Determinants and Implication of Moonlighting on Subjective Wellbeing among Migrants in South Africa

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Thematic research on economic and socio-economic consequences of migration on service delivery in South Africa

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Abstract
Empirical works on migration have established that there is positive self-selection among migrants, and labour supply models have provided theoretical underpinnings of moonlighting³ behaviour among individuals. Despite the wealth of research on migration and subjective wellbeing, the issue of moonlighting and its plausible welfare implication among migrants has no traces in the empirical literature. Using the National Income Dynamic Survey (NIDS) Panel dataset, this paper, first, seeks to establish the existence of moonlighting among migrants using a logit regression model. Based on the labour moonlighting models, which are extensions of the dynamic labour supply model, the study proposes to examine the key determinants of moonlighting, and finally, using a multinomial logit model, to assess the implication of moonlighting on subjective wellbeing among migrants. This study seeks to provide empirical justification to the decline in subjective wellbeing among migrants as compared to their non-migrant counterparts in South Africa as observed by earlier studies. Additionally, it is essential within the policy space, since migration is the major contributing factor to urbanization in South Africa. Therefore, understanding the dynamics of the migration trajectory; economic activities among migrants, with specific focus on moonlighting, and its implication on welfare is very vital to policy reforms to achieve a triple win between the migrant, host and origin countries.

Keywords: Moonlighting; Migration; Immigrants; Subjective Wellbeing; Labour Supply.

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³ Moonlighting refers to holding multiple jobs (i.e. having more than one job) in addition to one's primary job. This is a situation where an individual maintains primary employment and engages in additional work for pay (Baah-Boateng et al., 2013; Betts, 2011; Shishko & Rostker, 1976).
1. Introduction

Within the scope of migration research, there exists chunk of empirical evidence that shows positive self-selection among migrants (Aguilar Esteva, 2013; Andersson, 2014; Bertoli, 2010; Ibarra-Ran & Lubotsky, 2011; Kollamparambil, 2017; Nontenja & Kollamparambil, 2018; Orrenius & Zavodny, 2005). Undoubtedly, this partly explains why productivity levels among migrants is higher than their non-migrant counterparts, due to increased motivation to work more in order to increase their returns on migration as a human capital investment. Despite the above assertion, recent studies have found a decline in subjective wellbeing among migrants, even with a rise in earnings, compared to their households left-behind (Mulcahy & Kollamparambil, 2016). It is therefore imperative to conclude that there is not always a positively strong correlation between earnings and subjective wellbeing. A plausible consideration for such conclusion could be traced to low social capital, and the lack of frequent engagement with migrants’ families left-behind. Thus, it is inconclusive for Human Resource research to confirm a positive ripple effect of intrinsic rewards, job satisfaction and improved welfare, with no focus on leisure as a determining variable, due to its implication on the welfare of employees, irrespective of their migration status.

Despite the nuances in existing migration theories in terms of conceptualization, there are general consensus and synergies in their conclusions that view migration as a human capital investment (Constant & Massey, 2002; Kumpikaitė & Žičkutė, 2012; Kurekova, 2011; Massey et al., 1993). In the quest to fully understand the migration trajectory among individuals, these existing theories tracing from the Neoclassical theories on migration view the phenomenon as a permanent human capital investment, which therefore deduced that an indifferent individual is more likely to migrate, if his/her expected earnings at host country is higher than the existing earnings in the country of origin (Constant & Massey, 2002; Kumpikaitė & Žičkutė, 2012; Massey et al., 1993). In a similar vein, the New Economics of Labour Migration (NELM) views migration as a temporal household decision to diversify risk, as a result of market failure. In effect, the decision to migrate is a form of risk diversifying strategy for the entire household, to alleviate any form of economic, socio-political and environmental risks. Thus, such decision must be carefully assessed in terms of its cost and expected benefits to the entire household. These existing theories of change conclude that migration is influenced by some cofounding factors at both the host and origin countries, as well as personal factors by the individual. Lee (1966) models this as push-pull factors of migration in a simple framework.
While the core decision by prospective labour migrants is deep-rooted in economic motives, understanding the welfare of these migrants in their host nation is very important in several ways. First, it informs the choices made by migrant households left-behind in terms of their economic status through consumption, investment and welfare. Also, this serves as a signalling tool to other aspiring migrants, as well as a clear information on choices of destination countries by prospective migrants. Existing studies on migration and subjective wellbeing produced nuanced results with little consensus. While some studies observed a positive relationship between migration and subjective wellbeing (Kettlewell, 2010), others found negative link (Knight & Gunatilaka, 2016; Mulcahy & Kollamparambil, 2016), with some selected few possessing a neutral stand (Ackah & Medvedev, 2012). In the case of South Africa, despite the rise in earnings among migrants, there is a decline in subjective wellbeing, compared to their non-migrant counterparts (see Mulcahy & Kollamparambil, 2016), albeit, the picture on what actually leads to this decline is unclear. This study proposes to examine the nature of jobs, determining factors of moonlighting behaviour, as well as its implication on wellbeing among migrants.

