Understanding Ghana's growth success story and job creation challenges

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Abstract: Ghana's status as one of the African Lions is linked to the country's remarkable growth performance, which culminated in the attainment of lower middle-income status. However, employment response to growth has been weak. Additionally, growth has been accompanied by substantial reduction in poverty, albeit increasing inequality. This development is explained by a slower growth in high labour absorption sectors of agriculture and manufacturing as against high growth in low employment generating sectors of mining and oil extraction. Fixing the problem of the missing middle of dwindling manufacturing and raising productivity in agriculture are recommended for the promotion of growth inclusiveness.

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1   Introduction

Ghana attained middle-income status after rebasing its National Accounts, pushing per capita gross domestic product (GDP) of the country above USD1,000 in 2007. After recovering from economic recession in 1984 on account of the Bretton Woods sponsored economic reform introduced at that time, Ghana's growth has been remarkably strong, with its lowest economic growth of 3.3 per cent recorded in 1994. The country's growth rate reached its peak of 15 per cent in 2011 on the back of the commencement of commercial production of oil, making it one of the fastest growing economies globally during that year. This has translated into increased per capita income, which reached a high of about USD1,900 in 2013.

The concern, however, has been the ability of the country to sustain this growth momentum given the level and quality of education and skills, and, more importantly, the failure of this strong growth performance to be translated into the creation of productive and decent jobs, improved incomes and livelihoods. The structure of the economy remains highly informal, with a shift in the country's national output composition from agriculture to low-value service activities in the informal sector. The commencement of commercial production of oil raised the share of the industrial sector in national output. However, the continuous decline in manufacturing value added undermines Ghana's economic transformation effort to promote high and secure incomes and improve the livelihoods of the people.

Structural change towards higher value added sectors, and upgrading of technologies in existing sectors, is expected to allow for better conditions of work, better jobs, and higher wages. But the low level and quality of human resources not only diverts the economy from its structural transformation path of development but also makes it difficult for the benefits of growth to be spread through the creation of gainful and productive employment. Thus, productive structural economic transformation hinges on the level and quality of education and labour skills. A highly skilled, innovative and knowledgeable workforce constitutes a key ingredient in the process of structural economic transformation, and as productive sectors apply more complex production technologies and research and development activities increase the demand for education and skills. However, the observed weak human capital base does not provide a strong foundation for structural economic transformation of Ghana.

There is also widespread concern about the quality of the country's growth in terms of employment and inequality, as well as general improvement in the livelihood of the people (see Alagidede et al. 2013; Aryeetey et al. 2014; Baah-Boateng 2013). A key indicator for measuring the extent to which macroeconomic growth results in gains in the welfare of the citizenry is the quality of jobs that the economy generates. Ghana's employment growth lags behind economic growth, with an estimated employment elasticity of output of 0.47 (see Baah-Boateng 2013), suggesting that every 1 per cent of annual economic growth yields 0.47 per cent growth of total employment. Besides the slow rate of job creation is the dominance of vulnerable employment and the working poverty rate in the labour market. In 2010, 7 out of 10 jobs were estimated to be vulnerable while only 1 out of 5 jobs could be considered as productive jobs that meet the standard of decent work (Baah-Boateng and Ewusi 2013). Workers in vulnerable employment tend to lack formal work arrangements as well as elements associated with decent employment such as adequate social security and recourse to effective social dialogue mechanisms (Sparreboom and Baah-Boateng 2011). The working poverty rate remains a challenge with one out of every five persons employed belonging to poor households.

The article seeks to provide an analytical assessment of Ghana's economic growth as one of Africa's growth giants over a period of more than two decades and the implication for labour

market and livelihood outcomes. Growth of labour productivity at the national and sectoral level is examined, as well as the sectoral contribution to aggregate productivity growth. The article also analyses the effect of growth on employment and the employment-poverty linkage in terms of elasticity within the growth-employment-poverty nexus in Ghana. It also delves into a discussion of the constraints on growth and productive employment from both demand and supply perspectives, and identifies skills gaps and the opportunities offered in the country, which has experienced strong growth performance. The article has five sections, with an overview of Ghana's economic growth performance in Section 2, after this introductory section. This is followed by an overview of the developments in the labour market, specifically in the area of employment, unemployment, poverty, and inequality in Ghana in Section 3. The growth-employment-poverty linkage analysis is carried out in Section 4 followed by a discussion of constraints to growth and employment generation in Section 5. Section 6 provides a summary and conclusion, with some policy suggestions for the future.

2   Ghana's economic growth performance

This section outlines Ghana's economic growth performance over the last two decades. It gives an account of economic growth trends and examines the sources of growth from the demand side of the National Accounts. The performance of broad sectors of the national economy and how they drive the overall growth of the economy are also examined.

2.1   Growth trends

After a decade of unstable growth performance in the 1990s, eight years of a continuously rising growth rate from the beginning of the new millennium came to a halt in 2009, with the lowest growth in nine years—4.0 per cent—at the height of the global economic crisis (Figure 1). Economic growth bounced back to hit a peak of 15 per cent on account of commercial oil production and export growth for the first time in the country's history before nose-diving subsequently to 7.6 per cent, the lowest annual growth in four years, in 2013. Ghana's economy has generally experienced faster growth relative to sub-Saharan Africa (SSA) particularly since 2007. On average, the Ghanaian economy grew annually by 5.8 per cent compared to 3.7 per cent in SSA in 13 of the years between 1991 and 2013. The strong growth performance of the country pushed it to the rank of a lower middle-income country after recording a per capita GDP of USD1,099 in 2007. Per capita GDP, which stood at about USD439 in 1991, increased to USD502 in 2005 and, after rebasing of the National Accounts, surged to USD930 in 2006, rising to reach USD1,858 in 2013 (Figure 1).

Figure 1: Real GDP growth and per capita GDP 1991-2013
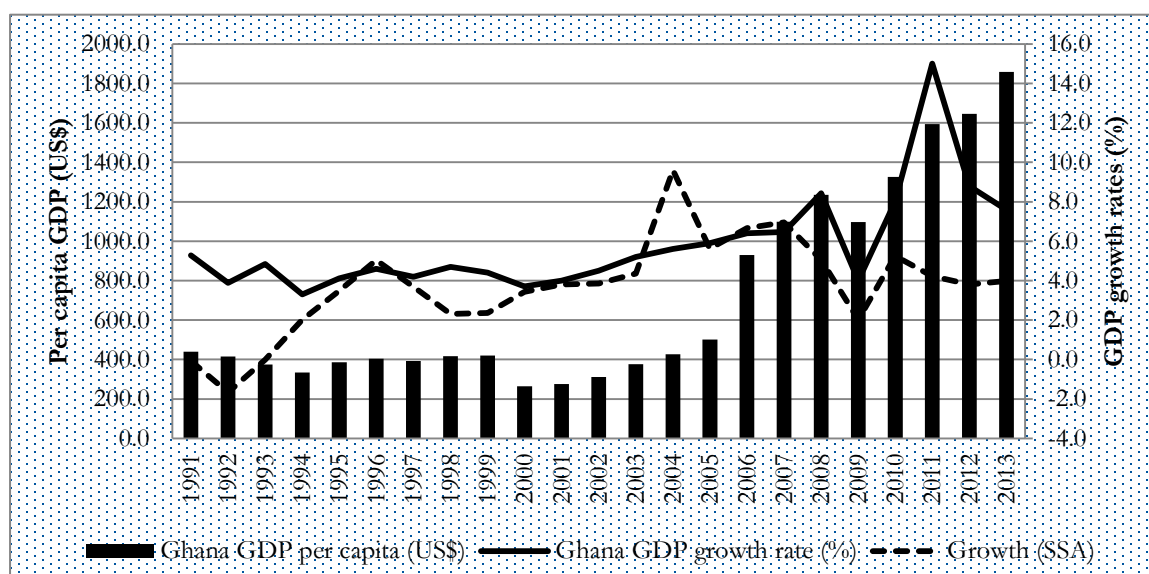
Source: World Bank (2014).

2.2 Drivers of growth

The demand side analysis of drivers of growth confirms the significance of oil rents in the strong economic growth recorded upon the commencement of commercial production of oil in 2011. Export of goods and services surged from 29.5 per cent in 2010 to 44.1 per cent in 2011 and further up to 48.1 per cent in 2012 (Table 1) largely as a result of export of crude oil. The increase in exports is deemed a positive development and makes a large contribution to Ghana's economy through its effect on economic growth and export earnings, but the concern is that it is concentrated in a few primary commodities. Indeed, available data from the Bank of Ghana suggests that gold, cocoa and oil accounted for an estimated 80 per cent of total exports in 2013.

Imports, on the other hand, which do not seem to exhibit clear trend, have consistently trended above exports, accounting for the country's chronic trade deficits. Private consumption, which is a major source of demand in the economy, has lost over 20 percentage points since 1990, reducing its dominance in favour of other demand sources. Public consumption reached new heights during the period 2011-13, while gross capital formation reached a peak in 2012 but fell in 2013. The fall is traced to a decrease in activity of oil exploration and transport and machinery (GSS 2014).

