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Rural Non-farm Employment in Ghana in an Era of Structural Transformation: Prevalence, Determinants and Implications for Well-being

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Abstract

Using data from recent nationally representative living standards surveys in Ghana, this study examines non-farm employment in rural Ghana. The data suggest an increase in rural non-farm employment over a seven-year period, with females outpacing males in that sector. The main factors driving the likelihood of non-farm employment include human capital, household financial resources, infrastructure availability and non-ownership of land. Rural well-being is improving, and this is taking place against the backdrop of structural transformation reflected in part by an increase in non-farm employment and educational attainment. Government policies aimed at providing rural areas with electricity and accessible roads, among others, have helped to create an enabling environment for improvement in well-being.

Keywords: non-farm employment, rural well-being, structural transformation, human capital

1.0 Introduction

It is a well-documented fact that structural transformation is an integral part of the growth and development process witnessed in countries characterised by relatively high standards of living. For decades the notion of structural transformation has occupied the attention of development economists and policy makers, and rightly so, because of the potential transformation the process brings to the quality of life which can be enjoyed by residents of countries experiencing this transformation. In Africa, a region punctuated by high incidence of poverty, and with a larger share of the population engaged in agriculture in rural areas, the benefits of transforming the structure of economic activities cannot be overemphasized. Timmer (2015, pp. 75–113) observes that structural transformation alters the patterns of demand and productivity in the production sectors of the economy and this ultimately facilitates agricultural transformation. He further argues that this transformation could be considered to be an indispensable pathway to food security. In the words of Alvarez-Cuadrado and Poschke (2011), at a fairly general level, “the process of economic development is always and everywhere characterized by substantial reallocations of resources out of agriculture” (p. 127). Arguably, by transforming agricultural production practices the benefits from higher productivity, food security, and improvements in standards of living pave the way for a reallocation of rural labour out of agriculture and into non-farm employment activities.

The rural economy continues to wield a strategic position in Ghana’s overall development. Rural Ghana is home to 47% of the country’s population, is the main

provider of agricultural output—which has a 23% value-added share of its gross domestic product—and is the main provider of employment in agriculture, constituting 45% of all employed people in the country, as of 2013 (World Bank, 2016). In rural areas in particular, about seven in 10 jobs are in the agricultural sector, however, that sector tends to be punctuated by vulnerability, fragility and poverty. Various interventions—such as the Northern Rural Growth Program (NRGP)—are currently underway to prop up economic activities in rural areas. Ingrained in a partnership framework between the Government of Ghana and the International Fund for Agricultural Development (IFAD), spanning 2009 to 2016, the NRGPs seeks to: (a) develop a commodity chain by building capacity and providing technical and financial support to producers' organizations such as those involved in the production of maize, and in the collection and processing of shea nuts; (b) structurally transform agricultural production via infrastructure provision in rural areas, notably small scale irrigation systems, feeder roads and farm tracks, and storage facilities, among others; and (c) address the pervasive credit constraint by providing accessibility of northern rural communities to financial services. In a joint assessment of the NRGPs in 2012 by program partners, it was observed that about one-fifth of farm-based organizations had benefited from all the above-listed components of the program and for those engaged in maize production the yield per hectare had increased by 151% (International Fund for Agricultural Development, 2013).

Notwithstanding the fact that investments in productivity growth in agriculture are indispensable for poverty reduction, it has been observed that growth of the rural non-farm sector could augment all investment efforts aimed at structurally transforming rural production in order to improve standards of living of residents there (Green, 2012; Micevska & Rahut, 2008). For about two decades, Ghana has enjoyed political stability, economic growth, relatively higher educational attainment and life expectancy and has recently moved from a low-income to middle-income country status based on the World Bank's classification of countries using per capita income. The gradual shift from agriculture to non-agricultural employment is one of the characteristics of structural transformation and development. A key issue which emerges from Ghana's on-going growth and development process is the extent to which it is impacting rural lives in general and employment in particular. From a structural transformation perspective, how large is the rural non-farm sector in Ghana and what are the specific economic activities carried out by individuals employed in this sector? What drives participation in the rural non-farm sector? What is the relationship between non-farm employment and well-being? These in essence are the key questions addressed in this paper.

In order to address the above-mentioned questions in a coherent manner, the paper has been organized into five sections. Starting off with an introduction, a literature review is presented in Section 2, followed by a discussion on data and methodology in Section 3. We provide an empirical analysis of rural non-farm employment in terms of incidence, determinants, type of activities carried out and the relationship between non-farm employment and well-being in Section 4. The final section concludes the paper. We turn our attention now to a review of the existing literature on rural non-farm employment and its interface with structural transformation.

2.0 Literature Review and Well-being Characterization

There is an increasing body of literature on rural non-farm employment in developing countries. The upward trend in the accumulation of literature on non-farm labour attests to the importance of this source of livelihood from a development and structural transformation perspective. Thematic areas addressed by various authors include the nature and incidence of rural non-farm employment (Atamanov & Van den Berg, 2012; Deichmann, Shilpi, & Vakis, 2009; Green, 2012; Hossain, 2004; Kuiper, Meijerink, & Eaton, 2007; Lanjouw & Shariff, 2004; Oya, 2013; Varma & Kumar, 1996) growth of rural non-farm employment (Ranjan, 2009); and incomes, development and well-being effects of non-farm employment (Anderson & Leiserson, 1980; Micevska & Rahut, 2008), among others.

