Economic Growth and Poverty in Cameroon: the role of Employment

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Economic Growth and Poverty in Cameroon: the role of Employment

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Abstract:

This study investigates empirically the effect of employment in the transmission of economic growth to poverty change in Cameroon. Using data covering the period 1991 to 2017. We estimate two models: the employment intensity of growth model of Kapsos; and the Loayza and Raddatz model, which assesses the impact of sectoral employment intensity of economic growth to the change in poverty. Analyses highlight two main results. First, economic growth positively affects employment and negatively affects poverty rates. Second, the transmission of economic growth through employment is not effective in reducing poverty in Cameroon. These results show that in recent decades, economic growth has propelled the creation of employment in Cameroon. However, these employments, which are mostly precarious, generated by the informal sector, have not significantly reduced poverty.

Keywords: economic growth, poverty, employment

JEL Classification: O47; J21; I32

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1. Introduction

Economic growth remains a major challenge to development. However, knowing the economic growth mechanisms that improve living conditions (especially those of the poor) is essential for economic policymaking. In some contexts, economic growth spreads automatically to the point where it is possible to predict the rate of change in poverty following a one percent change in gross domestic product (GDP). Such evidence was derived from cross-section analyses between countries (Dollar and Kraay, 2002), time series analysis among countries (Ravallion and Datt, 2002). It soon became clear that the extension of the effects of growth is not the same from one country to another, because poverty in some counties is insensitive to economic growth (Dollar and Kraay, 2002). Cameroon belongs to the latter category because she experienced an average growth rate of five percent between 2001 and 2007, and the poverty rate remained almost constant over the same period (decreasing from 40.2 percent to 39.9 percent).

The transmission of economic growth through the reduction of inequalities follows the triangular "growth-inequality-poverty relationship" developed by (Bourguignon, 2004). The concept of pro-poor growth developed by Kakwani and Pernia translates this relationship algebraically (Kakwani and Pernia, 2000). The general idea is that growth can reduce poverty if it is accompanied by a reduction of inequalities. In the context of Cameroon, (Baye, 2006) applies a variety of decomposition methods to show that, between 1996 and 2007, the change in poverty was essentially due to economic growth with respect to the distributional impact. Although this is worthy of consideration, the channel of transmission through inequality remains too vague to be transposed into economic policies because it does not provide information on what caused the variations in inequalities and/or incomes of the poor.

This study explores the importance of the labour market, through employment, in transmitting economic growth to poverty change. It examines the interaction between growth, employment, and poverty over a given period of time. To this end, two practical objectives are assigned to this study: (i) determining the employment intensity of economic growth at the global and sectoral levels; (ii) determining the contribution of employment intensity in sectors of activity to the change in monetary poverty.

The rest of the paper is organised as follows: Section 2 reviews the literature on the interactions between growth, employment, and poverty. Section 3 defines the framework for empirical research. Section 4 is devoted to the methodology. Section 5 presents the results. Section 6 discusses the findings and section 7 concludes by focusing on the implications of economic policy.

2. Review of the literature

This section is organised around the following two questions: Why do the sectors of activities experience different growth rates in the same economy? And why does growth (and sectoral growth) have different effects on poverty?

In relation to the first question, most growth models (Barro, 1991) envisage an aggregation of growth at the national level. This orientation is not suitable for the pursuit of the objectives in

this study because the labour market is often segmented (Thomas and Vallée, 1996) and its different sectors grow at different rates for reasons explained by three types of models.

The first type consists of models of the dualistic economy, which recognise only two economic sectors whose growth rates depend on the stages of development. At the first stage, the agricultural sector has a very high growth rate because it has to provide capital to the industrial sector. At the second stage, the growth rates of the two sectors are reversed because agriculture plays a subsidiary role. Considering only these two sectors reduces the scope of these models. Moreover, empirical studies, even in African countries such as Côte d'Ivoire, Ghana, and Zimbabwe, have opted to establish short-term interactions and a long-term relationship between agricultural growth and industrial growth (Blunch and Verner, 2006). This is contrary to the assumptions of the dualistic economy.

The second type consists of the multi-sectoral models of the post-Keynesian growth (Kaldor, 1955), where income distribution determines demand, which is the essential element of growth through saving and investment. A disaggregation of these macroeconomic variables in a multi-sectoral model shows that the growth rate of each sector of activity is essentially determined by the rate of growth of its demand, its profits and its investments (Araujo and Teixeira, 2015).

