristics, x_i , can be derived based on a latent variable, y_i^* , which is not observed and verifies:

$$y_i^* = \beta' x_i + \varepsilon_i, \quad (1)$$

where β is a vector of unknown parameters, and ε_i is an unobserved random variable allowing for individuals with the same characteristics, x_i , to have different outcomes. To use the general framework of binary dependent models, let us simply suppose that $y_i = 1$ if $y_i^* > 0$ and $y_i = 0$, if otherwise. Then $P(y_i = 1/x_i) = P(\varepsilon_i > -\beta' x_i)$ and the desired probability depends on the statistical assumptions about the ε_i error term. When ε_i is independent and is identically distributed as an extreme value type I, then the above probability is given by the highly popular logit model:

$$P(j = 1 | x_i) = P(\beta, x_i) = \frac{e^{\beta' x_i}}{1 + e^{\beta' x_i}} \quad (2)$$

Ben-Akiva and Lerman (1985), and Train (1986) used the logit model to relate the probability of making a choice to a set of variables that reflect decision-maker preferences.

5. DATA AND RESULTS

The questionnaire was prepared based on the previous literature (Lengier and Ukiwo, 2009). The questionnaire was pre-tested on the students of Development Studies at ISEG, to see whether any problems remained and corrections were then made. The sample consists of 301 respondents from the Mukero Market in Maputo. Authorisation to distribute the questionnaire was obtained from the Association of *Mukeristas*, which is established in the same market location in Maputo. From a list of informal traders, a random sample was selected to be interviewed. The selected sample was approached by the local researcher and co-author and were asked to answer the questionnaire. The respondents were asked to complete the questionnaire, which included questions concerning socio-economic characteristics, religion, financial sources, and ways of reducing poverty, consumer preferences, and also perceptions about municipal policies. Table 1 displays the variables characteristics of the questionnaire.

Characteristics of the variables

Variable	Mean	Square deviation	Minimum	Maximum
Endogenous variable				
Trade as a way to evade poverty	0.906	0.290	0	1
Socio-economic variables				
Male gender	0.425	0.495	0	1

Age	35	9.815	19	65
Married	0.401	0.491	0	1
Profession	0.694	0.461	0	1
Family members	4.401	2.746	2	10
Basic education	0.328	0.470	0	1
Primary education	0.528	0.500	0	1
Secondary education	0.129	0.336	0	1
Income in <i>meticais</i>	6125.415	3363.75	855	10000
Religion	0.059	0.237	0	1
Motivation to adopt informal trade				
Child studying at university	0.132	0.340	0	1
No other employment available	0.159	0.366	0	1
Lack of educational skills	0.079	0.271	0	1
Formerly worked in a private company	0.142	0.350	0	1
Small entrepreneur in the informal sector	0.033	0.179	0	1
Activity				
Trades fruits and vegetables	0.495	0.500	0	1
Trades clothes	0.199	0.400	0	1
Trades drinks	0.192	0.395	0	1
Trades varied products	0.096	0.295	0	1

Social responsibility				
Pays taxes	0.269	0.444	0	1
Pays municipal tax	0.697	0.460	0	1

6. RESULTS

The results are presented in table 2 below. Model β parameters relate changes in the X_i explanatory variables to changes in the response probability. While the parameter signs indicate the direction of the relationship, they are not directly interpreted as marginal changes to the mean value of the dependent variable. This is on account of the non-linear form of the distribution function. The model fits the data well. Adopting the global model with $100(e^{\beta}-1)$ transformation, it can be said that each additional income unit of the individual respondents yields an increase of about 0.1% in the likelihood of supporting the perception that informal trades promotes the reduction of poverty.

Table 3 – Estimation results of standard logit and Mixed Logit

Parameter	Standard Logit		Logit with heterogeneity	
	Estimate	Z-stat	Estimate	t-stat
Constant	20.805*	5.85	12.341*	4.12
Gender	0.061	0.13	0.062	0.12

Age	0.024	0.62	0.023	0.63
Married	-0.845*	-3.54	-0.843*	-3.54
Profession	-1.278*	-7.88	-1.271*	-7.88
Family members	-0.220	-9.44	-0.221*	-9.45
Basic education	-19.625*	-6.76	-18.789*	-5.58
Primary education	-20.09*	-9.54	-19.257*	-7.28
Secondary education	-19.280*	-10.27	-18.445*	-7.55
Income	0.0001**	1.97	0.0002**	1.97
Religion	-1.000	-1.13	-1.012	-1.15
CVhild studying at universitary	-0.071	-0.50	-0.070	-0.52
No other employment available	0.238	0.40	0.231	0.41
Lack of educational skills	0.210	0.45	0.310	0.45
Formerly worked in a private company	0.396	0.59	0.358	0.61
Small entrepreneur in the informal sector	0.047	0.05	0.046	0.06
Trades fruits and vegetables	1.797*	9.71	1.785*	9.81
Trades clothes	1.364	1.08	1.352	1.09
Trade drinks	0.370*	2.97	0.358*	2.98

Trades varied products	0.498	0.77	0.521	0.79
Pays taxes	0.769**	2.07	0.760**	2.08
Pays municipal tax	1.057**	2.10	1.027**	2.43
Cut1	–	–	-19.969	-8.53
Observations	301		301	
Wald Chi(2)	344		265.87	
Prob>chi2	0.000*		0.000	
Log likelihood	-77.222		-77.222	
Pseudo R	0.171		0.171	

Note: *Statistically significant at 1%. **Statistically significant at 5%.