The nature of rural non-farm employment has generally been conceptualized to include secondary and tertiary sector activities associated with manufacturing and services sectors respectively (Atamanov & Van den Berg, 2012; Hossain, 2004). By this approach, farm employment includes all primary sector activities involving not only farming but also fishing and forestry. In other words, non-farm has been used to denote non-agricultural activity. The rural non-farm sector is heterogeneous: it involves activities associated with high earnings (such as health, education and financial sector employment) and low earnings (such as unskilled labour jobs) and self-employment (Deichmann et al., 2009, Hossain, 2004), though dominated by self-employment activities (Oya, 2013). The heterogeneity of rural non-farm employment translates into differences in productivity and profitability (Micevska & Rahut, 2008), and there is no guarantee that all non-farm employment provides higher income than farm employment (Lanjouw & Feder, 2001).

With regard to the prevalence of non-farm employment, Green (2012), drawing from the article by Lanjouw and Lanjouw (2001), mentions the existence of a relatively smaller incidence of non-farm employment in some parts of Africa. Specifically, in countries such as Mali, Malawi and Rwanda, the rural non-farm sector was observed to be less than 10% of the rural employed labour force. However, the size of rural non-farm sector is changing. For example, demographic and health surveys of Malawi and Rwanda in 2010 show a relatively higher rural non-farm employment incidence of 38% and 23% respectively for employed people aged between 15 and 49 years and suggests some form of structural transformation taking place.¹ For Africa—a region known historically to be characterized by the prevalence of subsistence farming—the share of income from rural non-farm activities was about 42% of total rural income, compared to 40% in Latin America and 32% in Asia (Reardon et al., 1998 as cited in Kuiper et al., 2007).

In their article on non-farm employment in developing countries, Anderson and Leiserson (1980) observed that farm households that are either landless or near-landless are more likely to seek non-farm employment opportunities as a means of sustaining themselves. They argued that the prospect of earning income for vulnerable groups in rural areas—notably landless or near-landless people—is positively correlated with the employment opportunities in non-farm labour markets. Other studies have supported the observation by Anderson and Leiserson (1980). For example, Micevska and Rahut (2008) found that an increase in household land

¹ See National Institute of Statistics of Rwanda et al (2012) and National Statistical Office (NSO) and ICF Macro (2011).

assets per adult in the Himalayas was negatively correlated with participation in nonfarm activities. Ranjan (2009) also observed that about two-thirds of landless households in Uttar Pradesh were employed in non-farm activities. In Bangladesh, probit estimates at the household level by Varma and Kumar (1996) showed that landownership, relative to non-ownership reduced the probability of participation in non-farm activities by about 7.9 percentage points, holding other factors constant. The negative relationship between farmland ownership and non-farm employment has also been found in cross-country analysis on a sample of countries from Africa and Asia by Kuiper et al. (2007).

The empirical literature on human capital suggests its centrality in socio-economic progress:

- it is a key factor in growth dynamics via its impact on innovation and labour productivity (Fischer, Bartkowska, Riedl, Sardadvar, & Kunnert, 2009),
- its accumulation increases the opportunity cost of time and as a result of that it is positively linked to the decision to participate in labour market activities especially for mothers in developing countries (Bordone & Rosina, 2013; Debacker, 2008; Konietzka & Kreyenfeld, 2010; Sackey, 2005; Winters & Chiodi, 2011),
- it has a positive correlation with earnings by virtue of its perceived impact on production capabilities and adaptability of workers (Loxley, Sackey, & Khan, 2015; Sackey, 2008; Senik, 2014; Silver, Caudill, & Mixon, 2016),
- by impacting employment and earnings it indirectly impacts the well-being of individuals and their households irrespective of whether they reside in rural or urban areas and could therefore be considered to be an important channel in the effort to reduce the incidence of poverty especially in low income countries (Sackey, 2004; Silver et al., 2016; Tangwa, Baye, & Epo, 2017; Wigley & Akkoyunlu-Wigley, 2006),
- it is associated with positive externalities generating benefits beyond the individual under consideration to the entire society (Fischer et al., 2009; Sanso-Navarro, Vera-Cabello, & Ximénez-De-Embún, 2017; Wantchekon, Klasnja, & Novta, 2015), and
- at the community level it is an empowerment asset creating an ability to identify and resolve local problems (Mencken & Tolbert, 2018).

Human capital accumulation is a driver of structural transformation and participation in the nonfarm sector, as a primary source of employment. All things being equal, labour market participants with higher level of education tend to opt for nonfarm employment (Ranjan, 2009). Kuiper et al. (2007) in their study on rural livelihoods in developing countries found that relative to no schooling, higher levels of schooling were associated with an increased probability of choosing ‘only non-farm employment’ and ‘some non-farm employment’ but reduced the probability of choosing ‘no non-farm employment’. Human capital development facilitates occupational mobility from farm employment to nonfarm economic activities as found in Ethiopia and Mexico and other developing countries (Bezu, Barrett, & Holden, 2012; Hossain, 2004; Winters & Chiodi, 2011). Undoubtedly, the knowledge and skill acquired through education can prepare individuals for nonmarket activities which require special skills and knowledge (Atamanov & Van den Berg, 2012).

Infrastructural gaps between rural and urban areas have been identified to be a wrinkle in policy effort to create employment alternatives in rural areas. Simply put, in the absence of a well-functioning infrastructure the cost of doing business rises. In particular the absence of electricity directly discourages the emergence and growth of off-farm microenterprises and could delay the structural transformation process in developing countries. Drawing insights from government's rural electrification infrastructure provision in South Africa, Dinkelman (2011) observed a positive impact on employment; women were released from home production and an opportunity was created for the development of microenterprises in rural areas.