The third type consists of the neoclassical multi-sectoral growth models, which considers that all sectors of an economy can be grouped into three sectors for the sake of homogeneity, including the agricultural, manufacturing and service sectors. The growth of production of each sector is guided by the principle of the rationality of the producer, who must maximise the profitability of production and minimise the factor costs. (Roe, Smith, and Saracoglu, 2010) further explain that the profitability of production in each sector depends on maximising the utility function of consumers constrained by their budget and prices. For the agriculture and manufacturing sector that export their products, profitability also depends on external prices. Nevertheless, the most detailed results are those of (Jensen and Larsen, 2005) using the Walrasian equilibrium system on the constant elasticity of substitution (CES) function. They demonstrate that the growth of a sector depends on two types of factors, exogenous and endogenous.

The exogenous factors include the investment, population growth, productivity and demand, including external and governmental demand. The endogenous factors include, notably, the elasticity of substitution between capital and labour, and factor productivity.

With respect to the second question, which concerns the differential in the transmission of the effects of sectoral growth to poverty change, the literature suggests that this transmission can occur through income or employment. Following the transmission by income, there are three explanations: the profit maximisation approach, the technical progress approach and efficiency wage models. According to the profit maximisation approach, wages are inversely proportional to the marginal productivity of labour; that is, as it increases, there is a decline in labour demand and wages also decrease (Fields, 2005). Concerning the technical progress approach, the multi-sectoral model of (Aghion, 2002) shows that sectoral growth is related to the innovation in the different sectors, which determine the factor productivity. There may be changes in inter or intra-workers' income inequality according to whether workers are qualified or not. With regard to the efficiency wage models, wages are determined by total factor productivity and staff turnover; hence, positions, where there is a high turnover of staff, are the most remunerated. Although

worthy of consideration, the transmission of growth through salaries is barely measurable since several factors other than those related to rationality affect salaries.

The transmission of sectoral growth to poverty reduction through employment is the most relevant channel and can be explained in two ways. From the point of view of endogenous growth in Schumpeter's sense, (Aghion and Howitt, 1994) show that when growth is mainly driven by technical progress, the process can generate a high level of unemployment during periods when new technologies replace old ones. But in the long term, growth is conducive to employment. Using a multi-sectoral growth model where total factor productivity differs across sectors, (Ngai and Pissarides, 2007) show that growth leads to a restructuring of the economy with two types of consequences on employment: (i) there is a transfer of labour from high-growth sectors of technology to low-growth sectors; and (ii) there is also transfer of the labour from sectors with a high labour productivity rate to sectors with a low labour productivity rate.

3. The framework of empirical research

3.1. Stilyzed facts

Figure 1 shows the evolution, on the one hand, of the gross domestic product per capita and, on the other, of the evolution of the total employment in Cameroon between 1991 and 2017. It is observed that Cameroon simultaneously recorded increases of economic growth, and employment over the period 1994 to 2017. Gross domestic product (GDP) per capita has increased steadily over this period, despite some fluctuations observed between 2007 and 2009. The period from 1991 to 1994 indicates a decrease in GDP per capita. This period is marked by the end of the economic crisis 1980s and upturn of the Cameroonian economy. On the employment side, the number of employed labour force increased from 4,263,880 in 1991 to 9,622,500 in 2017.

