Youth Inequality of Opportunities in the Labour Market: Evidence from West African Countries

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Yacobou Sanoussi[1]
Yao Nukunu Golo[2]
Kwami Ossadzifo Wonyra[3]

(*Corresponding Author*)

[1,3]*Faculty of Economics and Management, University of Kara, Togo.*
[1]*Email: syacobou@gmail.com Tel: +22890345254*
[3]*Email: wonyra.ossa@gmail.com Tel: +22890013209*
[2]*Faculty of Economics and Management, University of Lome, Togo.*
[2]*Email: jebanukyg@gmail.com Tel: +22890933556*

ABSTRACT

The objective of this paper is to estimate the opportunity inequalities of youth labor market access and the factors influencing this access, using data from School to Work Transition Survey (SWTS) in Benin, Liberia, and Togo. To achieve the objectives of this paper, we compute the Human Opportunity Index (HOI) using three indicators of access to youth labour market. The inequality of opportunity is much more pronounced in Benin for job opportunities (33.6), contract (40.8) and Liberia for the job opportunity with insurance (49.3). We note that parental characteristics contribute more to the inequality of opportunity in accessing a job in Togo compared to other countries. We also find that demographic factors contribute much more to the inequality in access to employment in Liberia (78.02%) compared to Benin (74.26%) and Togo (45.05%). The average coverage and access rates reveal that more effort is needed to ensuring equitable youth labor market access in these countries.

Highlights of this paper

- The objective of this paper is to estimate the opportunity inequalities of youth labor market access and the factors influencing this access, using data from School to Work Transition Survey (SWTS) in Benin, Liberia, and Togo.

1. INTRODUCTION

The search of circumstances leading inequalities relating to access opportunities to the labour market remains an entire problematic. Indeed, among candidates looking for employment, youth layer is the most vulnerable and is the largest fringe populations in particular developing countries. In these conditions, policies aimed to act on the individuals (young) circumstances variables seem appropriate.

Youth is a period in life when everyone begins to realize its aspirations considering economic independence and the possibility of finding a place in the society. At the global level, the employment crisis has highlighted the vulnerability of young people in terms of: (i) rising unemployment, (ii) decrease in the quality of jobs for those who already have them, (iii) increase in the labor market, inequalities among various groups of young people, iv) longer and more precarious transition of working life active life, and (v) suppression of the labor market. At the International Labor Conference of the International Labor Organization (ILO) in June 2012, an appeal was made for greater coherence of policies and actions on employment (in particular, employment of youth). Also, the Secretary-General of the United Nations (UN) has identified youth as a generational imperative that must be addressed by mobilizing all the human, financial and political resources of the United Nations. Under this program, the United Nations has developed a youth action plan with youth employment as a key priority to strengthen youth-related programs throughout the United Nations system.

Labor statistics from the report based on Labour market transitions of young women and men in sub-Saharan Africa (Sara and Koko, 2014) using 2012 Tchool-To-Work Transition Surveys (STWTS) show that Togo had 1,808,343 young people in 2012 aged between 15 and 29 years. Among them, there were 980,230 young women (54.2%) and 828,113 young men (45.8%). For Benin, the informal sector employment 89.7% young people aged 15 to 29. In addition, the percentage of young people aged 15 to 24 who have passed through is 19.7%. The average duration of transition to a stable job is 11 months. The 14 years of war in Liberia have created barriers to young people entering the labor market. Young people aged between 15 and 35 represent 53% and 58% respectively of the active population and the unemployed. The integration of young people into the labor market is essential for the overall economic development and stability of a post-conflict country like Liberia. These statistics clearly show how young people participate in the labor market in Benin, Liberia and Togo. The analysis of inequality of opportunity will make it possible, in the light of the results, to better take into account the characteristics that explain the inequalities of opportunities in access to the labor market.