Household financial capacity could also be an important factor for participating in the non-farm sector. Empirical studies such as Amoako-Tuffour and Sackey (2008) have shown that the informal sector is a major absorber of labour resources in developing countries. In the informal sector, self-employment is dominant with most women in particular involved in petty trading activities (Glick & Sahn, 2005). Whether in rural or urban settings, credit availability is rare and dependence on own-savings or family members for small business start-up capital is common. Given the financial resource implications for non-farm self-employment activities, the higher the financial capacity of the household, the more likely it can engage in non-farm economic activities, holding other factors constant.

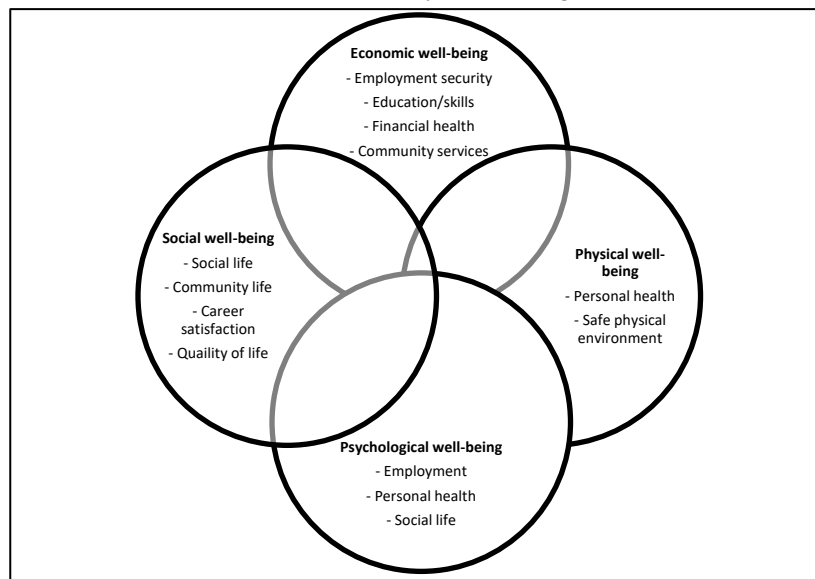
Anderson and Leiserson (1980) examined the linkage between non-farm employment and development from three avenues: demand, spatial, and labour productivity and employment growth environment. Firstly, cognizant of the fact that the demand for labour is a 'derived-demand', Anderson and Leiserson (1980) mention that an increase in rural income correlates positively with an increase in demand for non-food goods and services for rural population. This leads to an increase in demand for non-farm labour and creates an opportunity to expand the non-farm sector. Similarly, agricultural development tends to be associated with an increase in demand for inputs and services tailored towards agriculture which creates a demand for nonfarm labour. Another source fostering growth in non-farm labour is via an increase in demand for manufactured and handicraft goods from external markets in other regions. Secondly, spatial factors—notably infrastructure availability and quality, and capital availability and affordability—influence the business environment. Very often, broad-based and inclusive growth and development eases the constraints imposed by capital scarcity and inadequacy of infrastructure and this crowds-in nonfarm labour activities, holding other factors constant. Thirdly, Anderson and Leiserson (1980) note that higher labour productivity in rural farm and non-farm activities often tends to trigger both growth in incomes and non-farm employment. The above linkages between non-farm employment and development are as relevant today as they were back in the 1980s.

The existing literature on well-being shows that it is multi-dimensional (Ramsey & Beesley, 2006; Ramsey & Smit, 2002; Stiglitz, Sen, & Fitoussi, 2009). The dimensions of well-being according to Stiglitz et al. (2009) include the material living standards of members of a community, their educational and health status, personal activities engaged in by the people—notably employment, social connections and relationships prevalent in the community (social capital)—economic and physical security, political voice and governance, and present and future conditions associated with the environment.

To a large extent, the dimensions of well-being identified by Stiglitz et al. (2009) funnel into the four inter-connected well-being components identified by Ramsey and Smit (2002), namely economic, social, physical and psychological well-being (see Figure 1). Economic well-being is largely underpinned by positive labour market forces notably stable jobs and income and subsequently an ability to meet basic and other needs; it is also associated with a reduction in over-anxiety and stress and therefore promotes both physical and psychological well-being, which in turn improves quality of life—a core factor influencing social well-being. Drawing from the perspectives of health care providers, Ramsey and Beesley (2006) found employment to be the most cited factor influencing both economic and psychological well-being of rural communities; accessibility to activities had the most frequency as far as social well-being factors was concerned, while a safe physical environment dominated in physical well-being consideration.

Pearson and Breetzke (2014) have also shown that the fear of becoming a crime victim—and not necessarily being an actual crime victim—has an adverse effect on the psychological and physical well-being of individuals. From a demographic perspective, the exit of people above 65 years from active labour market pursuit puts them at risk of experiencing reduction in well-being. However, public policy could be used to reduce such exposure. Among older people residing in rural areas, social programs such as pensions and other government transfers have been associated with economic well-being realization by virtue of the reliable and regular income they provide as seen in the case of rural South Africa (Schatz, Gomez-Olivé, Ralston, Menken, & Tollman, 2012). By improving food security among seniors in rural areas, financial stability and associated economic well-being improvement tends to impact physical, psychological and social well-being, generally speaking.

Figure 1. Model of rural community well-being.



Source: Based on Ramsey and Smit (2002).