Figure 1. Evolution of gross domestic product per capital and total employment
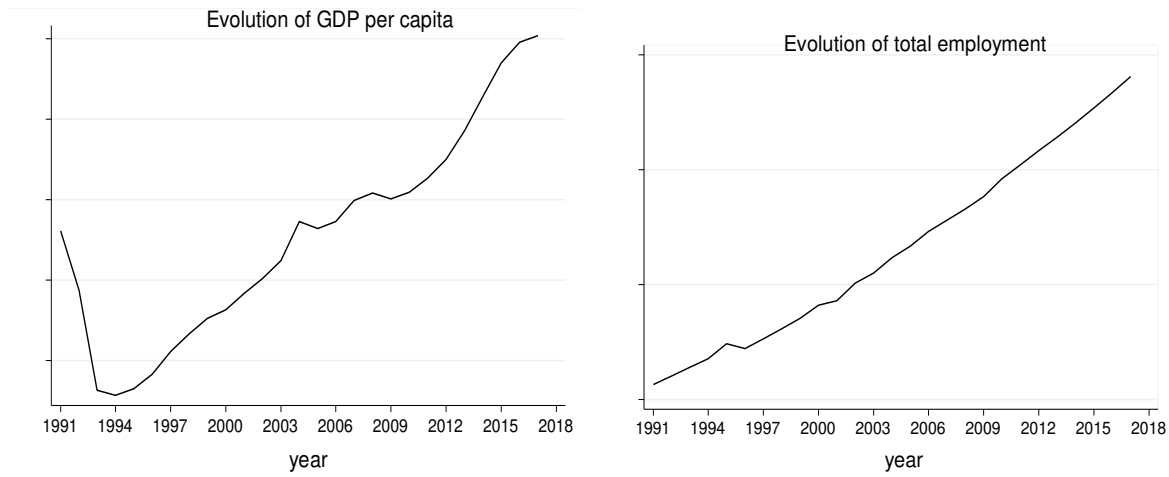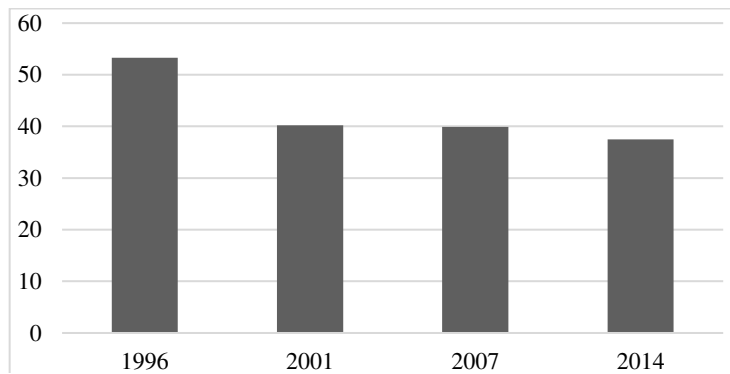

Figure 2 shows a weak reduction in the poverty rate. In fact, the poverty rate moved from 53.3% in 1996 to 40.2% in 2001. Between 2001 and 2007, the poverty rate remained almost constant, before rising to 37.5% in 2014.

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Figure 2. Evolution of Poverty headcount ratio

Trend analysis at the sectoral level indicates that the secondary sector, which has the highest value added, has the lowest potential of employment creation (Figure 3). The evolution of the value added of the secondary sector is higher than that of the primary and tertiary sectors. In contrast, its employment curve is below that of other sectors and its slope is the lowest. However, the primary sector which is the least productive sector, had a high potential for employment creation between 1991 and 2017, followed by the tertiary sector. From this sectoral analysis, it emerges that the economic growth and employment creation recorded by Cameroon during the last decades have been driven by the dynamism of the primary and tertiary sectors. The International Labour Organization indicates in the report on decent work in Cameroon that these two sectors are the least productive sectors of the Cameroonian economy. Moreover, they record the highest proportions of informal activity and precarious work. Their high contribution to employment could be a cause of the persistence of poverty.

Figure 3. Evolution of sectoral value added and sectoral employment.
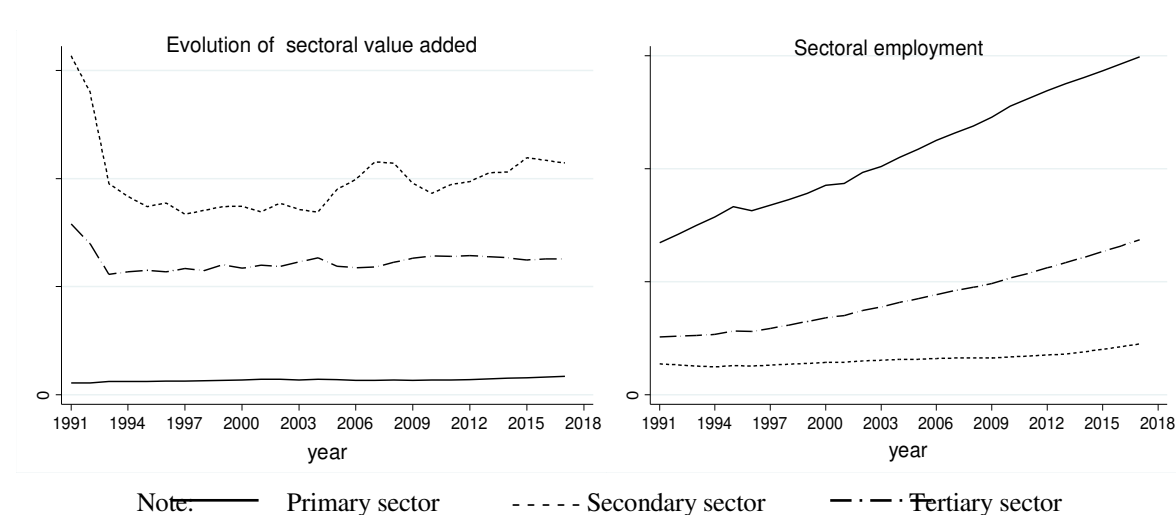
3.2. Discussion relative to the econometric approach