To our knowledge there does not yet exist empirical research on the issue of young people's transition from school to work and using the approach of inequality of opportunity for the countries of West Africa such as Benin, Liberia and Togo. The main objective of this research is to get out the factors that influence access to youth labour market by mobilizing modern tools to measure inequality of opportunity. Also, this research on Togo, Benin and Liberia will lead us to make a comparison of inequality of opportunity variables by country. The added value of this research is twofold. First the use of survey data on the transition from school to employment for the countries of the West African region, including Benin, Liberia and Togo, for which data are available, and the application of the methodology based on the analysis of inequality of opportunity for highlighting the variables that play upstream on the participation or not of young people to the labour market. The results show that inequality of opportunities varies within and across countries. The inequality of opportunity is much more pronounced in Benin for job

opportunities (33.6), contract (40.8) and Liberia for the job opportunity with insurance (49.3). We note that the characteristics of parents contribute more to the inequality of opportunity in the access of young people to a job in Togo compared to the situation in Benin and Liberia. We find also that demographic factors contributes much more to the inequality in access to employment in Liberia (78.02%) compared to Benin (74.26%) and Togo (45.05%).

The rest of the paper is as follow. The section 2 present literature review. Data and methodology are presented in section 3. The results are in section 4 and the section 5 concludes.

2. LITERATURE REVIEW

The notion of equality or inequality of opportunity or opportunity has been addressed in the literature from several angles by several authors. For Dworkin (1981) and Arneson (1989); Arneson (1990) it is about equality of resources and equality of opportunity for well-being while Cohen (1989) emphasized equality of opportunity. access to advantage. For Sen (1979;1985) it is a question of a fair distribution of the set of functions really available for a person (capacities). All of these previous proposals seek, according to Roemer, to equalize opportunities or chances rather than results. According to the Equal Opportunity Prince of Roemer (1993;1998) the most important is to seek equality of opportunity regardless of circumstances. He believes that the equality of results depends only on the efforts of individuals.

By distinguishing five key concepts, Roemer (1998) sheds light on the difference between circumstances and efforts in relation to individuals. He points out that circumstances make references. to the attributes of the environment over which the individual has no power (escape the control of the individual) but which affect him in the realization of his objectives. For the effort, it is about the individual behaviors and decisions that determine the level of goal achieved.

The whole of the empirical review on equal opportunities was inspired by the idea of Roemer's equality of opportunities (presented above) but with different approaches in several areas. Some research has focused on assessing the impact of life circumstances on a specific well-being goal. Others, on the problem of measuring the degree of (in) equality of opportunity in a given country or region. This work used either parametric or nonparametric techniques to obtain the expected results. As an example, we mention the works of Betts and Roemer (2001) and Bourguignon *et al.* (2007). Considering the average wage income differential, these authors focused their work on the analysis of the effects of several life circumstances and specific effort variables in Brazil.

Another aspect of the issue of equality of opportunity was addressed by Ooghe and Schokkaert (2007); Hild and Voorhoeve (2004) and Cogneau and Mesplé-Somps (2008). They considered the dependence of expected earnings distribution on social origin as a measure of inequality of opportunity or opportunity. In this work, estimates and tests of stochastic dominance were made using the distribution of average income in several socio-economic categories. One of the strongest hypotheses of these works is that opportunities will be considered more equitably distributed when income distribution subordinated to social origins cannot be classified according to stochastic dominance criteria (eg, Lefranc *et al.* (2008)).

As used by Abras *et al.* (2013) in this paper, we use the Human Opportunity Index (HOI) framework. Developed by the World Bank's research group, this index is used as an intuitive measure of a society's efforts to equitably provide opportunities for all children. It is constructed by aggregating coverage rates according to life circumstance characteristics into a scalar measure. Formally, the measure of HOI (H) for a given opportunity is represented by the average access coverage rate ($\bar{C}$) multiplied by equality factors.

$$H = \bar{C}(1 - D)$$

With (1-D) the equality factor. It is equal to one in the case where the access to the opportunity is

independent of the circumstances. In this situation, the HOI is equal to the average coverage rate. The D represents the share of the total number of opportunities to be reallocated among $types^6$ to ensure equality of opportunity. It is called the dissimilarity index. The latter can be calculated as follows:

$$D = \frac{1}{1\bar{C}} \sum_{k=1}^{m} \alpha_k |\bar{C} - C_k|$$

k is a type that refers to group of children with a specific set of circumstances; C_k the specific coverage rate of group k; α_k the share of group k in total population of children; and $\bar{C}$ the numbers of disjoint groups defined by circumstances. D is equal to zero when $\bar{C} = C_k$ for all k types, in which case HOI is equal to the coverage rate $\bar{C}$.