Most studies that empirically assessed the impact of migration on wellbeing actually focused on migrant households, with remittances as a determining variable for wellbeing. A few that considered wellbeing at the migrants’ viewpoint incorporated very important variables like social capital (Mulcahy & Kollamparambil, 2016), however, this study failed to consider an equally important variable - multiple job holdings among migrants - moonlighting. This could be attributed to paucity in data. Moonlighting, as explained by labour economists is the ability to hold more than one job (Averett, 2001; Baah-Boateng et al., 2013; Dickey et al., 2011; Kimmel & Powell, 1999; Suntory & Disciplines, 2019; Sussman, 1998). Even though moonlighting is common in both developing and developed countries (Averett, 2001; Baah-boateng et al., 2013; Dickey et al., 2011; Kimmel & Powell, 1999; Sussman, 1998; Timothy & Nkwama, 2017), the phenomenon is quite unique with little Eurocentric outlook in developing countries, since it has taken a swing towards the informal economy in the form of business setups among these individual migrants. Studies confirm that motives to moonlight among the young population is driven by financial, unlike the aged with longer years of experience who moonlight for pecuniary motives (Dickey et al., 2011).
Examining how moonlighting among migrants affect their subjective well-being is highly essential for both policy and research. Moonlighting is deep-rooted in labour economics theories to measure the economic performance at individual, household and country levels. Existing labour supply theories established a link between work-leisure hours and earning (Killingsworth & Heckman, 1986; Pencavel, 1986). Both static and dynamic labour supply models demonstrated how an individual’s time is traded between leisure and work. The leisure component has been found to be strongly correlated with individual's well-being - improvement in welfare (Hausman, Jerry, & Rand, 1984; Moore, 1971). However, closer works on moonlighting ignored the welfare implications, but provided substantial evidence on the main determinants (Baah-Boateng et al., 2013; Timothy & Nkwama, 2017). Selected few also examined the motives, as well as how moonlighting affects productivity on primary jobs, with a hand-full on the legal aspects of holding multiple jobs (Averett, 2001; Dickey et al., 2011).

Irrespective of this wealth of literature, there are no traces of studies on moonlighting among immigrants to the best of our knowledge. Owing to the fact that the literature singled out economic reasons as a major predictor of migration, it is very imperative to examine the dynamics of labour supply among immigrants in order to provide both theoretically robust, and empirically relevant explanation on the subject. A study on moonlighting provides empirical justification to existing labour supply theories with much focus on how the labour supply is responsive to changes in the wage rate. This also gives a deeper understanding of how existing budget and labour supply constraints alter the behaviour of individuals in labour supply decision making (see Conway, Kimmel and Kimmel, 1992). This study therefore combines both theoretical arguments with empirical evidence on immigrants engaging in moonlighting in the case of South Africa, in order to provide a better understanding on the subject – migrant subjective well-being.

Studies on moonlighting in South Africa assessed how agency and moonlighting affect the health of nurses (Rispel & Blaauw, 2015). While the paper argues that moonlighting adversely affects the health of nurses and also increases the propensity of taking sick leave, the findings is conflicting since there is lack of causality due to methodological challenges. Moreover, relying on a cross-sectional data with smaller sample for such analysis will lead to a flawed conclusion. This is reflected in a subsequent study by Rispel, Chirwa, & Blaauw (2015) which concludes that “The odds of intention to leave was 1.40 (95% CI: 1.16-1.69) times higher for moonlighters than for non-moonlighters”. Provided that the same authors carried out this study
with such a conflicting finding, this assertion indicates how different studies on moonlighting and welfare provides nuanced conclusions. A plausible reason aside context is the fact that first, there are several determinants of moonlighting. It is profound that the high level of inequality in South Africa does not exclude migrants groups which may be attributed to both pre-migration preparations, realities after the migration trajectory and labour market conditions in South Africa, given the differences in socio-demographic and socioeconomic characteristics like sex, race, educational levels, income groups, nationality and migration status. Additionally, the informal and private household sectors which are mostly dominated by low skilled migrants are characterized with lower salaries and wages with zero contract without any form of job security. This poses migrants to double vulnerability risks, first as a migrant and second as a low skilled worker. Combining with the migrant status of an individual in South Africa means there is the need to undertake a panel study with robust methodology to control for both observed and unobserved characteristics.