Four main approaches can be used to quantify the differential of sectoral growth with respect to poverty. The longitudinal data approach shows that if growth influences poverty, it must be related to a poverty index (P) and average income (μ), or preferably consumption (Montalvo and Ravallion, 2010; Ravallion and Datt, 2002). Therefore, the proposed econometric model

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explains the logarithm of poverty indices of the FGT class ($\log P_{\alpha t}$) at period t by μ_t and $\log P_{\alpha t-1}$. Since the elasticity of $\log(P_{\alpha t})$ with respect to μ_t can, rather, reflect the effect of variations in inequality on poverty, the authors propose to replace $\log(P_{\alpha t})$ by $\log(P_{\alpha t*})$, which is a relative measure of poverty. In this light, the poverty line is a percentage of μ, rather than a fixed value as in the case of the absolute measure of poverty ($P_{\alpha t}$). In order to identify transmission mechanisms, control variables such as wages and labour productivity are introduced into the model. Results in India show that growth in the services sector has been more favourable to poverty reduction than growth in agriculture or manufacturing (Ravallion and Datt, 2002). Considering the same sectors in China, it was, on the contrary, growth in agriculture that was more pro-poor (Montalvo and Ravallion, 2010). Despite its relevance, there is a lack of annual data on the model variables to be applied in Cameroon.

The hypothesis defended by Thorbecke and Jung is that, in reality, the sectors of an economy interact (Thorbecke and Jung, 1996). As a result, the growth of a sector has direct and indirect effects on household incomes. The direct effects result from the contribution of the labour force to the production process. Indirect effects are the result of increased demand for goods and services from households where growth has taken place. On the basis of this hypothesis, the authors propose a method based on the Social Accounting Matrix (SAM). In their main equation, the variable to be explained is the variation of poverty in a sector 'i', following an increase in production in a sector 'j'. The variation of poverty depends on the elasticity of poverty in relation to the average household income of the group 'i' as a result of the increase in production in the 'j' sector, the multiplier linking the production sectors to the different groups of households and the change in productivity of sector 'j' in relation to income of sector 'i'. The results obtained in Indonesia show that growth in the agriculture and services sectors contributes more to poverty reduction than growth in the industrial sector. However, this can only be achieved when measures to support growth, such as improving the human capital of the poor through vocational training, are implemented. This methodology is not used because of the difficulties in building a recent SAM in the context of Cameroon.

(Kapsos, 2006) develops an approach based on the calculation of employment elasticity. This model captures the percentage change in the number of people employed in an economy as a result of a change in production measured by GDP. The overall elasticity is expressed here as a weighted average of sectoral elasticities. Hence, the level of change in total employment depends on sectoral variations in employment. As a result, a large share of investment in labour-intensive sectors will increase employment and thus reduce poverty. This model does not directly link economic growth to poverty. Indeed, it is based on the idea that employment is at the heart of the process of poverty reduction. The authors refuse to fully adhere to this logic because if employments created are underpaid, they will not contribute to poverty reduction. Nevertheless, this methodology is used to estimate the employment intensity of economic growth (global and sectoral).

More recently, (Loayza and Raddatz, 2010) propose to identify the mechanisms through which the sectoral composition of growth associated with its labour intensity affects wages and consequently poverty. The proposed modelling includes two main equations. The first, which estimates the effect of sectoral growth on poverty reduction, can be explained by the annual

variations in the poverty rate by country ($\bar{h}_j$). The explanatory variables are the annual rate of change in production by sector and country ($\hat{y}_{ij}$) and the annual percentage change in the sectoral share of GDP per country ($\hat{s}_{ij}$). Applying this model to a sample of 52 countries around the world, the results show that growth in agriculture, manufacturing, and construction significantly reduces poverty, as opposed to mining and services. To explain these differences, the second equation estimates annual changes in poverty rates as a function of sectoral growth weighted by labour intensity. The results show that the sectors where growth contributes most to poverty reduction are more labour-intensive.

