

# Forecasting for Twenty-First Century Skills - Challenges and Lessons in Skills Supply and Demand in Africa: A Case of Ghana in Light of China

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## Abstract

Skills are critical assets for any individual, business, country and continent at large. It is critical to ensure that skills taught at schools have bearing on the world of work. These taught skills are to be improved during working life of individuals, hence making impact in the labor market. This study is designed to uncover the challenges and the lessons of skills supply and demand in Ghana. To achieve this, longitudinal secondary data and literature were used. The dataset was obtained from UN Human Development Report website as well as United Nations Educational, Scientific and Cultural Organization (UNESCO) website. Statistical indicators used in the analysis were Gross Enrollment Ratio (GER), GDP per Capita Growth Rate and Human Development Index (HDI). Pair-wise comparative analysis of these indicators were examined simultaneously for China and Ghana. Correlational analysis was done to establish and quantify differential gap between China and Ghana with respect to these skills indicators. Discussions, conclusion and recommendations were made based on the findings. The discrepancies of skills indicators analyzed were also explained by relevant literature. Ghana's 2015 Labour Survey on current labor force situation was analysed alongside that of China and recommendations on how to improve employment situations were made. Indicators on employment, unemployment and underemployment were discussed in light with that of China. The study further explored findings of the Labour Survey which puts employment of labour force at 67.6% vis-à-vis economic growth. It is quite true that employment can be high yet economic growth can be low if skills mismatched. Sometimes mismatch of skills is unavoidable as the labor market involves complex decisions by employers and workers which depends on many external factors, The high and persistent the skills mismatch is, the costly it is for employers, workers and the nation at large. On the demand side, many employers report difficulties in finding suitable skilled workers. Literature reveals that parts of these difficulties are related to skill gaps and deficits in specific sectors, occupations and regions. However, skill shortage is mostly influenced by factors such as uncompetitive wages, unattractive working conditions, poor recruitment policies and or mismatch between the location of skills and jobs. On supply side, many shortages could be addressed by changes in training. Ghana, for that matter Africa should expedient action on curriculum review that will match qualification to jobs in the labor market.

## Introduction

Skills are critical assets for any individual, business, country and continent at large. It is critical to ensure that skills taught at schools have bearing on the world of work. These taught skills are to be improved during working life of individuals, hence making impact in the labor market. Transformation in macroeconomics coupled with structural change resulted in upward trend in skills mismatch in the labor market in most part of the world of which Ghana is no exception. Ghana, like China faces acute skills shortage along with supply and demand which dangerously skewed and vocational training in unable to fill the gap fast enough. The supply of quality of labor needs to be fine-tuned to ensure accelerated growth of Ghana.

To develop suitable skilled workforce, there must be sustainable policy framework which should consider the following: broad availability of good-quality education as a foundation for future training, a close matching of skills supply to the needs of enterprises and labor markets, enabling workers and enterprises to adjust to changes in technology and markets; and anticipating and preparing for the skills needs of the future. This would go a long way to fuels innovation, investment, economic diversification and competitiveness, as well as social and occupational mobility – thus creation of more productive and rewarding jobs. Good-quality

education complemented by relevant vocational training and skills development opportunities, prepare future generations for their productive lives.

### **Review of Relevant Literature**

The issue of skills demand and supply has been researched into by many scholars both in Africa and beyond. Scholars and industry players (Backes-Gellner, 2010; Steedman, 2012; McKinsey, 2012; Cappelli, 2012 and Caroll, 2013) have researched into skills gap that exist between demand and supply and its implication to the current generation. Their findings reveal that employers' current concerns reflect their demand for employees with the right attitudes, discipline, and "the skills to step immediately into the job and start doing the work". This is contrary to earlier general practice where employers employ people at entry level, train and promote