Table 1: Demand side drivers of growth 1990-2013 (%)

Demand source	1990	1993	1995	2000	2005	2010	2011	2012	2013
Private consumption	85.2	80.2	77.8	84.3	81.0	80.4	59.3	51.0	64.2
Gross capital formation	14.4	24.2	21.6	24.0	29.0	25.7	29.6	32.9	24.2
Public consumption	9.3	15.0	12.3	10.2	15.3	10.4	16.6	21.0	16.7
Exports	16.9	18.2	25.0	48.8	36.4	29.5	44.1	48.1	42.3
Imports	(25.9)	(34.2)	(33.5)	(67.2)	(61.7)	(45.9)	(49.7)	(53.1)	(47.4)

Source: GSS and World Bank.

Economic growth, particularly since the rebasing of the National Accounts in 2006, has largely been driven by stronger growth in mining and construction in the industrial sector, and financial intermediation in the services sector. These sectors are known to create limited number of direct jobs. Between 1993 and 2013, mining and oil recorded the highest growth rate of 15.9 per cent, followed by 9.9 per cent in construction and 9.1 per cent in financial intermediation (Table 2).

On the other hand, growth has been slower in agriculture and manufacturing, which is estimated to have high labour absorption capacity in Ghana (Baah-Boateng 2013). Indeed, the agricultural sector recorded the lowest average growth rate—3.9 per cent annually over a period of two decades from 1993—followed by manufacturing with an annual average growth rate of 4.2 per cent over the same period (Table 2).

Table 2: Growth rate and sectoral distribution of Real GDP (%)

Sector	Annual average growth rate				Sectoral shares of GDP					
	1993–9	2000–6	2007–13	1993–2013	1993	2000	2005	2011	2012	2013
Agriculture	3.8	4.6	3.4	3.9	41.4	39.4	40.9	25.3	23.0	22.0
Industry	4.4	5.5	12.9	7.6	27.8	28.4	27.5	25.6	28.6	28.6
Mining and oil	*5.5*	*4.5*	*37.7*	*15.9*	*6.1*	*5.6*	*5.0*	*8.4*	*8.8*	*7.9*
Manufacturing	*3.6*	*4.4*	*4.8*	*4.2*	*10.5*	*10.1*	*9.5*	*6.9*	*6.9*	*6.3*
Construction	*7.3*	*6.6*	*15.8*	*9.9*	*8.3*	*9.7*	*10.0*	*8.9*	*10.5*	*12.6*
Service	5.5	5.5	8.6	6.5	30.8	32.2	31.6	49.1	48.4	49.4
Trade	*7.2*	*6.2*	*7.4*	*6.9*	*6.5*	*7.5*	*7.8*	*5.9*	*5.6*	*5.4*
Finance	*7.0*	*5.9*	*14.3*	*9.1*	*4.6*	*4.8*	*4.8*	*4.4*	*5.0*	*5.2*

Source: Computed from National Accounts, GSS.

The slower growth in manufacturing and agriculture has culminated in a dwindling share of these sectors in GDP, while mining and oil, construction, and finance recorded some gains in their contribution to GDP. Agriculture lost its dominance in national output, dropping from 41.4 per cent in 1993 to only 22.0 per cent in 2013, while manufacturing also saw its share in GDP drop from 10.5 per cent to a low of 6.3 per cent over the same period, relegating it from its leading position in the industrial sector to the third largest contributor to industrial output. On the other hand, the share of mining and oil in GDP, which declined by 1.1 percentage points between 1993 and 2005, surged from 5.0 per cent in 2005 to 8.8 per cent, largely as a function of the commercial production of oil, which commenced in 2011. Similarly, construction saw an increase from 8.3 per cent to a new high of 12.6 per cent in 2013, while the share of financial and business services in GDP rose steadily from 4.4 per cent in 2011 to 5.2 per cent in 2013.

In sum, the performance of Ghana's economy in terms of growth has been quite strong and robust. The major concern, however, is that growth has been driven largely by the extractive sub-sector, which is known to have limited job creation impact, while manufacturing and agriculture, with relatively better employment-generation effect, continue to record slower growth. The loss of the dominance of agriculture to services in terms of contribution to national output after rebasing of the National Accounts tends to be misconstrued as a structural transformation of the economy. Yet productivity in agriculture and services is still low and, coupled with the weak growth performance and the declining size of manufacturing termed as the 'missing middle', makes it difficult to equate the sectoral shift in national output with economic transformation.

3   Employment and unemployment in Ghana

The relevance of economic growth is measured by its effect on the quality of life of the citizenry through the creation of sufficient good quality jobs. The section gives an overview of the Ghanaian labour market from the perspective of employment and unemployment since 1984. It provides a snapshot of the current and the changing trend with regard to the level and quality of employment and the changing pattern of unemployment in Ghana over three decades.

3.1 High level of employment dominated by low-quality jobs

The availability of jobs and their quality, measured by rates of unemployment and joblessness as well as poverty incidence and income inequality, constitute key indicators of the health of an economy. Employment growth in Ghana has generally been slower than economic growth, raising concerns about the quality of Ghana's growth. Some concerns have been raised about the failure of solid growth in SSA for more than a decade to translate into a significant improvement in labour market outcomes, especially the generation of sufficient decent jobs.

Overall employment levels in Ghana are marginally higher than the SSA average, with a higher employment-to-population ratio in Ghana than in SSA (Table 3). The ratio is a measure of the ability of an economy to create employment. Developed economies tend to have lower ratios than developing economies, and an excessively high ratio is an indication of an abundance of low productive and low-quality employment. Employment levels in Ghana rose from 5.77 million in 1992 to 12.03 million in 2013, representing a 3.7 per cent average annual employment growth compared to 3.0 per cent in SSA (ILO 2014).

Table 3: Quantity and quality of employment

Economic sector	1984	1992	1999	2000	2006	2010	2013
Employment-to-pop. ratio, SSA	—	64.3	64.1	64.1	64.9	65.2	65.5
Employment-to-pop. ratio, Ghana	80.2	72.9	73.9	66.9	67.7	67.4	75.4
Total employment, Ghana (millions)	5.42	5.77	7.22	7.43	9.14	10.24	12.03
Economic sector							
Agriculture	61.1	62.2	55.0	53.1	54.9	41.6	44.7
Industry	13.7	10.0	14.0	15.5	14.2	15.4	14.6
Manufacturing (part of industry)	*10.9*	*8.2*	*11.7*	*10.7*	*11.4*	*10.7*	*9.1*
Service	25.2	27.8	31.0	31.5	30.9	43.0	40.9
Institutional sector							
Public	10.2	8.4	6.2	7.2	5.7	6.4	5.9
Private	6.0	6.1	7.5	8.9	7.0	7.4	6.1
Informal	83.8	85.5	86.1	83.9	87.3	86.2	88.0
Type of employment							
Paid employees	16.2	16.8	13.8	16.0	17.5	18.2	22.5
Self-employment	69.6	81.3	68.7	73.4	59.5	60.8	52.6
Contributing family worker	12.5	1.9	17.2	6.8	20.4	11.6	22.3
Other	1.7	—	0.3	3.8	2.6	9.4	2.6
Quality of employment							
Gainful/productive employment*	20.9	—	—	21.2	22.0	23.1	28.7
Vulnerable employment**	77.4	82.5	80.8	74.9	75.4	67.5	68.7
Working poverty	—	48.7	35.4	—	25.6	—	22.3

Notes: * Gainful/productive employment comprises paid employment and self-employed with employees.
** Vulnerable employment comprises own account and contribution family work.

Source: Computed from Ghana Living Standards Survey (GLSS) 3, 4, 5, and 6; Population Census 1984, 2000, and 2010.

Agriculture still remains the major source of employment in Ghana, even though its share has been in steady decline. The sector accounts for 44.7 per cent of total employment compared with 61.1 per cent in 1984 (Table 3). In contrast, employment in the services sector has seen remarkable improvement, from 25 per cent to 40.9 per cent over a period of three decades between 1984 and 2003, with industry experiencing a marginal increase of about 1 percentage point over the period. The shift in employment from agriculture to services may not reflect a structural and productive transformation since the rising services activities mostly occur in the informal sector. This is reflected in the increasing share of informal sector employment—from 83.8 per cent to 88.0 per cent—and declining formal sector employment between 1984 and 2013. The decline in formal sector employment largely emanated from public sector retrenchment, as part of the structural adjustment programme implemented in the 1980s. Most

of the job losses in the public sector seem to have been absorbed by the informal sector, given the slower expansion of the private formal sector in terms of employment generation.