4. Methodology

4.1. Methods of calculating employment intensity

(Kapsos, 2006) developed an approach that allows calculating the employment elasticity of economic growth based on an econometric estimate. Two models are available for this purpose. The first model aims to evaluate the effect of a change in economic growth on total employment, on the one hand, and the effect of a change in total growth on sector employment, on the other. Its econometric expression is presented as follows:

$$\log E_t = \alpha + \beta_1 \log Y_t + \beta_2 \log(Y_t) \times D_t + \beta_3 D_t + \eta_t \tag{1}$$

Where, Y_t is the per capita GDP of year t, and D_t is a dummy variable introduced to significantly reduce the volatility of the calculated elasticities. It takes the value 1 when economic growth records positive rates and 0, otherwise (Kapsos, 2006). η_t is the residual term and log is the natural logarithm. The dependent variable ($\log E_t$) has two meanings. It represents, on the one hand, the logarithm of total employment and on the other hand, that of the employment of each sector of the economy. This study will consider the three main sectors that characterise Cameroon's economy: the primary, secondary and tertiary sectors. In this research, the Kapsos's model allows the calculating of four elasticities. This include the elasticity of total employment in relation to total growth, and the elasticities of sectoral employment in relation to total growth.

The second model aims to assess the influence of a change in the growth of each sector on employment such sector. This model makes it possible to calculate three sectoral elasticities. It is presented as follows:

$$\log E_t = \alpha + \beta_1 \log V_t + \beta_2 \log(V_t) \times D_t + \beta_3 D_t + \eta_t \tag{2}$$

Where E_t represents the employment of each sector and V_t is the value added of each sector. D_t and η_t have the same meaning as in the first model. This model makes it possible to calculate the employment elasticity of each sector in relation to its growth. In each model, the value of the elasticity is equal to the sum of the coefficients β_1 and β_2.

4.2. Methods of determining the contributions of sectoral employment intensity to change in poverty

To determine the contributions of sectoral employment intensity of economic growth to the change in poverty, the model of Loyaza and Raddatz is used (Loayza and Raddatz, 2010). The purpose of this model is to determine how the structure of an economy's production, and specifically the sectoral composition of the economy's growth, affects its ability to reduce poverty. It combines poverty reduction (reflected in the increase in wages), with the sectoral composition of growth, and with the sectoral employment intensity.

The equation of the theoretical model is formulated as follows:

$$\hat{w} = \sum_i s_i \hat{y}_i + \left(\frac{\varepsilon-1}{\varepsilon}\right) \sum_i (l_i - s_i) \hat{y}_i \tag{3}$$

Where $\hat{w}$ is the annual rate of wages, $\hat{y}_i$ is the rate of growth of the sectoral value added, s_i is the share of sector i in the total output, l_i is the share of the employment of sector i in the total employment, and i indicates the sectors.

Assuming that the increase in wages and the reduction of poverty have a linear relationship ($\hat{h} = \theta_0 + \theta_1 \hat{w}$), (Loayza and Raddatz, 2010) show that the change in poverty can be expressed in terms of sectoral growth.

$$\hat{h} = \theta_0 + \theta_1 \sum_i s_i \hat{y}_i + \theta_2 \sum_i (l_i - s_i) \hat{y}_i \tag{4}$$

To estimate the effect of the employment intensity of sectoral growth on poverty reduction, Loayza and Raddatz (2009) developed the following regression equation:

$$\hat{h}_t = \theta_0 + \theta_1 \hat{y}_t + \theta_2 \sum_i \left(\frac{l_i}{s_i} - 1\right) s_{it} \hat{y}_{it} + \varepsilon_t \tag{5}$$

Where $\hat{y} \cong \sum_i s_i \hat{y}_i$ is the growth rate of GDP per capita, $\frac{l_i}{s_i}$ is the employment intensity of sector i. $\hat{h}_t$ represents the annual change in the poverty rate. Given that the annual poverty rates in Cameroon cannot be observed directly, we generated them on the assumption that the incidence of poverty is negatively associated with the GDP per capita growth rate (Naiya and Manap, 2013). To calculate these poverty rates, the method developed by the World Bank and the Asian Development Bank was used. This method had already been used by the Islamic Development Bank in its occasional paper published in June 2010 and by (Naiya and Manap, 2013). According to this method, the poverty rate is calculated on the basis of the GDP per capita growth rate, based on the elasticity of poverty growth and also based on poverty rates (generated from national surveys).

The growth elasticity of poverty used to generate annual poverty rates is the same as the one used by the International Monetary Fund in its 2003 country report (International Monetary Fund, 2003). This elasticity was used to assess Cameroon's capacity to achieve the Millennium Development Goals. The value of this elasticity is - 0.7.

5. Results

The data used in this study are secondary sources and are mainly obtained from the World Development Indicators of the World Bank and the Global Employment Trends of the International Labour Organization. The period of study extends from 1991 to 2017.

