

## **INCOME DIVERSIFICATION AND HOUSEHOLD WELL-BEING IN ILORIN METROPOLIS, NIGERIA**

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This paper examines the impact of income diversification on well-being in Ilorin metropolis, using a collection of household data, household consumption-expenditure per adult equivalent as a measure of well-being, the Simpson Index of Diversity (SID) used in measuring income diversification and a multiple regression analysis. The result obtained indicates that income diversification has no significant impact on household well-being in Ilorin metropolis. Given this result, the following measures were suggested; that the people in the metropolis should engage in other (minor) income generation activities that would augment their main income source, provision of incentives for entrepreneurial development to the people in the metropolis by the government and expanding and improving the existing credit markets, infrastructural and information facilities that would allow for multiple income generating activities in the metropolis.

### **1. INTRODUCTION**

The deteriorating state of the Nigerian economy due mainly to the structural adjustment programme introduced in the mid 1980s, the economic hardship that comes with it<sup>1</sup> and the continuous increase in the rate of poverty from 28.1 per cent in 1980 to about 70.2 per cent in 2003 has made and still make more people in the country to look elsewhere for *salvage* through income diversification (Adeyemi, *et al.*, 2007).

Income diversification often referred to as a risk management and coping strategy meant to cushion the effects of economic hardship cuts across all workforces in the formal sector (public/private sector), as well as, in the informal sector. For instance, studies by Castells and Portes 1989; Ersado 2006; Ijaiya and Chika 2004; Soares 2005; Minot *et al.*, 2006; Schgtman, *et al.*, 2006, discovered that in less developed countries more than 60 per cent of the workforce are engaged in multiple occupations all aimed at cushioning the effects of shocks (economic and agro-climatic), poverty reduction, reduction in income inequality, consumption stability and over all improvement in the standard of living of the households.

If indeed this is the situation, to what extent has income diversification improved the well-being of households in Ilorin metropolis? This is the question this paper sought

answers for, using a collection of household data, household consumption-expenditure per adult equivalent as a measure of well-being, the Simpson Index of Diversity (*SID*) used in measuring income diversity and a multiple regression analysis.

## **2. CONCEPTUAL CLARIFICATION: INCOME DIVERSIFICATION AND WELL-BEING**

### **2.1 Income Diversification**

#### **(a) Meaning**

Income diversification refers to an increase in the number of sources of income or the balance among the different sources of income. When linked to farm and non-farm activities in the rural areas, income diversification is often used to describe expansion in the importance of non-crop or non-farm income. Non-farm income includes both off-farm wage labour/transfers and non-farm self-employment. Thus, diversification into non-farm activities usually implies more diversity in income sources (Reardon 1997; Barrett, *et al.*, 2000; Abdulai and Croce-Rees 2001; Barrett, *et al.*, 2001; Block and Webb, 2001; Deininger and Olinto 2001; Little 2001; Woldenhanna and Oskan 2001; Minot, *et al.*, 2006; Adugna 2006).

#### **(b) Significance of Income Diversification**

Drawing instances from the agrarian society, Minot, *et al.*, (2006) states that most rural households adopt multiple income generating activities in order to manage risk in terms of weather change or other factors, to meet household consumption needs in the face of high transaction costs, to take advantage of positive externalities among activities, and to respond to diseconomies of scale. Diseconomies of scale can, in turn, be caused by land constraints seasonal variation in agricultural labour productivities, and heterogeneous skills in the household (see also Barrett and Reardon 2000).

A number of studies also indicate that households in Sub-Saharan Africa whose households heavily depend on agriculture and related activities also benefited from income diversification. For instance, income diversification through off-farm activities offer an important route out of poverty, provide higher income earning, increase food consumption, generate employment and reduce income inequality (Escobal 2001; Adugna 2006). Ersado (2006) also reiterates that income diversification is a key way of ex-ante risk management or ex-post coping with shocks. And that there are several factors responsible for observed income diversification at the household level. These factors include among others: (i) self-insurance against risk in the context of missing insurance and credit markets; and (ii) an ex-post coping strategy with extra individuals and extra jobs taken because of the decline in income (see also Barrett *et al.*, 2001; Barrett and Reardon 2000).