There is widespread concern about the high level of employment in Ghana, but few decent jobs in terms of returns and type of employment. The working poverty rate remains high at 22 per cent, indicating that at least one-fifth of working people live in households considered to be poor, even though the rate has seen a continuous decline since 1992 (Table 3). The problem of working poverty is linked with the high rate of vulnerable employment in the labour market. Vulnerable employment is a defined measure of people employed under relatively precarious circumstances indicated by their status in employment. It consists of own account and contributing family work that are less likely to have formal work arrangements, access to benefit or social protection programmes, and are more 'at risk' to economic cycles (ILO 2009).

As reported in Table 3, two out of every three jobs in 2013 are considered to be vulnerable, with gainful or productive employment accounting for 28.7 per cent of jobs, suggesting a high deficit of decent work in the country. Since 1984, the rate of vulnerable employment has seen a decline, and there has been a corresponding increase in productive and gainful jobs, but the pace has been very slow. The low income associated with vulnerable employment implies high working poverty in such jobs compared to productive and gainful jobs.

Figure 2: Working poverty rate by type of employment (%)
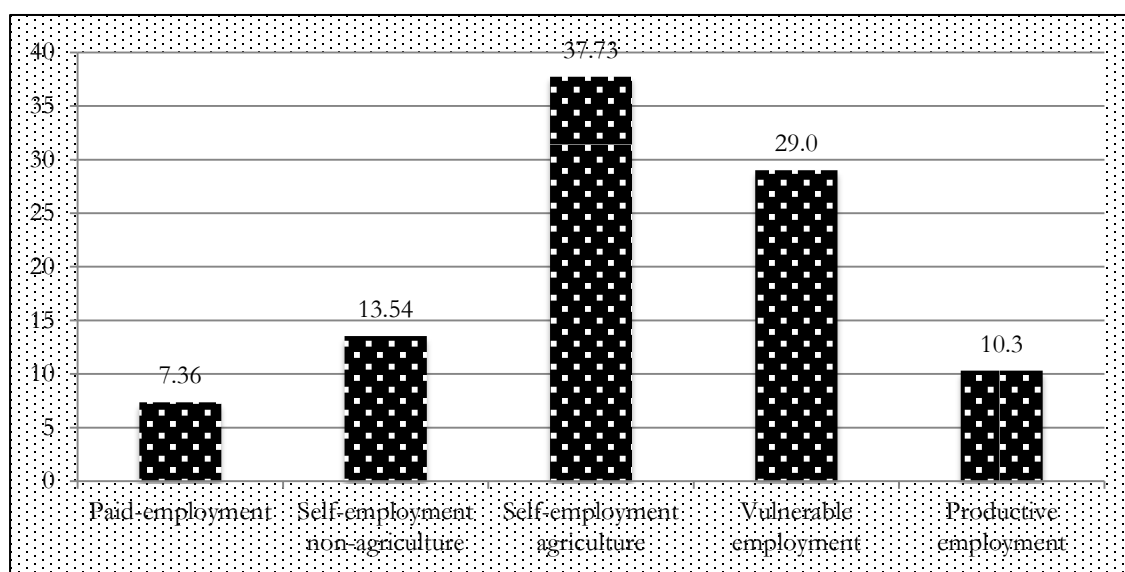
Note: Working poverty refers to employed or working people who live in poor households.

Source: Computed from GLSS 6 of 2012-13.

Figure 2 reports working poverty rate by type of employment and indicates a high working poverty rate among self-employed people in agriculture and self-employed in non-agriculture. Paid employment that operates within the employer-employee framework and subject to labour regulations has the lowest working poverty rate. In effect, productive employment, which is the combination of paid employment and self-employment with employees, has a relatively lower working poverty rate of 10.3 per cent compared with 29.0 per cent rate for vulnerable employment, which is generally not affected by formal labour regulations and is noted for its high decent work deficit.

3.2 Unemployment

Unemployment does not seem to be a major labour market challenge in Ghana, even though the rates have generally seen an increase over a period of three decades. As in most SSA countries, unemployment is generally low in Ghana, partly on account of a high degree of informality and vulnerable employment. As Baah-Boateng (2015) notes, the high degree of informality tends to mask the problem of unemployment, given the large number of discouraged workers who are jobless and available for work but fail to make the effort to seek work for various reasons. In 2006, the unemployment rate more than doubled from 3.1 per cent to 6.5 per cent after accounting for discouraged workers (Baah-Boateng 2015), indicating the extent to which the discouraged worker effect underestimates the unemployment rate in Ghana.

About 5 per cent of the labour force was estimated to be unemployed in 2013. The rate of unemployment rose consistently from 2.8 per cent in 1984 to 10.4 per cent in 2000, and slowed down subsequently to 7.3 per cent and 3.1 per cent in 2003 and 2006 respectively (Table 4). The rate went up again in 2010 to 5.8 per cent and dropped by 0.6 of a percentage point three years later to record a rate of 5.2 per cent in 2013.

Table 4: Unemployment rates, by age, sex and locality (%)

Demographic group	1984	1992*	1999*	2000	2003*	2006*	2010	2013
All (15+)	2.8	3.3	7.5	10.4	7.3	3.1	5.8	5.2
Youth (15-24)	—	8.6	15.9	16.7	16.3	6.6	12.9	10.9
Sex								
Male	3.2	3.4	7.9	10.1	6.9	3.0	5.4	4.8
Female	2.5	3.2	7.2	10.7	7.7	3.2	6.3	5.5
Locality								
Urban	6.0	8.2	13.2	12.8	10.7	6.1	8.0	6.5
Rural	1.4	1.7	4.9	8.6	4.8	1.3	3.5	3.9
*Level of education**								
No education	—	0.7	—	9.6	—	2.4	3.1	2.7
Basic education	—	3.6	—	10.6	—	4.6	6.0	3.3
Secondary+	—	4.3	—	12.7	—	10.9	8.3	6.6
Tertiary	—	8.0	—	11.0	—	7.8	18.4	6.0

Notes: * Computed by authors.

Source: GLSS 3, 4, 5, and 6; Core Welfare Indicators Questionnaire (CWIQ) 2003; Population Census 1984, 2000, and 2010.

The youth unemployment rate is generally twice as high as the overall unemployment rate and following the same trend as the overall unemployment rate. The gender dimension of unemployment shows lower rates among females than males in 1984, and the reverse emerging thereafter. Baah-Boateng (2012) attributes the reverse of the relative unemployment rates since 1984 to the increasing desire of women to participate in the labour market, as is evident in the consistent increase in the labour force participation rate of women against the backdrop of fewer employment opportunities available to them.

The unemployment rate is also higher among those with secondary education and above than among the less educated. The rate was highest among tertiary graduates, followed by secondary school leavers in 1992 and 2010, with the reverse being the case in 2000, 2006, and 2013 (Table 4). The rate is lowest among those with no education followed by those with basic education, on the grounds that the less educated comfortably take refuge in the informal sector, since they have very limited access to formal sector jobs (Baah-Boateng 2013, 2015). In contrast, the better educated labour force would always focus on the formal sector as the source of employment, seeing the informal sector as an unattractive employment destination. Hence, there are limited job opportunities in the formal sector relative to the number of people coming out of secondary schools and tertiary institutions, which creates a larger army of educated unemployed.

Overall, the Ghanaian labour market can be summarized as largely informal and with low unemployment, but with a considerable number of discouraged workers. Even though there has been a shift in employment from agriculture to services similar to the structural shift in output, most of the new jobs in the services sector are informal, which is associated with low productivity and earnings. The relatively higher unemployment rate among the educated is an indication of limited job creation in the formal sector to absorb the increasing number of tertiary and secondary school leavers whose employment target is the formal sector.

4   Poverty and inequality

The extent of poverty and inequality is a function of the labour market. The level and distribution of employment as well as unemployment, which is a function of the rate and sources or structure of economic growth, has implications for the earning power and the poverty status of individuals and households.

Ghana has made considerable progress towards poverty reduction over the years. After an initial surge from 56 per cent in 1987-88 to 61 per cent in 1988-89, incidence of upper poverty has witnessed consistent decline to 24 per cent in 2012-13 (Figure 3). Extreme poverty also declined from 42 per cent to 8 per cent over the same period, after an initial rise. This suggests that Ghana's strong growth performance has seen some improving effect on poverty. The challenge, however, is the worsening inequality in the country, implying that some individuals or groups of individuals are benefiting more than others from the impressive growth performance that pushed the country to a middle-income level. The extent of inequality measured by Gini coefficient increased continuously from 35.4 per cent to 42.3 per cent in 2013 (Figure 3). Thus, over time, Ghanaians are not benefiting evenly from the growth process.