Ramsey and Smit (2002) point out that while the four dimensions of well-being encapsulate what constitutes well-being they do not show the underlying currents. They elaborate on a model of changes in community well-being which is based on a premise that well-being is neither an autonomous outcome nor does it occur in a

vacuum. Changes in community well-being are the result of external and internal forces or stressors—which could be political, economic, social or geographic in nature—impacting the processes associated with community functions and structures which in turn lead to different responses or outcomes. The connection between the processes and outcomes is two-way; each affects the other. Political forces include government programs targeting rural areas and other public policy rules and regulations governing economic and governance environment. Economic forces include the state of macroeconomic fundamentals of the country showcased in indicators such as economic growth, inflation, unemployment, and per capita and monetary policy stance as seen in prevailing interest rates. Physical and geographic environment stressors include rainfall patterns, temperature changes, and other climate-change effects. In our examination of the well-being effects of rural non-farm employment in Ghana the Ramsey-Smit well-being framework is applied.

3.0 Data and Methodology

The core micro-level data used in this paper comes from the 2013 Ghana Living Standards Survey (GLSS6) conducted by the Ghana Statistical Service between October 2012 and October 2013. This nationwide survey is the sixth in a series of household surveys conducted by the Ghana Statistical Survey. A total of 18,000 nationally representative households located in both urban and rural areas and in all the administrative regions of the country were included in the sample design. As a result of a very high response rate (92.3%), a total of 16,772 households were successfully interviewed (Ghana Statistical Service, 2014a). The survey provides high quality and useful information on employment activities, demographics, educational attainment, rural community issues, and household income and expenditures, among others.

Our study draws a total of 19,044 employed individuals from rural households aged between 15 and 64 years, with 52% being females, and 48% being males. The composition of the core rural sample used in our econometric analysis is shown in Table 1. It is observed that about 30% of the total sample is engaged mainly in non-farm employment; a gender difference is observed with about 33% of females compared to 27% of males engaged in non-farm employment. Following Hossain (2014) and Atamanov and Van Den Berg (2012), we use the term ‘non-farm’ to refer to all employment activities in the secondary and tertiary sectors (i.e., employment not involving farming, fishing and forestry). In terms of demographics, there is the presence of youthfulness in the sample with about 28% of rural workers aged between 15 and 24 years; about 47% of the sample has at least a junior secondary school level of education, though a gender difference is observed. In terms of land ownership and infrastructure, almost 55% of individuals reside in households with land ownership, while 45% have access to electricity. We augment the GLSS6 data with that from the 2006 Ghana Living Standards Survey (GLSS5) in order to capture some dynamics. The GLSS5 and GLSS6 are seven years apart and using both datasets allows us to ascertain changes taking place as far as the rural non-farm sector is concerned.

In examining the determinants of rural non-farm employment in Ghana, a probit regression was used. The variable of interest to us was the probability of an individual engaging in non-farm employment. This dependent variable was coded as a dummy variable with a value of unity if the respondent worked primarily in the non-farm sector, and a value of zero if farm employment was the main economic activity. The set of explanatory variables included in the model were the following:

(a) individual demographics (notably, age, gender and marital status); (b) human capital endowment (depicted by levels of educational attainment comprising no schooling, primary, junior secondary, and senior secondary or higher); (c) financial status of the individual's household (using household expenditure quintiles as proxy); (d) infrastructure availability (using electricity availability in the household as proxy); and, (e) parents' farm employment effects. The model also controls for ecological zone residence—rural coastal, rural forest and rural savannah. We hypothesize that a positive correlation exists between human capital endowment and non-farm labour incidence. The next section presents an analysis of non-farm employment in rural Ghana.

4.0 Rural Non-farm Employment Analysis

4.1 Non-farm Employment Incidence and Nature

The incidence of employment in the rural non-farm sector in Ghana increased from 25.6% in 2006 to 30.1% in 2013, as shown in Table 2. A relatively larger share of rural women is engaged in nonfarm employment, and this percentage has also increased over time from about 31% in 2006 to 33% in 2013 (compared to 20% and 27% for men, respectively). The increase in non-farm employment has occurred at a time when the government in partnership with the IFAD and the African Development Bank has been implementing a program to develop rural enterprises. Initially implemented as a pilot project in 1995, the Rural Enterprises Program (REP) has expanded in coverage from 15 to 161 rural districts in the country. The intended objective of the program is “to increase the number of rural micro and small enterprises that generate profit, growth and employment opportunities, to support the goal of improving livelihoods and income” (IFAD, 2014, p.3). The outcome of the REP has been transformational.²

It must also be pointed out that the average level of education has increased for rural areas and could be a factor behind the choice of non-farm employment in particular. The proportion of economically active population in rural areas with at least junior secondary education attainment increased from 37% in 2006 to 44% in 2013. Investments in rural areas in human capital development have increased over time, with the share of education expenditures in household total expenditures increasing from 6% in 2006 to 11% in 2013 (Ghana Statistical Service, 2008, 2014a). The improvement in educational attainment of rural farm workers has a potential positive effect on labour productivity.

² Both rural non-farm and farm sectors benefit directly from this program. An interim evaluation of the REP between 2003 and 2010 showed the following: a total of 80,452 individuals in rural districts had received training in business and entrepreneurship skills (62% of whom were women); 17,751 new businesses had been established in rural districts (61% of which was owned by women); 42,895 wage jobs had been created; 2,889 Master craft persons and 7,481 apprentices had been trained; and 3,992 micro and small scale operators (64% of whom were women) had received loans to finance their operations (IFAD, 2011).