Very few evidences on the role of income diversification exist in the urban areas. But in most rural areas of developing countries, diversification into non-farm income source is growing and accounts for a considerable share of household income. In an extensive analysis of household survey from 1970s through the 1990s, it was discovered that average non-farm income share was 42 per cent in Africa, 40 per cent in Latin

America and 32 per cent in Asia. Many studies in Africa find positive association between non-farm diversification and household welfare and also discovered that income diversification is a coping strategy use during times of drought (Ersado 2006).

## **2.2 Well-being: Meaning and Determinants**

### **(a) Meaning**

According to Narayan, *et al.*, (2000a, 2000b), well-being is synonymous with good quality of life which include material well-being often expressed as having enough bodily well-being which includes being strong, being in the right frame of mind and looking good; social well-being which includes caring for and settling children; having self-respect, peace, and good relations in the family and the community; having security, which include civil peace, a safe and secure environment, personal and physical security, and confidence in the future; and having freedom of choice and action, which include being able to help other people in the community.

### **(b) Determinants of Well-being**

According to the World Bank (1991), one of the key determinants of well-being in a given country is the presence of stable macroeconomic policies and economic growth. For instance, when there exist sound fiscal and monetary policies in a country this will create a hospitable climate for public and private investment in both socio-economic activities which in turn promote productivity, increases income and the purchasing power of the people and their consumption-expenditure from which the nation's well-being improves.

The ability of individuals to have access to the basic needs of life e.g., food, assets, land, work, health, education, water and shelter also determine well-being. As stated by Lipton and Ravallion (1995) and Narayan, *et al.*, (2000a), adequate food is a universal need for improved well-being. Access to adequate resources, especially land is another universal criterion of well-being. Ability to find a paid work, to obtain money, to buy clothes and to pay for health treatment and school expenses is another important determinant of well-being.

Closely related to the above is Sen's capabilities and entitlements doctrine. According to Sen (1985), as a determinant of well-being, people's capabilities that refers to what people do and can do in their lives is also a determinant of well-being. It also includes things that can lead to a long and healthy life; to be knowledgeable; and having access to the resources needed for a decent standard of living, while entitlements tend to draw the attention of the people away from the mere possession of certain goods toward human rights and the command over the use of goods and services and the use of various economic, political and social opportunities within the legal system.

Having access to state-provided infrastructural facilities is an essential criterion for well-being. As observed by Ward (1999), infrastructural services e.g., road, water and electricity are significant because economic and social infrastructure is an essential overhead capital (a key element in national wealth). For instance, private firms will not get established, nor function effectively and efficiently where the infrastructure which

provides the basic mechanism remains dysfunctional, disconnected, run down and inadequate. In the same vein, public assets that generate directly real consumption service flows that benefit the people will be insignificant to the overall quality of life of the people most especially women.

The existence of good governance in any society is also a pre-condition for improved well-being, since good governance allows for civil and economic liberties. Civil liberties, such as the freedom of individual expression, a pluralistic and free media, the ability of groups to organize and freedom of dissent and criticism are essential since they facilitate greater citizen voice and enhance more effective government action on development. On the other hand, economic liberties would foster entrepreneurship, market activities and economic growth for the improvement of well-being to take place since there could be fewer regulations and fewer obstacles to individual economic opportunities (Boeninger 1991; Brautigam 1991; Landell-Mills and Serageldin 1991; and Isham, *et al.*, 1997; Ijaiya 2006).

The significance of these determinants to the quality of life of the people in a particular country can be drawn from the annual performance of some key socio-economic indicators like the rate of poverty, life expectancy at birth, adult illiteracy, access to health, access to safe water, access to sanitation, infant mortality rate, prevalence of malnutrition, per capita income, inflation rate, external public debt, etc. As indicated in Table 1, the level of well-being in Nigeria has not shown any remarkable improvement when viewed from these indicators and when compared with some countries in Africa. For instance, apart from the early 1980s when the nation's per capita income witnessed an increase the situations in the 1990s and early 2000 were pathetic. The life expectancy at birth (years) did not provide a better level of well-being in the country (51.9 years in 2001), more so when compared with those of countries like Mauritius, Tunisia and Libya that had 71.7, 70.6 and 70.7 years in 2001 respectively (ADB 2003).