Figure 3: Incidence of poverty and inequality 1987-2013
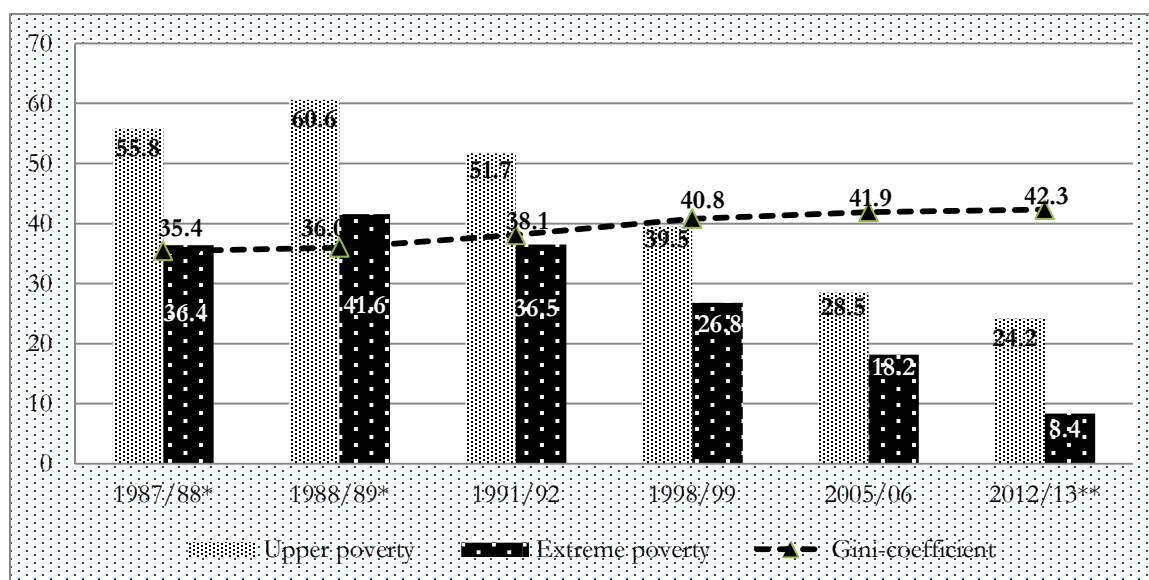
Source: GLSS 1-4.

Poverty is more endemic in rural than in urban areas. Among the rural localities where poverty is highly endemic is rural savannah, with extreme poverty incidence of 27.3 per cent in 2013 compared with 9.4 per cent and 7.8 per cent in rural coastal and rural forest respectively (Table 5). Similarly, poverty incidence (based on the national upper poverty line) of 55 per cent was recorded in rural savannah as against 30.3 per cent in rural coastal and 27.9 per cent in rural forest. As expected, urban Accra recorded the lowest upper poverty incidence of 3.5 per cent in

2012-13, compared to 9.9 per cent in urban coastal and 10.1 per cent in urban forest, with the highest rate reported among urban savannah dwellers (Table 5). Only 0.5 per cent of population in Accra was estimated to be extremely poor in 2012-13 as against 1.8 per cent and 2.0 per cent in urban forest and urban coastal respectively, with urban savannah reporting the highest urban extreme poverty incidence of 4.6 per cent.

Income inequality measured by Gini coefficient is marginally higher in rural than in urban areas in 2012-13. Among the urban communities, Accra recorded lowest degree of inequality, followed by urban coastal, with urban forest and urban savannah showing an equal degree of inequality with a Gini coefficient of 37.6 per cent (Table 5). In the rural localities, rural coastal had the highest degree of inequality with Gini coefficient of 43.1 per cent, compared to 41.3 per cent in rural savannah and 36.2 per cent in rural forest areas.

Table 5: Poverty and inequality by locality

Year	Rural	Urban	Accra	Urban coastal	Urban forest	Urban savannah	Rural coastal	Rural forest	Rural savannah
Upper poverty									
2005-06	43.7	12.4	12.0	6.4	8.7	30.1	27.2	33.1	64.2
2012-13	37.9	10.6	3.5	9.9	10.1	26.4	30.3	27.9	55.0
Extreme poverty									
2005-06	23.4	5.1	4.5	1.1	2.8	16.9	9.6	12.6	42.9
2012-13	15.0	1.9	0.5	2.0	1.8	4.6	9.4	7.8	27.3
Inequality									
2005-06	37.8	38.2	41.5	37.8	33.6	38.4	34.3	34.3	39.4
2012-13	40.0	38.8	36.0	36.3	37.6	37.6	43.1	36.2	41.3

Source: Constructed from GLSS 6.

The increasing inequality over the seven-year period is evident in both rural and urban localities overall, increasing for rural areas from 37.8 per cent in 2005-06 to 40.0 per cent in 2012-13, and in urban areas from 38.2 per cent to 38.8 per cent. All the rural areas experienced increasing inequality between the two periods, with the rural coastal showing the largest increase. Accra and urban coastal areas experienced improving equality over the seven-year period, with Accra showing the largest decline from 41.5 per cent in 2005-06 to 36.0 per cent in 2012-13 (Table 5).

In summary, although Ghana prides itself on having manged to reduce poverty substantially since 1991 to the extent of meeting the Millennium Development Goal (MDG) target of halving extreme poverty within two and half decades, it has not been able to win the battle against inequality. Poverty is still endemic in three regions in the north, and the depth of poverty also remains a challenge even in urban areas (NDPC 2015). The poverty reducing strategy of giving cash transfers to extremely poor households under the Livelihood Empowerment Against Poverty (LEAP) programme since 2008 is yet to have the necessary effect of averting increasing inequality and depth of poverty. A re-examination of Ghana's growth performance to is therefore required to make it more inclusive by ensuring that the benefits of growth are evenly spread through the generation of productive employment across all segments of the country.

5   Earnings differentials by employment type

Related to the issue of inequality is earnings diversity by status of employment, and demographic group, as well as application of the minimum wage in a labour market dominated by self-employment. Earnings differentials across employment type and sectors have implications for inequality among different groups in the labour market. Across economic sectors, earnings were estimated to be highest in services in 2006, followed closely by industry, with the lowest average daily earnings reported in agriculture estimated to be 46.1 per cent and 46.3 per cent of average

daily earnings in services and industry respectively. In 2013, agriculture reported the lowest average basic hourly earnings of GH¢0.69 compared with a range of between GH¢1.07 (in manufacturing) and GH¢2.56 (in energy) in industry, and between GH¢0.98 (in domestic work) and GH¢3.40 (in public administration) in the services sector (GSS, various years). Earnings are also estimated to be lowest in the informal sector, with average daily earnings of the sector estimated at 37.5 per cent of earnings in the public sector, and 32.1 per cent of average earnings in the private formal sector (Baah-Boateng et al. 2013).

In order to capture the earnings differentials among different demographic and employment groups, a standard semi-logarithmic earnings function was estimated using an instrumental variable technique on a nationally representative household dataset of 2005-06 (i.e. GLSS 5) and 2012-13 (i.e. GLSS 6). The use of instrumental variable estimation technique is motivated by the concern around potential endogeneity of individual's education as one of the regressors. Individual's mother's and father's education were used as an instrument in the estimation and the results are reported in Table 6.

Table 6: Results of earnings function by Instrumental Variable (IV) technique for 2005-06 and 2012-13: dependent variable – log of Earnings (*LnE)*

Explanatory variable	2005-06	2012-13
Age	0.0169	0.0479***
Age squared	-0.0002	-0.0006***
Female dummy	-0.0853*	-0.4938***
Married dummy	0.0174	0.0639***
Urban dummy	0.1842*	0.1573***
Years of education	0.1481***	0.0541***
Work experience (years)	0.0132***	0.0108***
Effort (hours worked weekly)	0.0023***	0.0033***
Employment status (contributing family worker and others as reference dummy)		
Paid employment	1.5908***	0.2958***
Employer	1.7629***	0.6097***
Own account work	1.4058***	0.0974**
Industry of employment (agriculture as reference dummy)		
Industry	1.4376***	0.6635***
Service	1.3480***	0.7617***
Constant	8.7204***	3.1142***
R^2	0.1684	0.2568
F-statistic	127.34***	313.44***
Number of observations	10,456	15,843

Notes: *** *p*-value < 0.01; ** *p*-value < 0.05; * *p*-value < 0.1

Source: Estimated by authors.

The results confirm highest average earnings among employers (i.e. self-employed with employees), followed by those in paid employment, with own account workers being the lowest earners in 2005-06 and 2012-13. Relative to agriculture, earnings are also found to be higher in industry than services in 2005-06 while services jobs are estimated to earn better than jobs in the industrial sector in 2012-13.

The results show earnings differentials among different demographic groups. Age has a significant influence on earnings in 2012-13 such that earnings increase with age from 15 years, and beyond a maximum 40 years earnings begin to decline with age. Gender earnings differentials favour men, with females earning significantly lower wages than their male counterparts. The differentials worsened in the subsequent period with females earning about 49 per cent lower wages than men in 2012-13 from about 9 per cent lower earnings in 2005-06, with implications for worsening gender inequality. The results also confirm higher earnings among

urban dwellers than the workforce in rural areas. Married workers are also found to earn higher wages than unmarried ones. Education, work experience, and effort at work (i.e. hours worked weekly) have a significant effect on increasing earnings such that a lower share of educated workforce in total employment suggests that a smaller proportion benefit from higher earnings, with many of the uneducated workforce working to earn only a subsistence wage, with implications for income inequality.