In order to meet skills demand in Ghana in particular and Africa in general, researchers (Ahadzie, 2003; Ahorbo, 2009; Akyeapong & Asiedu, 2008; Almeida, 2012; Amankrah, 2007; Appaw-Agbola, 2011; Aryeetey, 2005; Atchoarena, 2001; Baier-D'Orazio, 2007; Boeh-Ocansey, 1995) argue that the focus of skills acquisition and training should be shifted to technical and vocational skills. This argument is in affirmative with research findings by AfDF (2012) and AGI (2013). According to the World Bank (2014), Ghana's socioeconomic and labor market has a youthful population. The country has experienced about two decades of sustained economic growth (in the range of 4–5 percent) and in 2011 was one of seven countries in the world, and the only country in Sub-Saharan Africa, to have double-digit growth 14.4 percent (IMF, 2012); and a lower- middle-income country. The key strategic documents promoting economic growth and social development (GoG 2003, 2005; NDPC 2008, 2010) uniformly identify human capital development as a cornerstone of the country's development. Within the general objective of human capital development, education has played a key role almost since independence

It is a common knowledge that there is need for necessary skills (cognitive and non-cognitive) for economic growth. Institutions like AAU (Association of African Universities), ACE (Africa Centre of Excellence), ALA (African Leadership Academy) and Akilah Institute, among others, are on the forefront in bridging skills gap in Africa. Although, skills are developed at home, school, or in the workplace, there is no doubt that formal education and training help develop skills faster. Many scholastic and economic publications (McGrath & Rose, 2007; King & Palmer, 2007; 2010; Wegner & Komenan 2008; ILO, 2009; 2010, 2012; UNESCO, 2011; UNESCO, 2012; OECD, 2012; UNESCO, 2013;; World Bank, 2008; GoG, 2004) suggest that there is global rise in importance of technical and vocational skills development. This, in turn would provide improved mobility, employability, higher earnings to wage earners, and improved productivity and competitiveness to the economy as a whole. The critical challenge for policy makers is to integrate TVET (Technical and Vocational Education Training) services into the broader skills agenda. The assumption that the provision of skills to youth (through schools or special vocational institutes) will ease unemployment among those who complete school has been longstanding ( Palmer, 2007), and so are the concerns over the ability of the education and training system to supply the skills demanded by a diversified and competitive economy (World Bank, 2008).

### **Methodology**

The study is designed to uncover the challenges and the lessons of skills supply and demand in Africa (in the case of Ghana). The research design employed in this research is a mixture of quantitative and qualitative approach. The objective of the research is achieved using longitudinal secondary data and literature. The dataset is obtained from UN Human Development Report as well as United Nations Educational, Scientific and Cultural Organization (UNESCO). Statistical indicators used in the analysis were Gross Enrollment Ratio (GER), GDP per Capita Growth Rate and Human Development Index (HDI). Pair-wise comparative analysis of these indicators were examined simultaneously for China and Ghana. Correlational analysis is done to establish and quantify differential gap between China and Ghana with respect to these skills indicators. Discussions, conclusion and recommendations were done based on the findings. The discrepancies of skills indicators analyzed were explained by relevance literatures. Ghana's 2015 Labour Survey on current labour force situation was analyzed alongside that of China and recommendations on how to improve employment situations was done.