Table 1. *Composition of Sample from Rural Ghana-2013*

	Total workers	Female workers	Male workers
Non-farm employment prevalence	30.1%	33.1%	26.9%
<i>Demographic composition</i>			
Age 15 to 24 years	9.6%	9.6%	9.8%
Age 25 to 34 years	27.9%	26.1%	29.7%
Age 35 to 44 years	24.3%	24.9%	23.5%
Age 45 to 54 years	22.1%	23.2%	20.9%
Age 55 to 64 years	16.1%	16.2%	16.1%
Female	51.6%		
Married	52.8%	55.6%	49.9%
<i>Human capital composition</i>			
No school	31.3%	39.4%	22.5%
Primary	21.9%	22.7%	21.1%
Junior secondary	38.0%	32.8%	43.6%
Senior secondary or higher	8.8%	5.1%	12.8%
<i>Financial status composition</i>			
Lowest quintile	17.8%	18.6%	17.1%
Second quintile	18.4%	19.1%	17.6%
Third quintile	19.0%	19.0%	18.9%
Fourth quintile	21.2%	21.3%	21.1%
Highest quintile	23.6%	22.0%	25.3%
<i>Land ownership & Infrastructure</i>			
Owns land	55.3%	55.7%	55.0%
Has electricity	45.0%	45.1%	44.8%
<i>Family background composition</i>			
No parent was farmer	25.5%	22.0%	29.2%
One parent was farmer	22.6%	21.8%	23.4%
Both parents were farmers	51.9%	56.2%	47.4%
<i>Ecological zone composition</i>			
Rural Coastal zone	10.5%	10.8%	10.2%
Rural Forest zone	54.2%	53.5%	55.0%
Rural Savanah	35.3%	35.7%	34.8%
<i>Number of observations</i>	19,044	9,847	9,197

Table 2. *Industrial Sector Distribution of Rural Non-farm Workers in Ghana*

	Industrial sector share of rural non-farm employment		Rural non-farm workers self-rated ability to keep main job in 2013				
	2006	2013	Very likely	Likely but not certain	Not likely	Do not know	Total
Manufacturing	8.6%	6.6%	86.9%	7.8%	4.2%	1.1%	100%
Wholesale & retail trade	7.7%	9.0%	83.2%	8.4%	6.3%	2.1%	100%
Professional services	2.6%	3.8%	85.0%	9.4%	4.3%	1.3%	100%
Mining & construction	1.6%	4.0%	80.8%	10.7%	7.7%	0.8%	100%
Transport & communication	1.5%	1.8%	83.8%	10.8%	4.6%	0.8%	100%
Accommodation & food service	1.4%	2.3%	81.0%	10.4%	7.0%	1.6%	100%
Other non-farm employment	2.2%	2.6%	79.1%	15.7%	3.6%	1.6%	100%
Total non-farm employment	25.6%	30.1%	83.2%	9.8%	5.5%	1.5%	100%

Source: Author's calculations based on micro data from the Ghana Statistical Service's GLSS5 (2006) and GLSS6 (2013)

From an industrial sector perspective, most of the rural nonfarm labour resources are found in manufacturing and wholesale and retail trade sectors. However, the wholesale and retail trade sector has overtaken the manufacturing sector as the dominant nonfarm sector of employment. The non-farm labour incidence in the manufacturing sector fell from about 9% in 2006 to 7% in 2013, while that for the wholesale and retail trade sector increased from about 8% to 9% (see Table 2). The shares of nonfarm labour in professional services, mining and construction, and accommodation and food services have also increased.

In the rural manufacturing sector, about four out of five people have work associated with the manufacturing of food products, beverages, wearing apparel, and textiles. The manufacture of food products—such as vegetable and animal oil production and the processing and preservation of fish and crustaceans—account for 36% of all employment in the manufacturing sector. The production of beverages—notably malt liquors and malt—has an employment share of 19%. The employment shares of wearing apparel and textile manufacture were 18% and 5% respectively in 2013. Other activities responsible for 2% to 4% of total manufacturing sector jobs in rural areas are the manufacture of starches and starch products, bakery products, and dairy products. With regard to the retail trade sector in rural Ghana, the vast majority of

jobs involve (a) selling food, beverages, and tobacco products via stalls and markets (24%); (b) the sale of food in specialized stores such as meat and meat products, bakery products, fresh or preserved fruit and vegetables (22%); and, (c) sale in non-specialized stores with food, beverages or tobacco (9%).

In terms of ability to keep their main job, about 83% of rural non-farm workers believed they were ‘very likely’ to keep their main job. Depending on the specific non-farm industrial sector of operation, between 79% and 87% of workers indicated a higher likelihood of being able to keep their main job (see Table 2). If one takes into account the fact that the majority of non-farm work takes place in the informal sector and is characterized by self-employment, it is not surprising to see most workers indicating an ability to keep their job. This, however, should not be misinterpreted to mean that work in the rural nonfarm sector is necessarily safe and stable. In the case of professional service workers (teachers, nurses, etc.), the positive perception of being able to keep a main job is directly linked to the secure nature of these jobs. It is a well-known fact that such professional jobs tend to be available in the formal sector, are secured by formal contracts, and have various entitlements as well as predictable or regular wages and salaries (Baumann & Brandle, 2012; Hossain, 2004; Pratap & Quintin, 2006).