Table 1  
Socio-Economic Indicators in Nigeria - 1970-2001

Year	Access to health care (%)	Access to water care (%)	Adult illiteracy (%)	Access to sanitation (%)	Life expectancy at birth (Years)	Per capita Income (\$)	Infant mortality (Per 1000)	Daily caloric Intake (Per capita)
1970-74	-	-	89.7	-	43.2	350.0	-	-
1975-79	-	-	84.9	-	45.3	660.0	122.0	1962
1980-84	40.0	-	67.1	-	47.4	410.0	112.0	1903
1985-89	40.0	15.9	59.2	62.1	49.2	270.0	102.0	2291
1990-95	67.0	40.0	51.4	63.3	50.4	220.0	93.4	2656
1995	-	49.9	43.6	57.3	51.1	210.0	91.6	2802
1996	-	-	42.1	-	51.2	250.0	89.8	2772
1997	-	-	40.6	-	51.3	270.0	88.0	2779
1998	-	-	39.1	-	51.5	260.0	86.2	2828
1999	-	-	37.6	63.0	51.6	250.0	84.4	2833
2000	-	-	36.1	63.0	51.8	260.0	82.6	-
2001	-	-	34.7	-	51.9	290.0	75.1	-

Source: ADB 2003

### **3. STUDY AREA AND METHODOLOGY**

#### **3.1 Study Area**

Ilorin is located some 300 kilometers from Lagos and 500 kilometers from Abuja the Federal Capital of Nigeria and on Latitude North 8°30' and Longitude East 4°35' of the Equator. The city is situated in the transition zone between the forest and savanna regions of Nigeria. Presently the city is the capital of Kwara State of Nigeria and has an estimated population (by 1991 census figure) of about 572,178 people (Adedibu 1988; NPC 1993).

#### **3.2 Methodology**

##### **(a) Data Source**

In addition to the use of secondary data, a survey aimed at generating primary data on the impact of income diversification on well-being in Ilorin metropolis was conducted between the month of January and February 2006 through the distribution of copies of questionnaire and Quantitative Social Assessment of Income Diversification (QSAID). The questionnaire was based on the World Bank Living Standards Measurement Study (LSMS) and the Nigeria's National Bureau of Statistics' National Integrated Surveys on Households, which among other things provided a comprehensive monetary measure of welfare and its distribution and the description of the patterns of access to social services. The QSAID provides more in-dept information on the perceptions, experiences and constraints to income diversification (Grootaert 1986; Minot *et al.*, 2006).

##### **(b) Sample Selection Method**

A stratified sampling method was used in the selection of the respondents for this study. For the purpose of this study, 11 locations within the metropolis served as the sample units<sup>2</sup>. In accordance with those samples units, structured questionnaire was distributed to about 193 heads of households in the metropolis of which 170 responded. The issues raised in the questionnaire include the background of the respondent (i.e., age, gender, marital status, educational and employment status, household size and composition), housing characteristics, consumption-expenditure, income level and source(s) including which source(s) have become more or less important over time and perception of the important income source(s), perceptions and experiences regarding income diversification, the role of the government in promoting new economic activities, including questions about the types of assistances offered, the usefulness of the assistance, and how the government could best contribute to income diversification and improve well-being.

##### **(c) Data Analysis**

Both qualitative and quantitative methods were used in analyzing the data collected for the study. The qualitative analysis was based on the perception of the respondents in order to determine the impact of income diversification on wellbeing in Ilorin metropolis. The quantitative method comprises the use of descriptive analysis, household consumption-expenditure per adult equivalent as a measure of well-being, the Simpson

Index of Diversity (SID) used in measuring income diversity and a multiple regression analysis in determining the impact of income diversification on well-being in Ilorin metropolis.

Descriptive statistics such as percentile was used in describing the socio-demographic characteristics of the respondents. The analysis of well-being adopted the household consumption-expenditure per adult equivalent scale. The most commonly used is that of Organization for Economic Co-operation and Development (OECD), because of its simplicity of use and wide familiarity. This scale is expressed as follow:

$$EXPeq = EXP/n^{0.7} \quad (1)$$

Where:

$EXP$  = total household expenditure

$n$  = household size

0.7 = exponential formation representing other adults in a particular household (Grootaert and Braithwaite 1998).