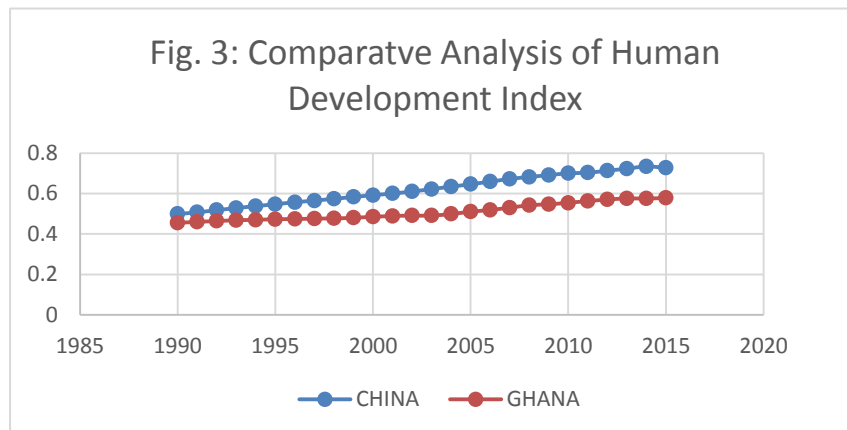
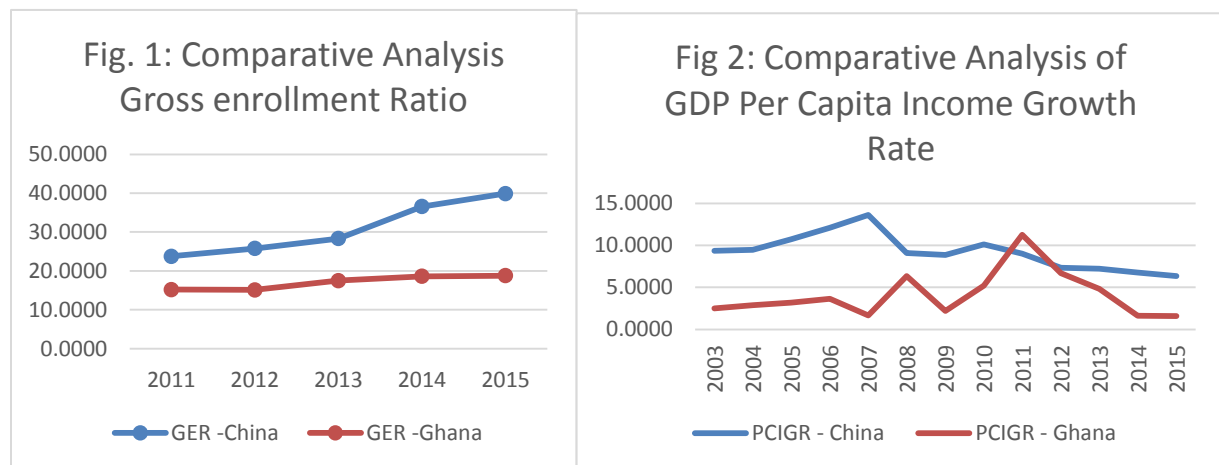
## Findings

The study adopted comparative analysis of the indicators (GER, PCIGR and HDI) between the two countries. The analysis was done using pictorial and tabular presentations.

Figure 1 presents comparative analysis between China and Ghana with respect to Gross Enrolment Ratio at higher education. It is clear from the figure that the rate at which GER for China is increasing is much faster than that of Ghana (as can be seen in widening gap between the two countries).

Figure 2 presents year on year Per Capita Income Growth Rate for the two countries. It is clear from the chart that the year on year Per Capita Income for China is more stable than that of Ghana and hence making forecast into the future for China more precise than that of Ghana. From the data, China enjoyed accelerated growth (with respect to Per Capita Income Growth Rate) from 2004 to 2007 and later experienced a sharp drop from 2007 to 2008. Again, from 2008 to 2009, China managed to stabilize the Per Capita Income Growth Rate; and increase from 2009 to 2010. From 2010 to 2015, China consistently in decline of Per capita Income growth Rate. Ghana on the other hand experienced steady growth for the period 2003 – 2006. However, from 2006, Ghana began to experience erratic fluctuations till the end of the period. Due to the erratic nature of the variabilities, prediction into the future is highly likely unreliable.

Figure 3 presents comparative analysis of China and Ghana with respect to Human Development Index (HDI). It is clear from the figure that both countries experienced consistent growth in HDI. Notwithstanding, the rate at which China was increasing with respect to this economic indicator was faster than that of Ghana. This can be clearly seen by widening gap as the years progressed.



Bearing in mind HDI as economic indicator, thus, the output of integration of both skills supply and demand, this research further analyzed the effect of other indicators on HDI. The result is presented in table 1 and table 2.

From table 1, it is clear that Gross enrollment Ratio at higher education is a significant factor that influences HDI for both countries. For China, 68% of the variation in HDI is accounted for by GER while in Ghana, 95% of the variations in HDI is accounted for by variations in GER.