This is very essential within research and policy circles, since migration has become the major determinant of urbanization in South Africa, thereby making the country a major migrant-receiving country within Southern Africa Development Cooperation (StatSA, 2018). The study seeks to achieve the following: first, to establish moonlighting among immigrants, with the intent to examine its key determinants, and the differences thereof, among migrants and non-migrants. Second, to examine the implication of moonlighting on the subjective wellbeing of migrants. The structure of the paper is as follows: Section (2) presents a review of labour supply theories. This is followed by section (3) focusing on the data and descriptive statistics. Section (4) presents the empirical strategy. Following section (4), results are presented in section (5), and concludes with section (6) with summary of findings and policy implications.

2. Theoretical review
Relevant theoretical works underpinning moonlighting behavior of employees in the labour market can be traced to the seminal work of Shishko and Rostker (1976), who extended micro-economic theories and the demographic profiles of individuals to explain the supply curves of moonlighters. It is important to highlight that moonlighting in labour supply is a build-up on already existing static and dynamic labour supply theories tracing from the simple static labour supply model (Killingsworth and Heckman, 1986). The static model posits that an individual’s
well-being (utility) is dependent on his/her taste, price of consumer goods and the hours of leisure consumed at a given period. This means that an individual is constrained between spending his/her time (24 hours) on leisure or work, in that, in order to increase the consumption of composite market goods, there is the need to reduce the hours of leisure since his/her income depends on the hours spent working. This perfectly resonates with the assertion of Arrow and Hahn (1971) that, economic agents may be taken to arrive at a decision in the light of what they want and what they actually get.

In simple terms, individuals maximize their utility subject to a constraint, which mimics the fundamental problem in economics – scarcity. An individual who values leisure reduces his/her hours of work and increases hours of leisure. This also means that, less of market goods are consumed, since a reduction in hours of work means less income is earned. In effect, an individual’s decision to first, participate in the labour force, and supply labour is dependent on his/her reservation wage, existing wage for work, and how s/he views work and leisure (normal, inferior or superior good). This trade-off in labour choice decision making is grouped into both income and substitution effects, which leads to the derivation of a backward bending labour supply curve. The model therefore concludes that, even though, the existing relationship between the labour supply of an individual and the predictors which include wages and property income may be statistically significant, there are other unobserved factors that possess explanatory powers in explaining an individual’s decision to work or have more leisure. Even though the simple static labour supply model has played significant role in providing theoretical backings on the individual’s behavior in choice making between leisure and consumption of market goods, given the constraints, the model also pose series of empirical complications, which have been summarized into both discouraged-worker-effect and added-worker-effect, given the existing business cycles and rates of unemployment (see Lundberg, 1985; Mcfadyen and Hobart, 1978; Wachter, 1972).

Critics highlight loopholes in some of the key pointers of the simple static model which assumes the consumption of single commodity and the fixed nature of time, however, in the real world, these assumptions do not hold, thus, the issue of discouraged-worker-effect and added-worker-effect. The former posits that the proportion of job seekers generally falls during periods of higher unemployment. Added-worker-effect on the other hand indicates that labour force participation rate among married women whose husbands are unemployed generally increases as compared to their counterparts whose husbands are employed. This notion is in
line with both the family-labour choice and the male-chauvinist models which asserts that men are income generating assets for their wives. Hence, during periods of unemployment, there is a fall in the non-labour income received by women thereby increasing the likelihood of women participating in the labour force (Saget, 1999; Steiner, 2004; Vlasblom, De Gijsel, & Siegers, 2001). The model also ignores long-run period in making labour supply decisions without incorporating taxation on wages and income of individual workers.