The analysis of income diversification in this study is in line with that adopted by Minot, *et al.*, (2006) that views income diversification as multiple sources of income. Typical of such method is Simpson Index of Diversify defined as:

$$SID = 1 - \sum P_i^2 \quad (2)$$

Where:

$P_i$  = the proportion of income coming from source

The value of  $SID$  always falls between 0 and 1. If there is just one source of income  $P_i = 1$ , so  $SID = 0$ . As the number of sources increases, the shares of ( $P_i$ ) declines, as does the sum of the squared shares, so that  $SID$  approaches 1. If there are  $k$  sources of income, then  $SID$  falls between zero and  $1 - 1/k$ .

Starting with the specification of model, a multiple regression analysis of the Ordinary Least Square (OLS) is used in testing the relative contribution of income diversification on well-being in Ilorin metropolis. Following Minot *et al.*, (2006) method of estimation, the model is therefore stated as:

$$WB_i = f(ID_i, HHc_i) \quad (3)$$

Where:

$WB_i$  = well-being of individual head of household proxied by consumption-expenditure per adult equivalent.

$ID_i$  = measure of individual head of households income diversification proxied by Simpson Index of Diversify.

$HHc_i$  = the vector of household characteristics represented with the following equation:

$$HHc_i = f(Hhs_i, GHhH_i, Loca_i, Age_i, Mastus_i, Houc_i) \quad (4)$$

Thus, when equation (4) is substituted into equation (3), equation (3) then becomes:

$$WB_i = f(ID_i, Hhs_i, GHhH_i, Loca_i, Age_i, Mastus_i, Houc_i) \quad (5)$$

With a multiple linear relationship such as:

$$WB_i = \beta_0 + \beta_1 ID_i + \beta_2 Hhs_i + \beta_3 GHhH_i + \beta_4 Loca_i + \beta_5 Age_i + \beta_6 Mastus_i + \beta_7 Houc_i + U \quad (6)$$

Where:

$Hhs_i$  = household size of individual head of household.

$GHhH_i$  = gender of the head of household. Binary variable 1 for household headed by male and 0 for otherwise.

$Loca_i$  = location of the residence of individual head of household. 1 for traditional settlement and 2 for modern settlement.

$Age_i$  = age of individual head of household.

$Mastus_i$  = marital status of individual head of household. 1 for single, 2 for married, 3 for divorced, and 4 for separated.

$Houc_i$  = housing characteristics. 1 for single room apartment, 2 for two-room apartment and 3 for flat/bungalow.

$\beta_0$  = the intercept.

$\beta_1, \dots, \beta_7$  = estimation parameters.

$U$  = disturbance term.

To estimate the model, a multiple linear regression analysis was used in order to reflect the explanatory nature of the variables. To verify the validity of the model, two major evaluation criteria were used: (i) the *a-priori* expectation criteria which is based on the signs and magnitude of the co-efficient of the variables under investigation; and (ii) statistical criteria based on statistical theory which in other words is referred to as the First Order Least Square Test, consisting of *R*-square ( $R^2$ ), *F*-statistic and *t*-test. The *R*-square ( $R^2$ ) is concerned with the overall explanatory power of the regression analysis, the *F*-statistic is used to test the overall significance of the regression analysis and the *t*-test is used to verify the significant contribution of each of the independent variables (Oyeniyi 1997).

Drawn from the model, our *a-priori* expectations or the expected pattern of behaviour of the independent variables (income diversification and the vector of household characteristics) on the dependent variable (well-being) were:

$$\beta_1 > 0; \beta_2 < 0; \beta_3 > 0; \beta_4 > 0; \beta_5 > 0; \beta_6 > 0; \beta_7 > 0.$$

#### 4. RESULTS AND DISCUSSION

##### Socio-Demographic Characteristics of the Respondents

The socio-demographic characteristics of 170 respondents in Ilorin metropolis included in the analysis are presented in Table 2.