Since ratifying the Minimum Wage-Fixing Machinery Convention 1928 (number 26) in 1959, Ghana has been fixing a minimum wage and expecting employers to abide by it. The Labour Law, Act 651 of 2003, mandates the National Tripartite Committee (NTC) to determine the national daily minimum wage which is enforced by the Labour Department. In Ghana, the benefit of minimum wage legislation accrues to those in paid employment where the employer-employee relationship exists and where minimum wage legislation and other labour standards can be enforced.

The lower earnings among people in vulnerable employment (own account and contributing family work), mostly in the informal sector relative to paid employment, can largely be linked to the exclusion of such types of employment from the benefits of labour regulations. Indeed, a shift in employment from agriculture to service and public to informal implies changing earnings in the labour market. Over the past three decades, the national daily minimum wage has witnessed substantial improvement in real terms. The formulae for computing the minimum wage by the Technical Committee of the NTC, which forms the basis of the determination of the minimum wage by the NTC, is anchored to the cost of living. The growth of minimum wage has largely been above the rate of inflation, suggesting rising real minimum wage over time (Figure 4).

Figure 4: National daily minimum wage against cost of living
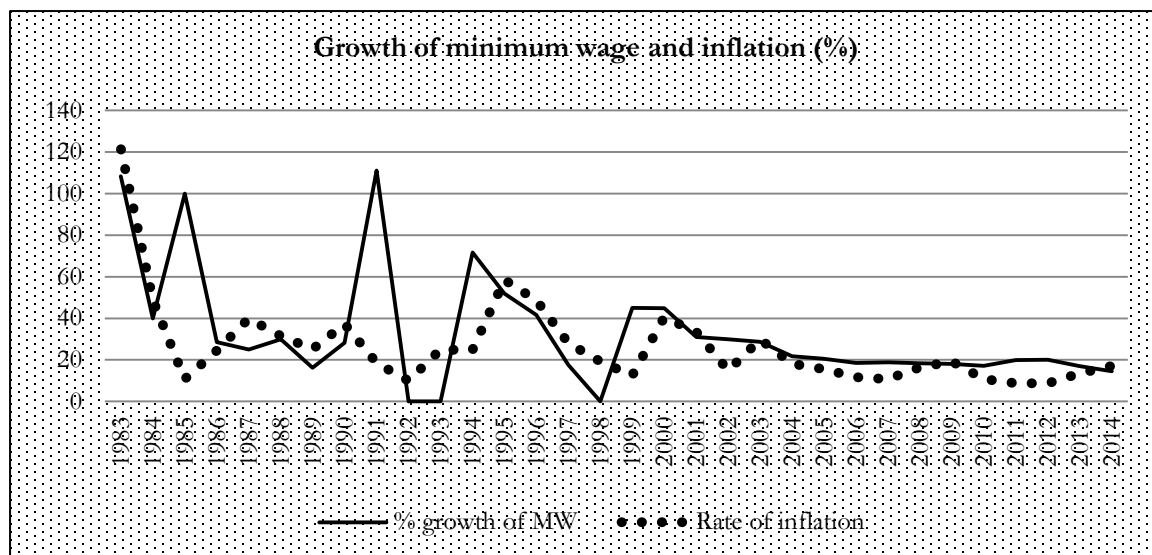
Source: Computed from Government Budget Statements, Statistical News Letter of GSS.

The beneficiaries of the improvement in the minimum wage are mostly formal sector workers, whose employers largely adhere to the minimum wage legislation and other labour regulations and standards. Indeed, the base pay of the government's Single Spine Pay Structure (SSPS) for workers in public service is directly linked with the minimum wage and cannot fall below it. Consequently, all public service workers on the SSPS enjoy an upward salary review when the nominal minimum wage is upwardly adjusted. This could explain the highest average basic hourly earnings of GH¢3.40 among workers in public administration and defence in 2013 (GSS,

various years). However, a vast majority of the workforce engaged in the informal sector dominated by own account and contributing family workers, where enforcement of labour regulation is a challenge, do not enjoy such benefits associated with upward review of the nominal minimum wage in Ghana. This has implications for widening the earnings gap among different employment groups and thus exacerbating income inequality.

6 Growth of labour productivity

Output growth and an increase in the size of the workforce, as well as a shift in the sectoral distribution of output and employment, has implications for the growth of labour productivity. Labour productivity is measured crudely by output per worker. In this section, we compute the labour productivity of the entire economy and of each sector at different periods using employment data from 1991-92, 1998-99, 2005-06, and 2012-13 obtained from the last four rounds of the GLSS. Aggregate labour productivity measured by GDP per worker at time t is given as:

$$P_t = \frac{Y_t}{E_t}$$

(1)

Where P_t is aggregate labour productivity, Y_t is total real gross value added and E_t is total employment.

In order to identify the principal sources of changes in aggregate labour productivity over time, a formal decomposition into two sector-specific effects: (a) within-sector effect and (b) between-sector effects is carried out. The 'within-sector term' captures the growth of productivity within given sectors while 'between-sector component' measures the contribution of changes in the pattern of employment across sectors to productivity growth. Following Sparreboom and Gomis (2015), equation (1) could be expressed in terms of aggregate sectors as:

$$P_t = \sum \frac{Y_{it}}{E_t} = \sum \frac{Y_{it}}{E_{it}} \frac{E_{it}}{E_t}$$

(2)

All variables have already been explained. The growth rate of aggregate productivity can therefore be decomposed based on the relationship:

$$\frac{P_t - P_0}{P_0} = \frac{\sum \left(Y_{it} E_{it} / E_{it} E_t \right) - \sum \left(Y_{i0} E_{i0} / E_{i0} E_0 \right)}{\sum \left(Y_{i0} E_{i0} / E_{i0} E_0 \right)}$$

$$= \frac{\sum \left(Y_{it}/E_{it} - Y_{i0}/E_{i0} \right) \frac{E_{it}}{E_t}}{\sum \left(Y_{i0} E_{i0} / E_{i0} E_0 \right)} + \frac{\sum \left(E_{it}/E_t - E_{i0}/E_0 \right) \frac{Y_{i0}}{E_{i0}}}{\sum \left(Y_{i0} E_{i0} / E_{i0} E_0 \right)}$$

(3)

Where the first term in (3) measures the 'within-sector effect' and the second term accounts for the 'between-sectors effect'. The 'within-sector effect' is due to the sectoral productivity growth (measured by the difference between sectoral value added growth and employment growth) weighted by the employment share of the sector (which is held constant). The 'between-sectors

effect' is due to changes in sectoral employment shares, weighted by a constant sectoral productivity. A positive between-sectors effect arises when sectoral employment shares increase and vice versa.

Table 7 reports the results of annualized labour productivity at the aggregate and sectoral levels, and the decomposition of aggregate labour productivity growth rate into a sector-specific 'within component' and a 'between component'. The Ghanaian economy recorded an improvement in the aggregate annualized productivity growth rate from 1.3 per cent in the 1990s to 2.4 per cent over 1999-2006, and a further increase to 4 per cent over the period 2006-13. The source of the improved productivity growth varies across sectors and periods. The substantial productivity growth in 2006-13 was mostly driven by growth of output per worker in industry at about 8 per cent annually on the back of the commercial production of oil from 2011. Growth of output per worker in services was the key underlying factor behind the labour productivity growth of 2.4 per cent in 1999-2006. Annual labour productivity growth of 2.1 per cent in agriculture was the driving force behind the moderate economy-wide productivity growth of 1.3 per cent over 1991-99, with output per worker in industry declining annually by 3.0 per cent (Table 7).

Table 7: Contribution to annual aggregate productivity growth by broad sectors

Year	Broad economic sector	Annual productivity growth (%)	Contribution to productivity growth		
			Within effect	Between effect	Net contribution
1991/92-1998/99	Agriculture	2.1	1.7	-1.4	0.3
	Industry	-3.0	-3.4	5.0	1.6
	Service	1.5	1.5	1.4	2.9
	All	1.3	—	—	—
1998/99-2005/06	Agriculture	1.9	2.0	-0.03	2.0
	Industry	2.5	2.7	0.2	2.9
	Service	2.8	3.0	-0.05	3.0
	All	2.4	—	—	—
2005/06-2012/13	Agriculture	2.7	2.4	-2.7	-0.2
	Industry	7.8	10.0	0.2	10.2
	Service	0.3	0.4	4.6	5.0
	All	4.0	—	—	—
1991/92-2012/13	Agriculture	2.1	11.3	-1.3	9.9
	Industry	2.2	4.3	2.1	6.4
	Service	1.4	2.6	2.2	4.8
	All*	2.23	—	—	—

Notes: *Based on rebased figures.

Source: Constructed from the GLSS 3, 4, 5, and 6 for employment, and National Accounts for value added.