4.2 Determinants of Rural Non-farm Employment

The results from my econometric analysis on the determinants of rural non-farm employment are displayed in Table 3. In terms of educational attainment, the results show that there is a positive correlation between educational attainment and the probability of participating in non-farm employment, holding other factors constant. In comparison with ‘no school attainment’, having at least a senior secondary education increases the probability of being employed in the non-farm sector by about 20 percentage points, holding other factors constant. This relationship is true for both female and male workers. Especially for the limited formal sector jobs such as teaching, health and protective service occupations, higher level of educational attainment is a prerequisite for job accessibility.

In terms of demographics, the results show that gender and age are statistically significant determinants of choosing non-farm over farm employment. In relation to men, rural women are more likely to participate in non-farm activities, holding other factors constant. This is not surprising because with small start-up financial capital, women tend to engage in self-employment activities such as petty trading. There is a non-linear association between age and nonfarm labour incidence. The proportion of people engaged primarily in nonfarm employment opportunities rises initially for younger age cohorts, reaches a peak for those aged between 25 and 34 years, and then declines thereafter. Thus, relatively larger shares of young adults tend to be employed in non-farm employment activities. This could be explained by the fact that younger age cohorts are generally better educated and with that comes opportunities for off-farm employment. Furthermore, older individuals in rural areas can be considered to be relatively more risk-averse; they are more likely to continue with their old source of livelihood (i.e., farm activities) than take risks by opting for an entirely new primary economic activity. Compared to the youth, being between 25 and 34 years of age increases the chances of being employed in a non-farm activity by 14 percentage points for women and 19 percentage points for men, holding other factors constant.

Table 3. *Determinants of Participation in Rural Non-farm Employment in Ghana*

Dependent variable: Rural non-farm employment probability						
Estimation method: Probit regression						
	Total rural workers		Female workers		Male workers	
	Marginal effect	z-value	Marginal effect	z-value	Marginal effect	z-value
<i>Demographics</i>						
Age 25 to 34 years	0.165***	11.31	0.142** *	7.01	0.193***	9.22
Age 35 to 44 years	0.099***	6.15	0.081** *	3.69	0.122***	5.04
Age 45 to 54 years	0.058***	3.30	0.039*	1.65	0.083***	3.13
Age 55 to 64 years	0.005	0.26	-0.005	-0.20	0.019	0.64
Female	0.113***	12.20				
Married	-0.006	-0.52	-0.006	-0.37	-0.012	-0.74
<i>Human capital</i>						
Primary	0.038***	2.78	0.047**	2.54	0.029	1.37
Junior secondary	0.106***	8.06	0.117** *	6.42	0.087***	4.46
Senior secondary or higher	0.203***	10.25	0.157** *	4.83	0.204***	7.96
<i>Financial status</i>						
Second quintile	0.065***	4.31	0.062** *	3.09	0.071***	3.10
Third quintile	0.065***	4.12	0.058** *	2.70	0.077***	3.31
Fourth quintile	0.139***	8.62	0.149** *	6.67	0.133***	5.64
Highest quintile	0.276***	16.45	0.291** *	12.42	0.259***	10.71
<i>Land ownership & Infrastructure</i>						
Owens land	-		-			
	0.145***	-15.69	0.158** *	-12.03	-0.127***	-9.95
Has electricity	0.134***	14.12	0.113** *	8.47	0.152***	11.53

Table 3 continued

<i>Family background</i>						
One parent was farmer	-0.011	-0.87	-0.023	-1.21	-0.004	-0.21
Both parents were farmers	-	-	0.164**	-	-	-
	0.129***	-10.06	*	-8.63	-0.101***	-5.93
<i>Ecological zone</i>						
Rural Forest zone	-	-	0.173**	-	-	-
	0.152***	-11.09	*	-8.76	-0.130***	-6.97
Rural Savannah	-	-	0.120**	-	-	-
	0.131***	-9.22	*	-5.74	-0.142***	-7.47
Wald Chi square	2311.4		1166.5		1166.7	
Pseudo R square	0.174		0.155		0.196	
Number of observations		19,044		9,847		9,197

Note: ***, **, and * represent statistical significance at the 1%, 5%, and 10% levels respectively.

Against the backdrop of credit constraints in less developed countries, household financial resource availability is a crucial factor in the ability to engage in economic activities, especially in rural areas. The results support this notion. Individuals residing in the richest quintile have the highest probability of employment in non-farm activities, holding other factors constant.

Consistent with the existing literature on non-farm employment (Dinkelman, 2011; Kuiper et al., 2007; Rajan, 2009; Sapkota, 2018), we found infrastructure availability—using electricity availability as proxy—and land ownership to be significant determinants of non-farm employment. There is a positive correlation between infrastructure availability and non-farm employment. In terms of land ownership, those who own land are less likely to engage in non-farm employment, while the opposite is true for those who do not own land. This effect of land ownership on non-farm employment is statistically significant irrespective of whether the focus is on females only or males only or both. It is also interesting to observe that there is an intergenerational mechanism for employment choice. In comparison with individuals who had none of their parents involved in farm activities, those who had both parents involved in farming are less likely to work in the non-farm sector, holding other factors constant. How does participation in the non-farm sector affect wellbeing in rural areas? This question is addressed in the ensuing section.

4.3 Rural Non-farm Employment and Well-being at the Community and Individual Levels

This section starts with an examination of rural well-being at the community level. This scale of analysis has been made possible due to data availability at the community level derived from 693 rural communities included in the 2013 Ghana Living Standards Survey. In each community representatives made up of local

chiefs, elders, and opinion leaders were brought together to complete a questionnaire meant to ascertain the extent of availability of facilities, well-being changes and factors, and community functions in terms of major economic activities, among others (Ghana Statistical Service, 2014c). The main well-being aspects of relevance to this article are presented in Table 4.