Measuring inequality of opportunity on the labor market was the subject of research by Abras *et al.* (2013). In their work, they first estimated the extent of inequality (in the labor market) between groups that are characterized by circumstances and characteristics of effort. These elements are at the origin of changes in access to job market opportunities (such as having a job). Thus, the index D obtained with these elements gives the overall level of inequality in the labor market. In this case, opportunity inequality represents the share of overall inequality attributable solely to circumstances.

Figure 1 is a conceptual form of the idea of Abras *et al.* (2013) according to opportunity dimensions in the labour market .
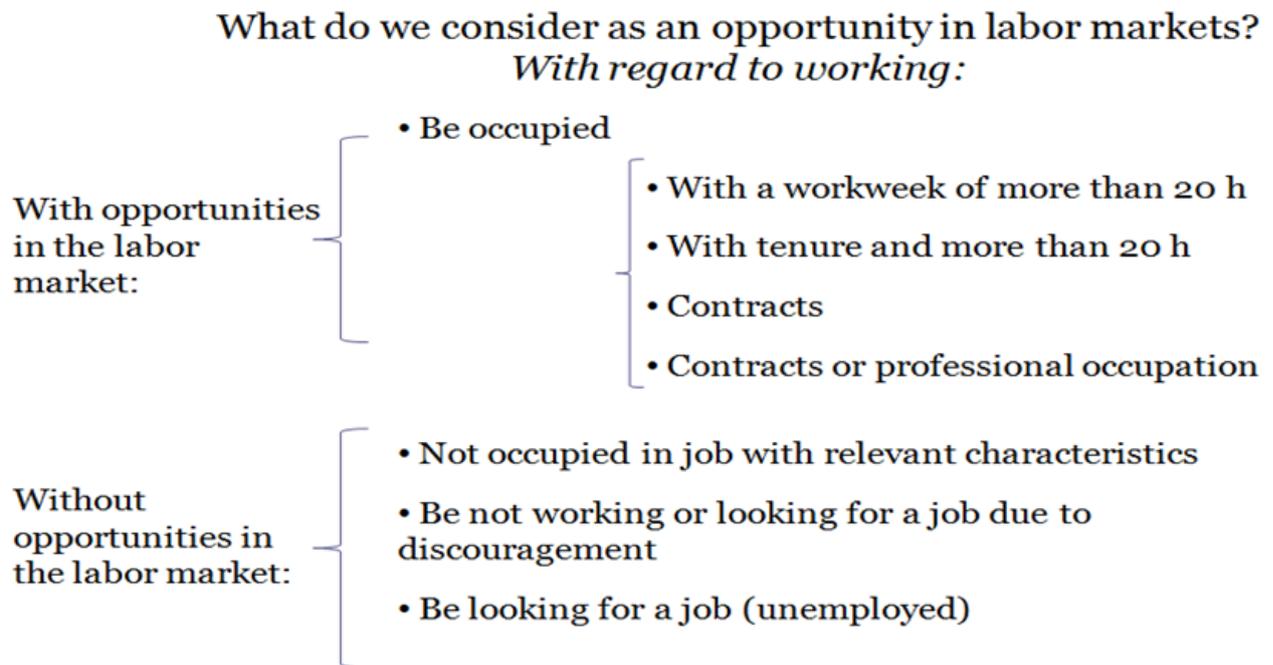
Figure-1. opportunity dimensions in the labour market.

Source: Abras *et al.* (2013).