In terms of sector-specific decomposition effects, a strong contribution of services to aggregate productivity gains in the 1990s emanated from both productivity gains within the sector and labour reallocation gains from other sectors. Productivity gains within agriculture were highest as a result of sectoral output growth, as against a declining share of the sector in employment over the period 1991-99. Productivity loss in agriculture as a result of the shift in agricultural labour to other sectors undermined the productivity gains within the sector, thus reducing the sector's net contribution to aggregate productivity to only 0.3 per cent. In spite of the average annual output growth of about 4 per cent in industry from 1993 to 1999 (see Table 2), the flow of labour into the sector, accounting for a 4 percentage point increase in the sector's share of total employment over 1991-99, largely explains the productivity loss recorded within the sector. The productivity loss within the industrial sector emanated largely from the manufacturing sub-sector. Indeed, the sub-sector which during the period was the dominant sub-sector in industry in terms of output and employment grew by only 3.6 per cent (see Table 2) as against a 3.5 percentage point gain in its employment share (see Table 3). Nonetheless, productivity gains resulting from the flow of labour into the industrial sector outweighed the productivity loss recorded within the sector to yield a net contribution of the sector to aggregate productivity of 1.6 per cent.

In 1999-2006, aggregate productivity growth was driven largely by productivity gains within the sectors. The services and industry recorded 3.0 per cent and 2.7 per cent annual productivity gains respectively, with agriculture recording the least productivity gains within the sectors. This is reflected in the higher average output growth of 5.5 per cent in services and industry sectors, compared with 4.6 per cent recorded by agriculture over the period 2000-06 (Table 2). Shifts in employment across sectors during the period were quite minimal, resulting in very small productivity gains or losses between sectors. The drop in the share of agriculture and services in total employment by only 0.1 of a percentage point each in favour of industry (Table 3) accounted for the marginal productivity loss for agriculture and services against marginal productivity gains for industry across sectors during the period.

The strong contribution of industry to aggregate productivity growth in 2006-13 is traced mainly to productivity gains within the sector as a result of the high growth of the sector's output on the back of the commencement of commercial oil production in 2011. Productivity gains from labour reallocation were, however, minimal in industry. The relocation of employment from agriculture largely to services is evident in the productivity loss from the labour reallocation effect, which overshadowed the productivity gains within the agricultural sector resulting in an overall negative net contribution to aggregate productivity. The contribution of services to aggregate productivity growth is exclusively due to the reallocation of employment into the sector, with very limited productivity gains within the sector. The small productivity gains recorded within the services sector could be explained by the large number of low-skilled workers in informal employment, who were relocated to the sector largely from agriculture.

Over the 23-year period between 1991 and 2013, agriculture has been the highest net contributor to aggregate productivity growth, followed by industry and services in that order (Table 7). The strong net contribution of agriculture to aggregate output is traced mainly to productivity gains within the sector as a result of the faster output growth of the sector relative to employment growth. The share of agriculture in total employment declined from 62.2 per cent in 1991-92 to 44.7 per cent in 2012-13 (Table 3), translating into 1.68 per cent annual average employment growth compared to 3.84 per cent annual growth of agriculture gross value added. The shift in employment from agriculture to other sectors caused a marginal productivity loss of 1.3 per cent, yielding a net contribution to aggregate output of the sector of 9.9 per cent (Table 7). A combination of the strong annual output growth of industry of about 7.3 per cent, largely on the back of oil and mining, accompanied by employment growth of 4.9 per cent (or a 4.6 percentage point rise in the sector's share in employment) over the period generated 4.3 per cent annual productivity gains within the sector. The gain in productivity from the flow of labour into the sector pushed the net contribution to annual aggregate productivity growth to 6.4 per cent.

The limited productivity gains within the services sector between 1991 and 2013 are largely connected to the flow of low-skilled labour mostly into the informal segment of the sector. Based on rebased National Accounts figures, the services sector grew by 6.6 per cent annually, the second highest behind industry. At the same time, employment in the sector also expanded on annual basis by 5.1 per cent, resulting in low productivity gains of 2.6 per cent within the sector. The flow of labour into the sector yielded productivity gains of 2.2 per cent, pushing the net contribution of the sector to aggregate productivity growth to 4.8 per cent, behind industry and agriculture. Essentially, the flow of labour with a low level of skills that moved mainly from agriculture to services largely accounted for the low 'between effect' productivity gains in the sector. For Ghana to reap high productivity gains in all sectors of the economy requires large investment in human capital development to promote high-quality education and improve the skills of the country's workforce.

7 Growth-employment-poverty linkage

The relevance of economic growth is measured through its effect on the livelihood of the people in the country through the generation of productive and gainful employment. As Baah-Boateng (2008) remarks, whereas the link between economic growth and job creation depends on the extent to which growth generates employment, the impact of employment creation on poverty reduction depends on the extent to which poor workers benefit their labour. Thus, poverty reducing effect of economic growth is a function of quantity and quality of jobs created from the growth. This section focuses on employment response to growth and how it trickles down to the poverty and living condition of the people

7.1 Employment effect of economic growth

Generally the pattern and distribution of employment growth mirrors activities in the real sector of the economy since demand for labour is a derived demand. However, employment growth has not kept pace with the speed of economic growth over the last few decades. Between 1991 and 2013, total employment increased from about 5.77 million to 12.03 million, representing 3.39 per cent annual employment growth on average over a 22-year period, compared to annual real GDP growth of 5.83 per cent. Thus every 1 per cent economic growth on average is associated with employment growth of 0.58 per cent. Baah-Boateng (2013) estimates an employment elasticity of national output of 0.47 between 1984 and 2010, suggesting that every 1 per cent economic growth produces job growth of 0.47 per cent.

The widening gap between national output and employment, as depicted in Figure 5, is an indication of the slow growth of jobs relative to economic growth. Thus the employment response to growth was higher in the 1990s and slowed down in subsequent years, reflecting the trend towards divergence of employment and GDP growth. This observation is confirmed by the International Labour Organization (ILO 2009), with a decline in employment elasticity from 0.64 over 1992-2000, to 0.52 in 2000-04 and further down to 0.4 in 2004-08.

Figure 5: Employment and GDP growth trends 1991-2013
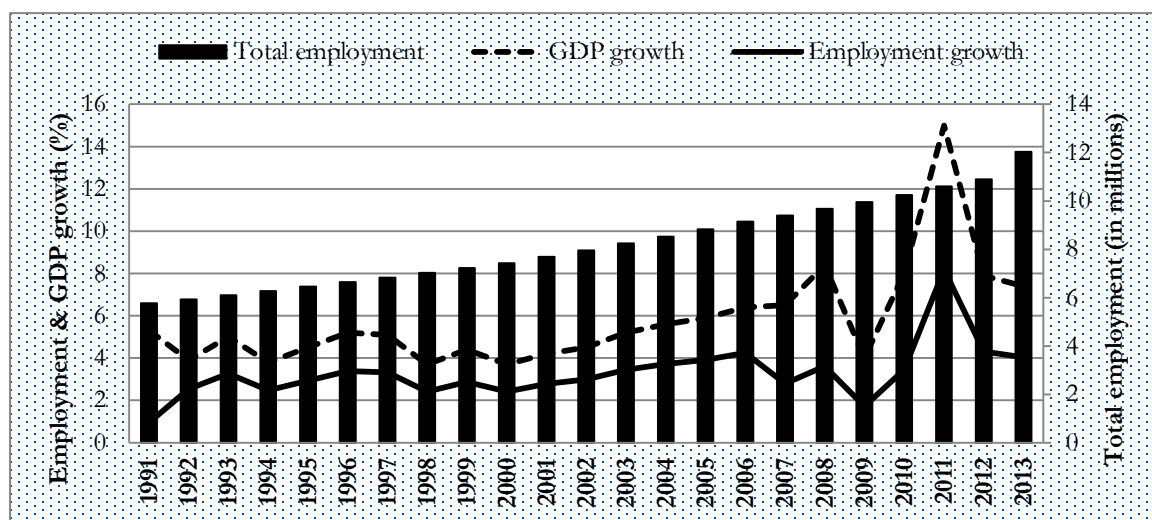
Source: Computed by the authors from National Accounts 2000 and 2010, Population Censuses, and GLSS 3, 4, 5, and 6.

In measuring the job creation effect of economic growth, we estimate employment elasticity of output using two main approaches. The first is the arithmetic formula for computing elasticity, which is the ratio of the proportionate change in employment to the proportionate change in output over two given periods. Thus:

$$\sigma_{E,Y} = \frac{\dfrac{E_t - E_{t-1}}{E_t}}{\dfrac{Y_t - Y_{t-1}}{Y_t}} = \frac{\dfrac{\Delta E_t}{E_t}}{\dfrac{\Delta Y_t}{Y_t}} = \frac{\partial \ln E_t}{\partial \ln Y_t} \tag{4}$$

Where E denotes employment, Y represents real GDP, t and t-1 are current and previous periods respectively. This method is computationally very simple and useful when there are data constraints. The main criticism of the method is for its weakness with respect to forecasting. Employment data for computation is sourced from the nationally representative household survey of GLSS 3, 4, 5, and 6, while GDP figures are obtained from the National Accounts.