Prior to discussing the results presented in Table 4, it is important to note that changes in rural well-being do not just happen. As noted by Ramsey and Smit (2002) there are political and economic forces, among others, that shape the processes associated with community structures and functions which ultimately impact community well-being. In terms of economic forces in Ghana, the economy enjoyed an average annual economic growth rate of 7.9% and a median growth rate of 7.6% from 2006 to 2013. During this period physical capital accumulation as well as financial flows for development such as international remittances and foreign direct investment (FDI) generally followed an upward trend. For example, FDI inflows expressed as a share of Ghana's gross domestic product (GDP) increased from 3.1% in 2006 to 6.8% in 2013 with an annual average of 7.3% during the period under consideration. Personal remittances received in Ghana from abroad as a share of GDP increased from 0.5% in 2006 to 3.9% in 2013 with an annual average of 2.1% (World Bank, 2016). Inflows of bilateral and multilateral official development assistance ranging between 3% and 6% of GDP have also provided additional resources for investment in health, education, sanitation, electrification of rural communities and other productive sectors of the economy. The interplay of these forces—together with a relatively stable macroeconomic environment, political stability, infrastructure provision and institutional framework tailored towards enhancing economic efficiency—account for the strong economic performance of the Ghanaian economy during the period under consideration.

Generally, driven by well-being enhancing forces from the political economy, the growth of the Ghanaian economy has been associated with a lowering of poverty in both rural and urban areas. Poverty incidence in rural areas fell from 43.7% in 2006 to 37.9% in 2013, while in urban areas it fell from 12.4% in 2006 to 10.6% in 2013 (Ghana Statistical Service, 2014b). The fall in poverty incidence in rural areas seems to suggest that rural areas are also benefitting from the growth process in Ghana. How does rural non-farm employment fit into this discussion? It is important to note that the fall in rural poverty occurred at a time when rural non-farm employment was on the rise. While we are not saying that there is a causal relationship between non-farm employment and well-being, we can say that there appears to be a negative correlation between the prevalence of rural poverty and non-farm employment. Also, this relationship suggests that the economic structure of rural communities seems to be changing, though modestly, and this is a feature of structural transformation.

Turning now to Table 4, it is observed that almost one-half of rural communities (49%) were of the view that their living condition in 2013 was better than a decade ago; this was 12-points higher than in 2006.³ On the other hand, a slightly lower percentage of rural communities believed their living standard had deteriorated in

³ In the Ghana Living Standards Survey conducted by the Ghana Statistical Service in 2006, 36.5% of rural communities indicated an improvement in their living standards compared to ten years ago, 60.9% said their living condition were worse, while 2.6% had no change in their living conditions.

2013, compared to a decade ago. Each community identified one economic activity it perceived to be the main activity engaged in by its members.

Out of the 339 rural communities that had experienced an improvement in their well-being, 315 of them mentioned farming to be their main economic activity; another 9 communities mentioned fishing; while 15 mentioned non-farm activity, dominated by trading, handicrafts and small-scale mining, among others. Compared with farming and fishing-based communities, non-farm-based communities indicated a relatively higher incidence of improvement in well-being (i.e., 71.4% for non-farm compared to 48.6% for farming and 37.5% for fishing communities). Though not shown in Table 4, out of the 315 farming communities doing better than a decade ago, 174 of them (55%) indicated that trading was their second most important economic activity; an additional 28 of the 315 farming communities (9%) ranked handicrafts as their second most important economic activity. Thus, non-farm activity appears to be an important source of livelihood for rural communities in Ghana.

The major reasons given for the perceived improvement in living condition in the communities were the provision of electricity and clean drinking water, improvement or availability of other social amenities (such as health centres, schools and community recreation centres), road accessibility, and business opportunity. The role of infrastructure availability in facilitating non-farm employment—as well as farm employment—has been underscored in the previous section of this paper, and it is no surprise that electricity provision and road accessibility were identified by rural communities to be factors behind the improvements in their well-being. Similarly, business opportunities through own-initiatives and those offered via government interventions such as the Rural Enterprises Program mentioned earlier on have been game changers—well-being transformers. For rural communities which felt their living condition had worsened, the main factors associated with this were poverty, unemployment, natural disasters or famine, deterioration in social amenities, and rising cost of living as reflected in high prices of consumer goods.

Applying the rural community well-being model shown in Figure 1 to the situation in Ghana, we can observe the interconnection and overlaps of the different types of well-being. Using the well-being enhancers identified by community leaders we could group them as follows: (a) economic well-being factors in rural communities in Ghana include the availability of more jobs (which helps in reducing the extent of unemployment), electricity availability, accessible roads, good prices for produce, improvement in business (higher sales or income), investments in the community and reduction in poverty; (b) social well-being drivers include electricity availability, social amenities availability or improvement (such as community centres for social interaction and networking), accessible roads (which also provides interaction among communities and therefore bolsters social life), provision of drinking water and improvement in drainage system; (c) physical well-being factors include provision of drinking water and safe drainage system (both of which reduce proneness to diseases and mortality rates), other social amenities such as health centres, peaceful environment (free from wars or ethnic conflicts) and absence of famine; and (d) psychological well-being facilitators include more jobs, good prices for produce, improvement in business (these ease the stress levels of community members), and more social amenities.