**Table 2**  
**Socio-Demographic Characteristics of the Respondents**

<i>Characteristics</i>	<i>Percentage (%)</i>
a. Location of the Respondents	
Traditional Settlements	45.9
Modern Settlements	54.1
b. Gender of the Respondents	
Male	57.1
Female	42.9
c. Age of Respondents	
Below 30	25.4
31- 40	44.6
41-50	28.2
Above 50	1.8
d. Marital Status of Respondents	
Single	11.2
Married	88.8
Divorced	-
Widow	-
e. Household Size of the Respondents	
1-5	49.9
6-10	46.5
More than 10	3.6
f. Main Occupation of Respondents	
Unorganized Private Sector (Informal Sector) Employed	13.8
Organized Private Sector	26.2
Organized Public Sector	60.0
g. Other Secondary Occupations	
None	52.1
Farming	2.0
Trading	15.1
Transportation (Taxi/ Bus/ Motorcycle)	30.8
h. Educational Status of Respondents	
No school	5.2
Primary school	7.1
Secondary school	58.9
Tertiary	28.8

Source: Authors' computation 2008

The survey conducted on the respondents in Ilorin metropolis indicated that 45.9 per cent of them live in the traditional settlements, and 44.8 per cent of them fall within the 31-40 years age bracket, with 88.8 per cent of them married. About 57.1 per cent of them are males, with 46.5 per cent of them having a household size of between 6 and 10. The survey also indicated that 60 per cent of the respondents are engaged in the organized public sector, with 52.1 per cent of them not engaged in any other occupation than their main job and only 7.1 per cent of them having a minimum of primary school education.



### Results of the Multiple Regression Analysis of Income Diversification and Well-being in Ilorin Metropolis

The results of the multiple regression analysis conducted at 5 per cent level of significance are presented in Table 3. These results are further confirmations of the link between income diversification and well-being in Ilorin metropolis.

Table 3  
Multiple Regression Results of Income Diversification and Well-Being in Ilorin Metropolis

Explanatory variables	Co-efficient and the <i>t</i> -values
Intercept ( <i>t</i> )	7.99 (15.7)
ID, ( <i>t</i> )	-0.62 (-2.18)*
HhS, ( <i>t</i> )	-0.0099 (-4.50)*
GHH, ( <i>t</i> )	-0.31 (-2.14)*
Loca, ( <i>t</i> )	-0.0049 (-0.39)
Age, ( <i>t</i> )	0.0034 (3.33)*
Mastus, ( <i>t</i> )	0.62 (2.50)*
Houc, ( <i>t</i> )	-0.0099 (-4.50)*
R <sup>2</sup>	0.48
F	6.95
No. of Observations	170

\*Significant at 5 per cent level of significance.

A look at the model shows that it has an R-square of 0.48. This shows that 48 per cent variation in the dependent variable (well-being) is explained by the explanatory variables (income diversification) and the vectors of household characteristics of the respondents in Ilorin metropolis, while the error term takes care of the remaining 52 per cent, that are variables in the study that cannot be included in the model because of certain qualitative features. At 5 per cent level of significance, the *F*-statistic shows that the model is useful in determining if any significant relationship exist between income diversification and well-being in Ilorin metropolis, as the computed *F*-statistic of 6.95 is greater than the tabulated *F*-statistic valued at 1.94.

Holding the vectors of household characteristics constant, the co-efficients and the associated *t*-values of income diversification is inversely related to well-being in Ilorin metropolis which is contrary to our expectation. Though, statistically, income diversification is significant at 5 per cent level, the result of the *a-priori* expectation indicates that income diversification has no significant impact on household well-being in Ilorin metropolis. Reasons established for this could be linked to the following factors: (i) Ilorin metropolis is an urban settlement with most of its people working in the public sector that is regarded as a more stable job with less risk of job lost unless after retirement; (ii) the level and types of income diversification activities [which usually depend on accessibility and availability of different income source (s)] are limited, more so most people do not engage in other jobs because of lack of time to monitor the businesses and lack of trust of whoever is employed to over see the business in case the owner is away; and (iii) the types of risk (e.g., natural disaster) that could prompt the need for other source(s) of income by the households is also limited in the metropolis.