5.1. Employment intensity of economic growth

Table 1 shows that economic growth has a positive and significant effect on the volume of total employment and sectoral employment in Cameroon. The secondary sector has less influence on the change in total employment. These differences in potential employment in the sectors of activity are similar to the shares of the contributions of these sectors in the informal economy. Indeed, national statistics show that the primary and tertiary sectors account for the largest share of employment and activity in the informal sector.

Table 1. Influence of GDP per capita on employment (total and sectoral)

	Primary sector	Secondary sector	Tertiary sector	Total
log(GDP)	2.492*	1.578*	3.728*	2.589*
	(0.941)	(0.462)	(1.126)	(1.013)
log(GDPxDt)	0.037	1.784*	4.501**	2.846*
	(0.148)	0.663)	(1.134)	(1.063)
Dt	0.530	1.293**	1.365*	1.013*
	0.387)	(4.031)	(0.548)	(0.394)
Constant	-4.009	-15.231	-11.727**	-4.706
	(2.953)	(8.734)	(3.653)	(3.091)
Observations	27	27	27	27
Ajusted R^2	0.966	0.958	0.965	0.936
F statistic	241.81**	317.68***	225.56**	162.57**
Prob(F-statistic)	0.0109	0.0002	0.0260	0.0187

Note: ***, **, * indicates a significance of 1%, 5% and 10%, respectively. (.) Standard deviation.

The interaction variable (logPIBxDt), which measures the effect of the GDP during expansion periods on the employment, indicates the growth expansion have a good effect on employment.

The main implication here is that during periods of economic expansion, economic growth is more favourable to employment, principally in tertiary and secondary sectors.

Table 2 shows that employment is very sensitive to the change in the sectorial value added. This sensitivity of employment is greater in the primary sector, followed by the secondary sector. It is worth noting that these sectors abound with high rates of informal activities, which could express the easy entry and exit of labourers in these sectors. An increase of the sectorial value added is expressed by a massive entry of labourers and vice versa.

Table 2. Influence of the sectoral value added on sectoral employment

	Primary sector	Secondary sector	Tertiary sector
Constant	-11.452	9.627*	-13.569*
	(7.350)	(4.713)	(5.784)
log(VA)	2.831*	0.609***	1.033*
	(1.103)	(0.079)	(0.425)
log(VAxDt)	1.499**	0.326	1.150*
	(0.507)	(0.275)	(0.491)
Dt	6.571*	1.085	1.624
	(2.759)	(0.578)	(1.313)
Observations	27	27	27
Ajusted R^2	0.941	0.962	0.927

F statistic	142.148***	172.561***	175.764**
Prob(F-statistic)	0.0000	0.0000	0.02720

Note: ***, **, * indicates a significance of 1%, 5% and 10%, respectively.   (.) Standard deviation.

With respect to elasticity calculations (based on the elements in Tables 1 and 2), the results indicate that a 1 percent growth leads to an increase in total employment of about 2.37 percent. This confirms the real situation of the country, because, with a real growth rate of 3.1 percent that was recorded over the 2000-2010 period in Cameroon, the share of employed persons aged 15-64 increased by 66.2 percent (in 2001) to 80.2 percent (in 2007) before decreasing to 73.8 percent in 2010 (International Labour Organisation, 2012).

The calculation of sectoral elasticities (Table 3) shows that, unlike employment in other sectors of activity, employment in the tertiary sector is more sensitive to changes in GDP (4.634). This sensitivity of employment in the tertiary sector is followed by that of employment in the primary sector (2.599), and finally that of the secondary sector (0.60). These results reflect the good economic performance achieved by the tertiary sector over the past decade, notably through trade and telecommunications activities, which enabled it to achieve the largest increase in the share of the workforce. Thus, in 2010, it employed 34.1 percent of the workforce, compared to 30.2 percent in 2001. As regards the secondary sector, its share of the employed workforce increased from 9.1 percent in 2001 to 12.6 percent in 2010 (Bezzina, 2011).

Table 3. Calculation of elasticities

	Employment			
	Primary sector	Secondary sector	Tertiary sector	Total
GDP	2.599	0.873	4.634	2.37
Sectoral value added	1.96	0.481	1.057	-

Source: Authors

5.2. Employment intensity and poverty in Cameroon

The results in Table 4 indicate that change in GDP influences the change in monetary poverty. These results indicate also that employment intensity has no significant effect on the change in poverty in Cameroon. Therefore, having an employment is not necessarily a guarantee of a better standard of living. The (International Labour Organisation, 2012) explains that this poverty may be linked to the structure of employments. This structure is dominated by informal employments (about 90 percent), generating poor working conditions, accompanied by low wages and followed by a predominance of precarious activities. According to International Labour Organisation, one of the consequences of this situation is linked to the lack of social protection policies. In effect, the lack of a system of unemployment benefit forces many unemployed workers to carry out economic activities in order to survive. These categories of employment, far from contributing to poverty reduction, rather increase the risks of future poverty; hence, the persistence of poverty in the country despite economic growth.