Table 4. *Community Level Perception on Changes in Rural Community Well-being in Ghana in 2013*

Living conditions in rural communities in Ghana in 2013 compared to ten years ago								
Economic activity ranked 1 st by rural communities	Number of rural communities				Percentage distribution of rural communities			
	Better	Worse	No change	Total	Better	Worse	No change	Total
Farming	315	288	45	648	48.6%	44.4%	6.9%	100%
Fishing	9	14	1	24	37.5%	58.3%	4.2%	100%
Nonfarm (trading, mining etc.)	15	5	1	21	71.4%	23.8%	4.8%	100%
<i>Total for all communities</i>	<i>339</i>	<i>307</i>	<i>47</i>	<i>693</i>	<i>48.9%</i>	<i>44.3%</i>	<i>6.8%</i>	<i>100%</i>

Factors contributing to changes in rural community well-being between 2003 and 2013, as identified by leaders of each community								
Well-being enhancers	<u>Communities with better living conditions, by main economic activity</u>					<u>Communities with worse living standards</u>		
	Farming	Fishing	Nonfarm	Total	%	Well-being detractors	%	
Provision of electricity	117	5	3	125	36.9%	Unemployment	22.3%	
Provision of drinking water	70	1	3	74	21.8%	Poverty	34.1%	
Improvement in roads access	24		1	25	7.4%	Poor social amenities	12.9%	
More jobs	8	1	5	14	4.1%	Natural disaster/famine	15.7%	
Availability of other social amenities	52	1	2	55	16.2%	Wars/conflicts	1.0%	
Investments	1			1	0.3%	Migration	2.1%	
Improvement in drainage system	2		1	3	0.9%	High prices of consumer goods	11.8%	
Peaceful environment	10			10	2.9%	<i>Total</i>	<i>100%</i>	
Improvement in business (higher income)	20			20	5.9%			
Good prices for produce	11	1		12	3.5%			
<i>Number of rural communities</i>	<i>315</i>	<i>9</i>	<i>15</i>	<i>339</i>	<i>100.0%</i>			

Source: Author's calculations based on micro data from the Ghana Living Standards Survey 6, 2013.

At the individual level and from an economic well-being perspective, how satisfied are non-farm workers with their jobs? A remarkably high percentage of rural non-farm workers considered themselves to be either ‘very satisfied’ or ‘somewhat satisfied’ with their jobs. Over 80% of employees and self-employed individuals were satisfied with their job (see Table 5). Though a relatively high percentage of self-employed workers were satisfied with their job, the vulnerability associated with such jobs become evident when an objective poverty threshold is taken into account. For example, in 2013 about 23% of self-employed people were found in the poorest quintile households, compared to 16% for employees. Casual workers were also more prone to poverty due to the irregular nature—or seasonality—of their jobs. Therefore, as far as well-being is concerned, quality jobs, to a large extent, insulate rural non-farm workers from the risk of plunging into poverty.

Table 5: *Rural Non-farm Job Status and Level of Job Satisfaction*

Status in Job	Self-declared extent of satisfaction with rural non-farm job:					Total	Share of workers in poorest 20% category
	Very satisfied	Somewhat satisfied	Somewhat dissatisfied	Not satisfied			
Employee	54.1%	30.3%	6.5%	9.1%	100%	16.3%	
Self-employed	57.7%	30.3%	5.5%	6.5%	100%	23.4%	
Casual worker	40.2%	37.2%	9.5%	13.1%	100%	30.2%	
Apprentice	70.6%	24.6%	3.5%	1.4%	100%	30.1%	

Note: For all rural workforce engaged mainly in agriculture, about 38% of them are members of households found in the poorest 20% category.

Source: Author’s calculations based on micro data from the Ghana Statistical Service’s GLSS6, 2013.

5.0 Conclusions

Following the existing literature, this paper adopted a definition of non-farm employment that entails all forms of non-agricultural sector jobs, and a well-being definition that encompasses four inter-connected dimensions, namely, economic, social, physiological and physical well-being. Based on the non-farm definition adopted, the article shows an increase in rural non-farm employment. In answering the question as to what factors are associated with rural non-farm employment, a probit model was estimated based on guidance from the empirical literature on this subject. The results obtained support my main hypothesis on the positive relationship between human capital accumulation and non-farm employment. Apart from human capital, other factors driving the likelihood of non-farm employment include household financial resources, infrastructure availability and land ownership.

Rural well-being—both at the community and individuals levels—is improving and this is taking place against the backdrop of structural transformation reflected in part by an increase in non-farm employment. An application of the Ramsey-Smit model on changes in community well-being shows that government policies aimed at providing rural areas with electricity and accessible roads, and other interventionist programs to ensure growth in rural areas have helped to create an enabling environment for improvement in well-being. The factors identified by rural

communities to be behind the realization of improvement in their well-being show changes in all the four dimensions of well-being. From an individual economic well-being perspective, non-farm workers were generally less likely to be poor. However, given the heterogeneity of jobs and taking into account the fact that two-thirds of rural non-farm workers are self-employed and tend to be more prone to poverty than formal sector employees, the need to provide more stable and remunerative non-farm employment in rural areas cannot be overemphasized.

Moving forward, there is still more work to do in order to add to our understanding of changes in rural community well-being. In particular what are the specific community structures and functions that are changing in each of the three different rural ecological zones of Ghana (i.e., coastal, forest, and savannah zones) as a result of the stress exerted by forces associated with the political economy and socio-ecological and physical contexts? Are the improvements in well-being sustainable? Are movements from farm to non-farm employment temporary or permanent and how do such transitions impact rural well-being? It is hoped that answers to these questions in future will add to our understanding of the dynamics associated with rural well-being and economic activity, among others, and provide an empirical springboard for policy decisions by government.

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