The second method involves a specification of a functional relationship between employment and output, and applying appropriate regression estimation technique to obtain the elasticity. An employment model that captures output effect is specified in logs as:

$$\ln E_t = \beta_0 + \beta_1 Y_t + \beta_2 RMW_{t-1} + \beta_3 P_t + \beta_4 D + \varepsilon_t \tag{5}$$

where E is total employment measured by the number of people estimated to be employed in a particular year, Y denotes real GDP, W is wage rate proxied by real national daily minimum wage in the absence of real average wage, P is total population, D is rebase dummy to capture the major rebase of the National Accounts in 2006 *(D = 0 for 1990-2005; D = 1 for 2006-13)* and ε is a random error term assumed to obey all the relevant classical linear regression estimation technique. Employment elasticity of output is captured by the estimated coefficient of output, β_1.

The results of annual time series multivariate regression estimation show an estimated employment elasticity of output of 0.632 over 1991-2013 with the dummy for the National Accounts rebasing as an additional control variable (Table 8). The elasticity drops to 0.216 when the real minimum wage and population are controlled for in the employment model, suggesting a weak employment response to economic growth over the last two decades. Thus, a 1 per cent growth of real GDP is able to produce only 0.2 per cent growth of employment. The statistically significant coefficient of the rebase dummy clearly shows that employment response to growth was lower during 2006-13 than 1991-2005 confirming the declining employment elasticity in Figure 7. Basic diagnostic tests show that the estimated complete model of employment does not suffer from the problem of autocorrelation, heteroscedasticity, or problem of omitted variable. The observed autocorrelation and omitted variable problems based on statistically significant Breusch-Godfrey LM and Ramsey RESET tests for the simple model with two regressors is explained by the exclusion of many other relevant variables that influence employment in Ghana.

Table 8: Linear regression results 1991-2013: Dep. variable—log of employment

Variable	1	2
$\ln Y_t$ (log of real GDP)	0.632***	0.216***
$\ln RMW_t$ (log of real minimum wage)	—	-0.009
$\ln P_t$ (log of population size)	—	0.839***
D (dummy for rebasing of National Accounts in 2006)	-2.107***	-0.717***
Constant	-1.943**	-13.351***
R^2	0.9836	0.9965
F-stats	628.57***	1368.17***
Breusch-Godfrey LM test for autocorrelation Chi2	11.81***	0.446
Breuch-Pagan test for Heterskedasticity Chi2	3.64*	2.19
Ramsey RESET test for omitted variable F (3, 15)	28.95***	1.71
N	23	23

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

Source: Estimated by authors.

The results of the arithmetic computation of employment elasticity of output based on equation (4) are shown in column 1 of Table 9 to indicate a declining elasticity values since 1991. Employment elasticity declined marginally from 0.76 in 1991-99 to 0.68 in 1999-2006, suggesting a marginal slowdown in job creation response to economic growth over the two periods. The subsequent seven years (2006-13) saw a substantial drop in employment elasticity to 0.5, largely as a result of high economic growth driven by mining and commercial oil production, which commenced in 2011. Thus, during the period, every 1 per cent growth of real GDP implies a 0.5 per cent growth in employment compared to 0.68 in the preceding 15-year period.

The declining employment elasticity since 1991, reflecting the widening GDP-employment divergence growth pattern, is confirmed by the ILO (2009), with a decline in employment elasticity from 0.64 over 1992-2000 to 0.52 in 2000-04 and further down to 0.4 in 2004-08. Employment elasticity over 1991-2013 is estimated at 0.598, meaning that every 1 per cent economic growth is associated with 0.6 per cent job growth, regardless of the type of job.

Table 9: Growth-employment-poverty relationship by elasticity

Year	Employment elasticity of output 1	Poverty elasticity of employment 2	Poverty elasticity of productive employment 3
1991-99	0.760	-1.199	-2.16
1999-2006	0.679	-1.387	-4.62
2006-13	0.505	-1.006	-1.04
*1991-2013**	*0.598*	*-1.033*	*-1.65*

Notes: * Based on GDP at 2006 constant prices.

Source: Authors' calculation from National Accounts and GLSS 3, 4, 5, and 6.

7.2 Poverty response to employment

The poverty reducing effect of employment generation arising from economic growth depends on the type of employment that responded to growth. The rise in informal sector employment from 85.5 per cent to 88 per cent suggests faster employment growth in the informal sector than the formal sector. Employment in the informal sector is estimated to have expanded annually on average by 3.7 per cent compared to 2.6 per cent in the formal sector between 1992 and 2013. In the formal sector, the public sector experienced slower growth of 1.8 per cent compared to 3.6 per cent in the formal sector over the same period.

Paid employment considered to be productive, gainful, and decent, which surged by about 6 percentage points between 1992 and 2013 as against a decline in vulnerable employment rate

over the same period indicates considerable improvement in the quality of employment. This culminated in an estimated growth of productive and gainful employment by 4.5 per cent compared with 2.7 per cent growth in vulnerable employment. This largely explains the substantial drop in the working poverty rate from 49 per cent in 1992 to 26 per cent in 2006, and further down to 22 per cent in 2013 (Table 3). Lower working poverty in productive and gainful employment than in vulnerable employment implies that the working poverty rate would have dropped more substantially than it did with faster growth in paid employment and self-employed with employees, which largely conforms to decent work.

To capture a quantitative response of poverty to employment generation, we compute poverty elasticity of employment using an arithmetic formula similar to equation (4) as:

$$
\sigma_{P,E} = \left.\frac{\dfrac{P_t - P_{t-1}}{P_t}}{\dfrac{E_t - E_{t-1}}{E_t}}\right. = \left.\frac{\dfrac{\Delta P_t}{P_t}}{\dfrac{\Delta E_t}{E_t}}\right. = \left.\frac{\partial \ln P_t}{\partial \ln E_t}\right. \tag{6}
$$

where P denotes poverty incidence, E represents employment, t and t-1 are current and previous periods respectively.

Columns 2 and 3 of Table 9 present results of arithmetic poverty elasticity of employment to suggest a strong poverty reduction response to employment growth. Indeed, between 1991 and 2013, every 1 per cent employment growth is accompanied by more than 1 percentage point reduction in poverty incidence. Poverty reducing response to job creation was strongest in the period 1999-2006, with about a 1.4 percentage point drop in poverty incidence in response to a 1 per cent rise in total number of jobs. The extent of the poverty reducing response to job creation depends on the quality of jobs. As shown in column 3 of Table 9, a 1 percentage point increase in the share of productive employment over 1991-2013 is associated with a 1.65 percentage drop in poverty. This observation clearly supports the view that a poverty reduction strategy would be most effective if it is directed at promoting the creation of productive and better paid jobs.

8   Constraints to growth and job creation

The weak job creation effect of Ghana's strong economic growth performance raises questions about the reasons underlying such outcome, which must be investigated. Given the abundance of natural and human resources, the country's growth would have been higher than has been recorded if constraints particularly related to skills development had been fewer. This section examines obstacles to economic growth in terms of human resources, and the low employment response to growth.

8.1   Quantity and quality of labour force

Economic growth and job creation depend on the size and quality of labour force. Indeed, the availability of human resources in the right quantity and quality form the foundation of growth and development. Ghana's population has been growing at an annual average of 2.5 per cent over the last three decades, with an estimated population of 26.3 million and working age population (aged 15+ years) accounting for 60.7 per cent in 2013. The size of Ghana's labour force in 2013 stood at 12.31 million (94.8 per cent in employment and 5.2 per cent unemployed), increasing from 6.04 million in 1992, which translates into 3.4 per cent annual growth on average (Table 10). Thus the economically active population, who constitute 47 per cent of the total population, are responsible for feeding the entire population. Labour force participation of men

has generally been higher than that of women, with an estimated average labour force participation rate of 76.1 per cent for men and 73.7 per cent for women over the period 1992-2013 (Table 10). The participation rate is higher for adults than the youth and the changing trend is generally the same for the different demographic group.

Faster economic growth relative to the labour force suggests that the size and growth of the labour force has not reached a level that could be inimical to growth. The economy grew annually on average by 5.3 per cent between 1991 and 2013 compared with growth of the labour force of 3.4 per cent. However, the quality of labour force could have a constraining effect on long-term growth and the generation of quality employment and poverty reduction. Historically, Ghana's economic growth performance measured by per capita income growth seems to be largely attributed to productivity rather than production inputs (Aryeetey and Fosu 2002). Bosworth growth accounting decomposition of Ghana between 1994 and 2000 attributes Ghana's per capita growth of 1.77 per cent largely to growth in factor accumulation measured by physical capital per worker (1.17 per cent) with education per worker and total factor productivity constituting 0.15 per cent and 0.44 per cent respectively (Ndulu and O'Connell 2003).