The homoscedasticity of the error process is supported by the likelihood test. The Wald chi-square test rejects the hypothesis that the set of coefficients is not statistically different from zero at the 1% level of significance. The asymptotic Z-statistics indicate whether a particular parameter estimate is statistically different from zero, that is, if the variable has an impact on the perception that informal trade is a strategy for evading poverty. The probability of the perception that informal trade promotes a decrease in poverty amongst Maputo informal traders is positively correlated and has several exogenous variables, namely the constant, the gender, age, income, the adoption of the informal trade because there was no other employment available, lack of education skills, formerly worked in a company, small entrepreneur in the informal sector, trades fruits and vegetables, trades cloth, trades drinks, pays taxes and pays municipal tax. The probability of the perception that informal trade promotes a decrease in poverty amongst Maputo informal traders is negatively

correlated with married, profession family members, basic education, primary education, secondary education and religion. What is the meaning of this result? It means that informal trade is a way to evade poverty, as the traders do not possess the educational skills needed to obtain employment in the formal sector. Therefore, informal trade is a sector comprised of low skill individuals who need to obtain an income to survive.

Most of the operators in the *Mukhero* sector are women, whose partner works in the formal sector or practices another kind of informal activity elsewhere. This is the one of the many examples of intersection between the informal sector and the formal one: women engage in such micro-business as a way of complementing income at home, because their partners do not earn enough money to cover the family's expenses on food, education and health. On the other hand, the level of income, compared with that of the formal sector, shows that this activity is more than just an alternative to escape poverty - it is a real business, with many traders earning more than those that work in public administration.

Curiously, informal trade constitutes one of, if not the main, source of municipal government income through municipal taxes. This introduces huge challenges to public policies for urban management and employment. The municipal authorities exercise a low level of pressure on the financial authorities, as they receive this extra revenue from informal commerce. In fact, this informal activity is a result of failures in public policies, which means that the small formal sector is dominated by privileged people, with better education. The formal business arena is dominated by politically connected people (Barros and Chivangue [Forthcoming]). It seems likely, as Mosca (2010) argues, that the informal sector may well be maintained on purpose, as a political strategy for calming social tensions.

The *mukhero* is dominated by fruit and vegetables vendors, and this is the group that crosses over the Ressano Garcia border to buy products in South Africa, in a semi-legal manner. In contrast, the group of drink vendors is the one which illegally crosses the border and within the territory of Mozambique, most of them carry out their trade illegally, but with the complacency of the authorities.

6.1. ROBUSTNESS TESTS

Following on from our analysis, we checked the robustness of the results. Firstly, a check was made to make sure that the results do not change when we use an alternative heterogenous logit model. The Heterogeneous Logit Model was estimated with Stata software, which proved that the parameter estimation is in line with the mixed logit model. Therefore, this robustness test validates the estimated logit model, as the parameters changes are very small. The results are similar to those of the above section and the heterogeneity is small, but statistical significant by the cut coefficient.

7. FINDINGS AND CONCLUSIONS

This paper article has proposed a framework for the analysis of informal trade in Maputo and its impact on decreasing poverty. The analysis was carried out by implementing a logit and a heterogeneous logit model, which overcomes the homogenous hypothesis of

the standard logit model. The results reveal that informal trade decrease poverty, which signifies that informal trade is a strategy for the survival of low skilled individuals. Some of these individuals are young, and therefore the present prevalence of informal trade will persist in the near future. The general conclusion is that poverty decrease through informal trade and that this trade is a clearly well-established strategy in poor African countries, such as Mozambique. Several factors contribute to this subjective evaluation. The policy perspective of this paper is that informal trade should be politically supported, as informal traders pay both government and municipal taxes, and as they only have low skills, no other alternative employment is available. As the modern sector is experiencing skill-biased technological change (Topel 2006), the low skill base of these informal traders means that finding a job is becoming even more impossible. Furthermore, Mozambique's recently adopted improvement of education should be focused on young informal traders, enabling them to improve their educational skills and to giving them the opportunity to exchange informal trade for the formal sector. The relevance of the contribution made by this research to the existing literature on this subject is that our research overcomes the bias towards informal trade that is so prevalent in the African context. The managerial implications of this research is threefold. Firstly, young informal traders should be included in an educational programme that is specifically organised for them by the municipalities, with the aim of increasing their educational skills. Secondly, this educational skills improvement should take into account the heterogeneous nature of the informal trade population. Thirdly, the involvement of the *mukebero* association should be encouraged, as in reality, it acts as the interface with informal traders. In conclusion, this paper analyses the subjective perception that informal trade decrease poverty in Maputo, using questionnaire data undertaken in 2012. Further research is needed to confirm these conclusions.

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