Following the theoretical and empirical limitations of the simple static labour supply model, there has been a drift to dynamic labour supply models, which are extensions of the fundamental theory. Key among them is the moonlighting model, which is the focus of discussion in this paper. This phenomenon has become very important in examining what forms part of the decision to hold multiple jobs, and how this affects the well-being of the individual migrant. Becker (1965) clearly states that individual’s utility does not necessarily depend on market goods, time allocated for work or leisure, but rather, commodities or activities. An individual therefore accepts an offer for second job if the wage of the job is greater than the marginal rate of substitution of income for leisure for the first job (Shishko and Rostker, 1976). The theory added that, assuming the existing wage paid for the second job exceeds the wage rate for the primary job, depending on the tastes and preference of the individual, s/he is likely to trade-off more hours for the second job than the primary job. A plausible reason why some workers switch their avocation to vocation (Shishko and Rostker, 1976). This resonates with the dynamics of moonlighting in a developing country viewpoint, where Baah-Boateng et al. (2013) provided empirical justification on how individuals who moonlight eventually exit the labour force to be self-employed. However, the decision to moonlight is dependent on the relative wage rate of both the primary and secondary jobs, the nature of contractual agreement on primary job, reservation wage and how the individual perceives leisure (inferior, normal or superior good). This is depicted in the equations below.

\[
\text{Wellbeing} = W(C_{it} L_{it})
\]  

(1)

Equation 1 above indicates that individual’s utility is a function of the amount of composite market goods \((C)\) and leisure \((L)\) consumed, at a given period of time. In equation (2), we demonstrate that an individual’s consumption is dependent on his/her non-labour income \((V)\) and wages \((w)\) from all hours of work \((H)\), as represented in eqn. (2) below.

\[
C_{it} = C(w_1 H_1 + w_2 H_2 + \ldots + w_n H_n + V)
\]

(2)
This wellbeing function in equation is maximized subject to the constraint in equation (3)

\[ PC_{it} \leq V_{it} + \sum_{i=1}^{n} w_{it} H_{it} \]  

Thus, we maximize eqn. (4) subject to the constraint in eqn. (3) above which reads as individual’s total expenditure, \( PC_{it} \) is the sum of his/her earnings from all jobs (\( \sum_{i=1}^{n} w_{it} \)) and a his/her non-labour income, at a defined period of time.

\[ T = L + H_{1} + H_{2} + \ldots + H_{n} \]  

It is important to also indicate that, as an extension of the simple static labour choice model, the assumption that an individual’s total time available (T) is shared between work and leisure. Therefore, we state in eqn. (4) above that an individual moonlighter shares his/her time between leisure (L) and work (H). While rational economic behavior presents that individuals only moonlight for nonpecuniary motives, Shishko and Rostker (1976) established that an individual will moonlight if s/he is constrained in the number of hours to offer on the primary job. This signifies that an individual cannot exceed a certain assigned hours (H) and thus, restricted in earnings (wH). Another motive to moonlight is caused by the presence of heterogeneous jobs. This occurs when both the primary and secondary job possess different nonpecuniary benefits and costs.

3. Data and descriptive statistics

The study draws on a panel dataset from the National Income Dynamics Study (NIDS). This survey, being the first national panel study in South Africa, has been carried out by the Southern Africa Labour and Development Research Unit (SALDRU). The first survey year began in 2008 with a nationally representative sample of over 28,000 individuals in 7,300 households across the country. Given the repeated nature of the survey, after every two years with the same units of households interviewed, the dataset can provide a reliable report for panel analysis. NIDS surveyed each household five times after every two years, beginning from 2008 to 2016.

This dataset is well suited for the analysis in this study since it possesses detailed information on both migrants and non-migrants who reported both their labour and non-labour income, as well as job-specific information for up to two jobs in each wave. There is also information on whether an individual is self-employed or personally engaged in agricultural activities, with corresponding earnings from all respective jobs. A fundamental advantage using the NIDS
dataset is the fact that the sample is nationally representative. One drawback of this dataset is that, it does not ask why individuals hold more than one job, however, based on the motives highlighted by Shishko and Rostker (1976), in addition to other socio-demographic variables at the individual and household levels, we are able to deduce the determinants of moonlighting and its implication on subjective well-being.

4. **Empirical strategy and variables of interest**

The study will employ a panel dataset due to suitability for the analysis in this study. Such dataset should provide detailed information on both immigrants and non-immigrants who report both their labour and non-labour income, as well as job-specific information for up to two jobs. There should also be information on whether an individual is self-employed or personally engaged in agricultural activities, with corresponding earnings from all respective jobs. A fundamental advantage using such dataset is the fact that the sample will be very rich aside it being nationally representative.