Table 4. Influence of employment intensity on poverty

Variable	Coefficient
Constant	0.457
	(0.396)
GDP	-0.843*
	(0.412)
Employment intensity	-0.068
	(0.0541)
Observation	27
Adjusted R^2	0.975
F statistic	169.875***
Prob(F-statistic)	0.0000

Notes: ***, * indicates a significance of 1% and 10%, respectively.   (.) Standard deviation

6. Discussion

Two complementary information emerge from this study. First, economic growth favours the creation of employment. A similar result is obtained at a level of sectors of activities where a positive relationship is established between the increase in sectorial value added and the increase of employment. However, the primary and tertiary sectors are those with the highest employment potential. Second, the creation of employment does not necessary favours the reduction of poverty. In fact, the National Statistics Institute in 2010 shows that 90.5 percent of the employed workforce is in the informal sector. Specifically, these informal employments have a high proportion of underemployment (70.5 percent). The International Labour Organisation in 2012 also indicates that the poverty rate of workers in Cameroon (38.5 percent) is closed to that of household poverty (39.9 percent). These results show that having an employment does not guarantee a decent standard of living, because of the precariousness of this employment and the low level of wages. (Bezzina, 2011) indicates that Cameroon's economy is driven by the dynamism of the less productive tertiary sector and the primary sector, which is dominated by subsistence farming on family farms. Thus, when the employments created are mainly precarious and concentrated in the informal sector, they may not have a significant effect on poverty reduction. This result is contradictory to that obtained by Kapsos on a sample of 139 countries taken around the world. (Kapsos, 2006) reports that increasing employment leads to a reduction in poverty.

On the basis of these information, it appears, therefore, that Cameroon's development policies must target inclusive growth strategies, rather than seeking high rates of economic growth. If increasing growth rates allow increasing volumes of employment, not all of these employments are productive. The increase in the supply of decent employments via investment in industrial firms, and the introduction of measures to protect the unemployed through unemployment benefits are some measures that can reduce the continuation of informal employment among the youth of working age, as well as the level of national poverty.

7. Conclusion

The main objective of this study was to examine the importance of the labour market in the transmission of economic growth to the reduction of poverty in Cameroon. We used the model

of Kapsos in calculating the employment intensity of economic growth, and the model of Loayza and Raddatz to assess the effect of employment intensity of economic growth (global and sectoral growth) on poverty change. The results show that the employment intensity of global and sectoral growth is highest in the tertiary sector, followed by the primary sector. Employments in the secondary sector are less sensitive to economic growth. Moreover, unlike economic growth that has a significant influence on poverty reduction in Cameroon, employment intensity has no effect. This lack of effect may be due to the nature of the employments created because the sectors of Cameroon's economy have a very large share of informal employments.

Given the different results obtained, it can be observed that although Cameroon has certainly experienced a revival of economic growth in recent years, this growth, stimulated by the dynamism of the non-productive sectors, proved insufficient to create decent employments and to reduce poverty. This growth has positively stimulated employment creation, but the latter was more concentrated in the informal sector, with very little influence on poverty reduction. Based on these observations, we recommend that the Government of Cameroon should develop policies that reinforce inclusive growth, notably through the increase of investment in the productive sectors of her economy as well as strengthen social protection strategies, in particular, those for the unemployed.

Acknowledgments

Appendix A

Appendix A1

Table A1. Presentation of variables and data sources

Variable	Definition	Source of data
GDP per capita	Gross domestic product per capita	World development indicators
Employment	Total employment for person age between 15 to 64 years	International Labour Organisation
Value added	Agriculture, forestry, and fishing, value added per worker	World development indicators
	Industry (including construction), value added per worker	
	Services, value added per worker	
Poverty	Poverty headcount ratio at national poverty lines (% of population).	WDI or Cameroon household survey, namely, Ecam1, Ecam2, Ecam3 and Ecam4

Note: The values of the economic indicators (GDP per capita and value added) are in constant 2010 US$