The strong growth effect of physical capital after 2000 could be explained by the strong contribution of capital intensive sectors of mining and oil, as well as finance, to growth. This is reflected in the improved contribution of gross capital formation to GDP, which peaked at 33 per cent in 2012 from a low of 14 per cent in 1990. The contribution of education to growth measured by education per worker in the growth accounting was the lowest, which raises a question about the quality of Ghana's labour force. The level of education and skills of the Ghanaian labour force is generally low, with eight out of ten having less than secondary education (Table 10). This does not seem to be enough to propel the country towards sustainable long-term growth and economic transformation.

Table 10: Trends in size and education level of the labour force (LF)

Indicator	1992	1999	2000	2006	2010	2013
Total labour force (in million)	6.04	8.21	8.29	9.42	10.88	12.31
LF participation rate – all (%)	76.4	79.9	74.7	70.5	71.5	77.1
LF participation rate – male (%)	74.5	81.4	76.7	71.3	73.2	79.8
LF participation rate – female (%)	77.9	78.7	72.7	67.7	70.0	74.9
Level of education						
None	44.1	40.1	38.7	34.5	32.1	25.6
Basic or less	48.2	49.1	44.7	53.1	48.0	55.8
Sec./Voc./Tech./Comm.	5.7	7.9	11.0	8.2	13.0	12.1
Post sec. and tertiary	2.0	2.9	5.7	4.2	7.0	5.4

Source: Constructed from GLSS and Population Censuses.

The pace of improvement in the level of education of the labour force has also been slow. In 1992, only 2 per cent of the labour force had tertiary education and this improved to 5.4 per cent in 2013. Even though the proportion of the labour force with no formal education has seen a substantial drop, from 44 per cent to 26 per cent over a period of two decades, an improvement in the proportion of the labour force with post-basic education has been very slow, rising by about 10 percentage points from 7.7 per cent in 1992 (Table 10). The improvement in the proportion of labour force with basic education from 48 per cent to 56 per cent over a period of two decades is largely explained by the implementation of the Free Compulsory Universal Basic Education (FCUBE) policy. There is limited access to secondary education, however, due to a combination of factors, including insufficient numbers of secondary schools and a low pass rate at the basic level.

The large proportion of the low skilled among the labour force is also a major contributory factor to the high level of the informal employment and vulnerable employment rate in the country. Indeed, job openings in the formal sector generally require at least secondary or senior high school certificate qualifications. Therefore a large chunk of the labour force would find it difficult to obtain employment in the formal sector. In effect, they are left with no other option than to settle for jobs in the informal sector where formal education is not an entry requirement.

8.2   The skills gap as a constraint to growth

Baah-Boateng and Baffour-Awuah (2015) observed a shortage of high skilled professionals in Ghana, noting the limited number of high skilled professionals relative to demand; they also observed a shortage of semi-specialized skills, such as technical and vocational skills. Anecdotal evidence suggests that when Ghana started commercial production of oil in late 2010, there were some specific skills, such as engineers, drillers, production and operation workers that were difficult to obtain domestically and thus the industry had to rely on people with those skills from Côte d'Ivoire and Nigeria to fill the vacancies.

Boateng and Ofori-Sarpong (2002) estimated supply deficits in graduates in the areas of medicine and health, engineering and technical skills, and business administration, and an oversupply of graduates in arts/social sciences and agriculture 1999-2000. This is generally linked to the fact that the education system Ghana tends to produce a large number of humanities graduates, in excess of what the economy requires, while the scientists, engineers, and technologists needed for the manufacturing sector are produced in limited numbers. Even though enrolment in science subjects in public universities and polytechnics has been inching upwards in recent times, the improvement is very slow.

Over the last two decades, most of the new established universities and polytechnics in the country have largely focused on training graduates in business, arts and social sciences at the bachelors and postgraduate levels, while the existing institutions continue to step up their enrolment in business and humanities. In addition, while most of the newly established universities train students largely in business, arts and social sciences, which the labour market does not need in such large quantities, existing science and technology universities are shifting from their core mandate to train more students in humanities. Some have attributed this development to the high cost of training graduates in the science and technology areas relative to the cost of training graduates in the humanities (Baah-Boateng and Baffour-Awuah 2015).

The implications of the shortage of skills required in the economy are varied. The non-availability of skills demanded by the economy compels the country to rely on skills from outside, as was reported anecdotally in connection with the commencement of commercial production of oil in the country in 2011. Thus, while the increased national output from activities that rely on external labour has the effect of boosting economic growth, the benefits accruing to the domestic labour force would be limited. On the flip side, excess supply of skills in areas mostly not required by the economy tends to create educated joblessness, with no benefit to the country and households of the jobless.

9   Conclusion and recommendations

Ghana's growth performance has been strong and robust over a period of more than two decades, accompanied by structural change from the dominance of agriculture to the dominance of services, creating a missing middle on account of dwindling manufacturing activity. Manufacturing, which until about 2005 was the leading sub-sector in the industrial sector in

terms of contribution to output, is now the third largest sub-sector after the construction and extractive (mining and oil) sub-sectors in the industrial sector. Consequently, employment response to growth has remained weak, as reflected in low and decreasing employment elasticity of output. Essentially, Ghana's economic growth has largely been driven by low employment generating sectors of mining, oil extraction, and finance as against slower growth in high labour absorption sectors, particularly manufacturing.

There has also been a structural shift in employment from agriculture to services, a situation that largely mirrors structural change in output. Employment in manufacturing has also suffered a decline (particularly waged manufacturing jobs) in terms of its share in total employment, while the jobs that emerged in the services sector were mostly informal one, resulting in low productivity growth in the sector. The services sector recorded the lowest annual average growth of labour productivity over a period of two decades, with the highest productivity occurring in the industrial sector. In spite of the gains in the share of services in output and employment, the sector has been the smallest net contributor to aggregate output, behind agriculture and industry. The large inflow of mainly low-skilled labour into the sector explains the low productivity gains within the sector and between the sector and other sectors. Productivity gains within agriculture were quite high, to the extent that the productivity loss resulting from the shift of labour to other sectors could not significantly undermine its net contribution to aggregate output.

Clearly, even though some jobs have been created in response to economic growth, most of the job creation occurred in the informal sector. On the supply side, the low level of education translating into low quality of labour underlies the increase in informal work as a chunk of the labour force are constrained from accessing productive and/or formal sector jobs that are characterized by better remuneration and working conditions. The implications of the changing structure of growth and employment is a widening in earnings differentials and an increase in inequality. Indeed, poverty in Ghana has declined considerably over the last two decades, but the country continues to battle with rising inequality. The slower growth of higher-earning productive jobs (wage employment and self-employment) as against fast growing vulnerable and informal sector employment associated with low productivity and earnings, is a major driver of widening inequality.

The weak employment effect of Ghana's growth, coupled with rising inequality against the backdrop of declining poverty is an indication of the urgent need for a rethink of Ghana's growth strategy. The starting point is for policy makers to acknowledge the adverse consequences of strong obsession with economic growth, regardless of the source of the growth and its job creation effect. Indeed, growth is a necessary condition, but it can only pass the sufficient condition test if it translates into the generation of productive and high-earning jobs for all. This requires a redirection of growth strategy towards the promotion of manufacturing activities that are strongly linked with agriculture. Thus, fixing the problem of missing middle (i.e. the declining manufacturing sub-sector) and raising productivity in agriculture should be the priority of policy towards growth inclusiveness. This calls for investment in areas that would promote manufacturing and agricultural activities, where the potential for job creation is high.

In Ghana, macroeconomic instability culminating in high interest rates, and high taxes coupled with chronic energy problems makes manufacturing less competitive and more fragile within a liberalized trade environment. Ghana is ranked 70 among 189 countries in the World Bank 'doing business' log, with its performance in seven out of ten criteria (including trading across borders, paying taxes, getting electricity, dealing with construction permits, and starting a business) being worse than the country's average rank. Thus, investment in the energy sector to ensure a consistent power supply within a stable macroeconomic environment would be a major step towards reducing constraints facing the manufacturing sector. The business environment

could also be improved if the country's institutional arrangements and regulatory framework are properly streamlined in line with best practices.

On the supply side, low quality of labour, measured by fewer members of the workforce with at least secondary education, requires urgent policy attention. Education and skills development have seen some improvement over the last three decades but the pace appears to be slow. The link between education and productivity is quite clear, and thus a comprehensive review of the current education system is needed to assess the medium- and long-term relevance of education and skills development to promote high productivity and facilitate creation of productive and formal sector jobs.

The declining importance of agriculture relative to industry and service activities is ample evidence of weak policy attention to agriculture, considered to be a major source of employment and livelihood of many Ghanaians. Agriculture research support through improvement in agriculture extension services, development of irrigation schemes to promote uninterrupted farming activities, provision of guaranteed price and buffer stock facility are key policy interventions that would improve agriculture productivity. Finally, Ghana could also leverage the strong growth performance of low labour absorption sectors of mining and oil extraction to boost growth in other sectors by channelling the returns from these sectors into infrastructure to support growth agriculture and manufacturing.

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