**Table 1:** Correlational Analysis of HDI and GER

| Parameters | Coefficients | t Stat  | P-value | R-square |
|------------|--------------|---------|---------|----------|
| Intercept  | 0.5767       | 24.6013 | 0.0000  |          |
| GER -China | 0.0044       | 4.7807  | 0.0010  | 68%      |
| Intercept  | 0.4812       | 79.6981 | 0.0000  |          |
| GER -Ghana | 0.0053       | 12.1965 | 0.0000  | 95%      |

With respect to Per Capita Income Growth Rate, table 2 indicates that HDI (for China) is significantly influenced negatively by this indicator. This particular indicator accounts 39% of the variations in HDI. However, for Ghana, Per Capita Income Growth Rate has no statistical effect of HDI.

**Table 2:** Correlational analysis of HDI and Per Capita Income Growth Rate

| Parameters    | Coefficients | t Stat   | P-value | R-Square |
|---------------|--------------|----------|---------|----------|
| Intercept     | 0.785204     | 20.35283 | 0.0000  |          |
| PCIGR - China | -0.01085     | -2.65659 | 0.0223  | 39%      |
| Intercept     | 0.530247     | 33.90432 | 0.0000  |          |
| PCIGR - Ghana | 0.003018     | 0.947523 | 0.3637  | 7.50%    |

Further analysis was done by examining literature of Ghana and China. According to Global Competitiveness Report for 2016-2017, China's Competitive Index is 4.95 (ranking 28<sup>th</sup> out of 138) while that of Ghana is 3.68 (ranking 114 out of 138). Ghana's economy labor market is 18% formal and 82% informal. According to Skills Shortage in Chinese Labor Market Report (2016), Chinese skilled workers account for only about 19% of the entire workforce. This implies that China faces an acute skills shortfall along with the challenges of an ageing population and a shrinking labor force. Due to this, labor costs are rising, supply and demand is dangerously skewed, and vocational training unable to fill the breach fast enough.

According to Labour Force Survey (LFS) for 2015 by Ghana Statistical Service, labour force participation rate measures the proportion of the working age population which is economically active (15 – 64 years). The LFS found out that the country's current labour force participation rate (employed and underemployed) is 75.2 percent. However, only 67.9 percent of working age population are employed.

## Conclusion

Due to changing economic needs, it is critical to ensure that skills taught at schools have bearing on world of work. However, transformation in macroeconomics coupled with structural change resulted in upward trend in skills mismatch in the labour market hence creating gap between skills demand and supply. The supply of quality of labour needs to be fine-tuned to ensure accelerated growth of Ghana.

Based on the findings, China is ahead of Ghana with all the economic indicators considered in this study. The rate at which China is supplying skills through higher level of education is increasing much faster than that of Ghana. With respect to Per Capita Growth Rate, China is still ahead of Ghana despite the fact that China is decelerating (in recent times). However, Ghana experienced erratic fluctuations (most of the times). With respect to Human Development Index (HDI), it is clear that both countries are experiencing consistent growth but China is growing faster than Ghana.

In correlational study, it is clear that higher education is having positive influence on HDI for both countries. However, higher education influences Ghana's HDI more than it does for China. Furthermore, Per Capita Growth Rate has negative influence on China's HDI while it has no effect on Ghana's HDI.

Further analysis of literature reveals that China has been ranked higher than Ghana in Global Competitiveness Report for 2016-2017, this is not one of but has been consistent in previous reports. Finally, it came out that current economic dynamics cannot be sustained unless skills supply is fine-tuned in lying emphasis on technical and vocational trainings.

### **Recommendation**

For both countries, the quality of labor and the speed of training, transformation and transfer to where it is needed most – is the motor that needs to be fine-tuned to ensure that the countries' growth does not grind to a halt. It would not be wrong to replicate recommendations made to Chinese government on Skills Shortage report to Ghana's policy makers. Schools and universities should be looking into more school-business cooperation so that the educational institutions can better understand the needs of enterprises and adapt appropriately. Joint training by universities and enterprises is likely to be effective in the process of sourcing and developing talents. Secondly, more subsidies are necessary for vocational training to help rural migrant workers acquire modern skill sets and upgrade their knowledge base. Thirdly, new vocational training models in which enterprises play a major role should be established. Fourthly, an artisanal spirit should be promoted alongside the development of a diversified and modern vocational education.

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