Table A2. Descriptive statistics of variables used in the analysis

Variable	Obs	Mean	Std. Dev.	Min.	Max.
GDP per capita	27	1254.57	131.061	1056.989	1503.535
Poverty	4	42.725	7.152796	37.5	53.3
Total employment	27	6623.995	1658.329	4263.88	9622.5
Employment in primary sector	27	4291.896	1014.14	2693.811	5980.178
Employment in secondary sector	27	630.94	107.2463	492.295	899.2856
Employment in tertiary sector	27	1701.158	543.8283	1021.54	2743.038
Value added in primary sector	27	683.3892	72.04521	538.8431	850.1818
Value added in secondary sector	27	9909.04	1667.03	8351.299	15675.36
Value added in tertiary sector	27	6163.213	467.5785	5570.87	7896.254

References

Aghion, P. (2002). Schumpeterian Growth Theory and the Dynamics of Income Inequality. *Econometrica*, *70*(3): 855–882.

Aghion, P., and Howitt, P. (1994). Growth and Unemployment. *The Review of Economic Studies*, *61*(3): 477–494.

Araujo, R. A., and Teixeira, J. R. (2015). A multi-sectoral version of the Post-Keynesian growth model. *Estudos Econômicos (São Paulo)*, *45*(1): 127–152.

Barro, R. J. (1991). Economic Growth in a Cross Section of Countries. *The Quarterly Journal of Economics*, *106*(2): 407–443.

Baye, F. M. (2006). Growth, Redistribution and Poverty Changes in Cameroon: A Shapley Decomposition Analysis. *Journal of African Economies*, *15*(4): 543–570.

Bezzina, J. (2011). *Time for the lion to wake up? An economic update on Cameroon with a focus on telecoms*. Working paper N° 71649. The World Bank.

Blunch, N.-H., and Verner, D. (2006). Shared Sectoral Growth Versus the Dual Economy Model: Evidence from Côte d'Ivoire, Ghana, and Zimbabwe. *African Development Review*, *18*(3): 283–308.

Bourguignon, F. (2004). *The Poverty-growth-inequality triangle* (Indian Council for Research on International Economic Relations, New Delhi Working Papers No. 125). Indian Council for Research on International Economic Relations, New Delhi, India.

Dollar, D., and Kraay, A. (2002). Growth is Good for the Poor. *Journal of Economic Growth*, *7*(3): 195–225.

Fields, G. S. (2005). *A guide to multisector labor market models*. The World Bank.

International Labour Organisation. (2012). *Decent Work Country Profile - Cameroon*. Geneva.

International Monetary Fund. (2003). *Cameroon : Poverty Reduction Strategy Paper.* IMF Country Report No. 03/249. Washington D.C. p. 235

Jensen, B. S., and Larsen, M. E. (2005). General equilibrium dynamics of multi-sector growth models. *Journal of Economics*, *86*(1): 17–56.

Kakwani, N., and Pernia, E. (2000). What is Pro-poor Growth? *Asian Development Review*, *18*(1): 1–16.

Kaldor, N. (1955). Alternative Theories of Distribution. *The Review of Economic Studies*, *23*(2): 83–100.

Kapsos, S. (2006). The Employment Intensity of Growth: Trends and Macroeconomic Determinants. In J. Felipe and R. Hasan (Eds.), *Labor Markets in Asia: Issues and Perspectives*. London: Palgrave Macmillan UK.

Loayza, N. V., and Raddatz, C. (2010). The composition of growth matters for poverty alleviation. *Journal of Development Economics*, *93*(1): 137–151.

Montalvo, J. G., and Ravallion, M. (2010). The pattern of growth and poverty reduction in China. *Journal of Comparative Economics*, *38*(1): 2–16.

Naiya, I. I., and Manap, T. A. A. (2013). Structural Transformation, Poverty and Inequality in Nigeria: An ARDL Bound Testing Technique. *International Journal of Economics and Finance*, *5*(4): 144–152.

Ngai, L. R., and Pissarides, C. A. (2007). Structural Change in a Multisector Model of Growth. *The American Economic Review*, *97*(1): 429–443.

Ravallion, M., and Datt, G. (2002). Why has economic growth been more pro-poor in some states of India than others? *Journal of Development Economics*, *68*(2): 381–400.

Roe, T. L., Smith, R. B. W., and Saracoglu, D. S. (2010). *Multisector Growth Models: Theory and Application*. New York: Springer-Verlag.

Thomas, M., and Vallée, L. (1996). Labour market segmentation in Cameroonian manufacturing. *The Journal of Development Studies*, *32*(6): 876–898.

Thorbecke, E., and Jung, H.-S. (1996). A multiplier decomposition method to analyze poverty alleviation. *Journal of Development Economics*, *48*(2): 279–300.