This study seeks to achieve two main objectives. The first part estimates the determinants of moonlighting among individuals (both immigrants and non-immigrants) in South Africa, using a Logit regression model. The outcome variable, 'Moonlight' measures the probability that a migrant moonlight or not, given the control variables and other covariates. The reduced-form model is estimated in equation (5) below:

\[
p(\bar{x}) = P(Y = 1 | \bar{x})
\]

\[
Y_i = \{ 1 \text{ if the migrant moonlights, } 0 \text{ if otherwise}\)
\]

where \( P(Y = 1) \) from equation (5) represents the probability of moonlighting or not, given the covariates \( \bar{x} \), where \( \bar{x} \) consists of vector of predictor values such as socio-demographic and economic indicators. Given that the moonlighting variable (Moonlight\(_i\)) is binary, modeling \( p(\bar{x}) \) means modeling \( E(Moonlight_i | \bar{x}) \), which reads as the probability to moonlight or not, given the covariates. The estimated covariates, \( p(\bar{x}) \) represents series of variables grouped into control variables, weather and socio-economic variables. They can be expanded as;
\[
\beta_0 + \beta_1 \text{Age}_i + \beta_2 \text{Male}_i + \beta_3 \text{Educ}_i + \beta_4 \text{Race}_i + \beta_5 \text{Married}_i + \psi_1 \text{PreIncome}_i
+
\psi_2 \text{Dependents}_i + \psi_3 \text{Sector}_i + \psi_4 \text{Primary\_Job\_Time}_i
+ \psi_5 \text{Poverty\_rate}_i + \epsilon_i
\] (6)

The above equation estimates the expected probability that a migrant moonlight where \( P(Y = 1) \), for given values of the covariates \( x_1, ..., x_p \). The logistic regression model then estimates the odds that the likelihood that a migrant moonlight, given the independent variables by using the Maximum Likelihood Estimation (MLE) technique. (see equations 7 and 8 below),

\[
\prod_{i=1}^{n} \left\{ p(\tilde{x}) \text{Moonlight}_i [1 - p(\tilde{x})]^{1-\text{Moonlight}_i} \right\}
\] (7),

which represents an expression as;

\[
P(\text{Mig}_i = \text{Moonlight}_1, ..., \text{Moonlight}_n = \text{Moonlight}_n | \tilde{x}_1, ..., \tilde{x}_n) \] (8).

The explained variable \( \text{Moonlight}_i \) is binary, taking the value of 1, given the probability that the individual moonlights, and 0 if otherwise. The explanatory variables \( X_i \) represents the socio-demographic characteristics and other confounding variables that influence moonlighting among migrants. These Socio-demographic factors include age, sex, marital status, race, , education levels of prospective moonlighters. \( \beta_i \) and \( \psi_i \) captures the intensive margin estimates of the extent to which the above-mentioned factors explain the likelihood to moonlight, whereas \( \epsilon_i \) which represents the error term captures other unobserved characteristics. The underlying assumption is that, variations in these confounding factors are uncorrelated with the unobserved factors of moonlighting, and these are equally orthogonal to Province and/or district municipal level conditions in South Africa.

The purpose of this is to highlight the dynamics of moonlights across different categories of people, in order to draw out a control and treatment group for the second part of the paper which addresses the implication of moonlighting on the subjective well-being of migrants. Thus, the appropriate identification strategy for the first research objective is a multinomial logistic regression model. Given the categorical nature of the dependent variable (subjective wellbeing), the multinomial logistic model will be used to predict the likelihood of being happy, given a migrant moonlighting status while we control for other confounding factors. Compared to other estimating models, multinomial logistic model is chosen over the conventional Ordinary Least Square (OLS) and Logit models due to the categorical nature of the dependent variable. Also, unlike discriminant function analysis, this model does not
assume normality, linearity, or homoscedasticity, thus, it is seen as an attractive approach (Hedeker, 2003; Kwak & Clayton-Matthews, 2002). Below is the illustration of multinomial logistic regression where vectors: \( Y = (y_1 + \ldots + y_{1+k})^T \) where \( y_i = 0 \) for all \( i \) where \( y_j = 1 \) with a corresponding probability \( p_j \). In effect, multinomial model is given as

\[
P_i = \frac{\exp(Z^{(i)}^T x)}{1 + \sum_{j=1}^{k} \exp(Z^{(j)}^T x)} \quad \text{for } i = 1, \ldots, k \quad (9)
\]

\[
P_{k+1} = \frac{1}{1 + \sum_{j=1}^{k} \exp(Z^{(j)}^T x)} \quad (10)
\]

Where \( x = (x_1 + \ldots + x_m)^T \) represents set of covariates, with \( Z^{(i)} \) representing parameters to the \( i \)-th outcome category. Below is the maximum likelihood estimation

\[
\log \prod_{j=1}^{k+1} p_j^{y_j} = 1 + \sum_{j=1}^{k} y_j Z^{(j)}^T x - \left[ 1 + \sum_{j=1}^{k} \exp(Z^{(j)}^T x) \right] \quad (11)
\]

In equation (9), \( Z = (Z_1^{(1)}, \ldots, Z_m^{(1)}, \ldots, Z_1^{(k)}, \ldots, Z_m^{(k)})^T \) represents the \( mk \) parameters of where the upper limit corresponds with the outcome category and the lower limit corresponding with the covariates.

### Table 1  Summary of variables of interest and their description

<table>
<thead>
<tr>
<th>Variables</th>
<th>Description and Possible sign</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moonlighter</td>
<td>Dependent variable for holding more than one job. Dummy variable where 1=moonlighting and 0 otherwise</td>
</tr>
<tr>
<td>Male</td>
<td>Dummy variable where 1=Males and 0 is female (+)</td>
</tr>
<tr>
<td>Age</td>
<td>Categorical variable that includes only the working age group from 15 to 65 (+/-)</td>
</tr>
<tr>
<td>Age square</td>
<td>This variable will be generated from the variable ‘age’ which measures experience (+/-)</td>
</tr>
<tr>
<td>Race</td>
<td>Categorical variable: Black, Coloured and White. Black is the reference category (+)</td>
</tr>
<tr>
<td>Married</td>
<td>Dummy variable where 1=Married and 0 is Not Married (+)</td>
</tr>
<tr>
<td>Migration Status</td>
<td>Categorical variable: Non-migrant, internal migrant and international migrant. Non-migrant is the reference category (+/-)</td>
</tr>
<tr>
<td>Education</td>
<td>Categorical variable: No education, Matric, Secondary and Post-Secondary education. No education is the reference category (-)</td>
</tr>
<tr>
<td>Variable</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Job type</td>
<td>Categorical variable which captures the nature of job an individual is engaged in (+/-)</td>
</tr>
<tr>
<td>HH head sex</td>
<td>Dummy variable where 1=Males and 0 is female (+/-)</td>
</tr>
<tr>
<td>HH head Educ. level</td>
<td>Categorical variable: No education, Matric, Secondary and Post-Secondary education. No education is the reference category (+/-)</td>
</tr>
<tr>
<td>Household Income</td>
<td>This is a categorical variable which measure the average annual household income from highest to lowest (-)</td>
</tr>
<tr>
<td>Household Asset</td>
<td>This measures physical properties at the household level (-)</td>
</tr>
<tr>
<td>Household size</td>
<td>This is a continuous variable which indicates the total number of individuals in the household (+)</td>
</tr>
<tr>
<td>Transfer income</td>
<td>This measures income transfer received annually by individual</td>
</tr>
<tr>
<td>Dependents</td>
<td>This measures the number of dependents an individual has. It includes children and non-children, as well as those who are either residing with individual or not. (+)</td>
</tr>
<tr>
<td>Unemployment rate</td>
<td>Percentage of individuals unemployed to the total labour force (+)</td>
</tr>
<tr>
<td>Poverty Rate</td>
<td>Intensity of poverty at the municipal level (+/-)</td>
</tr>
<tr>
<td>Rural</td>
<td>Dummy variable where 1=Rural and 0 is Urban (+/-)</td>
</tr>
<tr>
<td>Usual Province</td>
<td>Province of residence by individuals (+/-)</td>
</tr>
</tbody>
</table>

5. **Output/Dissemination**

The project will produce a working paper, policy brief, blog and an academic journal article. Likely refereed journals for publication are UNU-WIDER working paper series, Journal of African Economies, Journal of African Political Economy and Development. Also, interim and final working paper will be delivered to UNU-WIDER as per the requirement. Given research in any field is pointless and fruitless if the findings and recommendation do not inform policy through communication and research uptake activities, these papers will be presented at seminars, symposiums and international conferences, particularly UNU-WIDER biannual conference and the annual African Review of Economics and Finance Conference. Additionally, policy briefs, blogs, factsheets and infographics will be part of the deliverables in order to first engage the larger audience on the objective of the project; enhance the visibility of the sponsors as well as educate the general public.
Reference