The definitions of the concept of labor market opportunities are based on a trade-off between (i) the availability of information in surveys and (ii) the relevance of a result described by the worker for the concept of opportunity. These definitions take into account all adults aged 18 to 64 in the labor market. An individual in the labor force is characterized as having an opportunity when: he / she has a job (with a defined set of characteristics such as 20

hours of work per week, tenure or contracts) and does not have job-related shocks in the past year.

The definition of circumstances is done by considering the characteristics of the environment in which an individual was born. These characteristics are supposed to be independent of the access to the opportunities envisaged by this individual. With this principle and information on the availability of data, the circumstances often retained are: sex of the person, education of the father, affiliation of the parents to the communist party and self-declared minority status.

In addition to circumstances, characteristics such as education and age of the individual are often included in the estimation exercise and are generally used to determine the returns to education and experience. The transition from measuring the overall level of inequality between groups to inequality of opportunity in the labor market is done by isolating the contribution of circumstances from that of education and age. Finally, for reasons of easy comparison between countries, the same set of circumstances and effort is used for all countries.

Few empirical studies using the HOI methodology to address inequities in the labor markets of developing countries. The spread of unequal opportunity in labor markets in Europe and Central Asia (ECA) has been estimated by Abras *et al.* (2013). The methodology of the the Human Opportunity Index (HOI) has been adapted to the one used to measure the inequality in the labour market for working age adults, using data from the Life in Transition Surveys (LiTS) conducted in 2006. They make a decomposition of the total inequality observed between the part attributable to the circumstances of life (for example, gender, education of the parents, minorities status ...) and the part assigned to the other characteristic (education and age). The results show that there is substantial inequality of opportunity in the ECA region and a high degree of heterogeneity among the countries in which inequality is greatest. Correlations between measures and perceptions of inequality among citizens suggest this inequality across groups, including measures of inequality of opportunity. Results are robust to different job and opportunity definitions.

3. DATA AND METHODOLOGY

3.1. Data

The data that we use are from School to Work Transition Survey (SWTS), conducted in 2012 for Liberia, 2014 for Togo, and 2012 for Benin. The samples in the SWTS are nationally representative and include interviews with 2033 persons aged from 15 to 29 in 2012 against 2708 in 2014 for Togo. The Benin SWTS include interviews with 6917 persons aged from 15 to 29 in 2012.

In order to determine the inequality of opportunity in access to labour market, this study will base on two groups of variables. The first group is related to circumstance variables and the second is about the individual's characteristics. The circumstance variables we retain: Region, Parents' education (Mother and Father), residence, household's overall financial situation, sex. Education, age, handicap are the individual characteristics to be used.

Our dependant variables are variables we consider as an opportunity in labour markets. With regard to work, an individual with access to an opportunity in labour markets is one who:

- Is occupied with a workweek.
- Has contract occupation.
- Has work protected with insurance.

3.2. Methodology

We drew on a methodological framework based on measures of inequality of opportunity from previous studies and used recently by Sanoussi (2017) in the analysis of health inequalities in Togo. In order to measure inequality of

opportunity in the labour market, we will first estimate the scope of inequality in the labour market between groups using the Human Opportunity Index (HOI).

$$HOI = \bar{p}(1 - D - index) \qquad (1)$$

In the Equation 1, $(1 - D - index)$ is the equality factor. The $D - index$ can be interpreted as the share of the total number of opportunities that needs to be reallocated between groups of circumstances to ensure equality of opportunities, which we refer to as the dissimilarity index.

In contrast to the usual HOI applications, our groups are characterized by individual circumstances and characteristics, which play an important role in gaining access to an opportunity in the labor market (such as being employed). Thus, the index D calculated in this way with the circumstances and characteristics reflects the overall level of inequality in the labor market, while the share of overall inequality attributable solely to circumstances is considered an inequality of opportunities. In practical terms, inequality between groups (D-Index) is econometrically estimated as follows. Consider any opportunity (for example, a work week) in the labor markets, defined as a discrete variable (0-1), with 1 if yes and 0 if no. To obtain the conditional probabilities of access to this opportunity for each individual in the sample according to their circumstances and characteristics, a logistic model is estimated, linear in the parameters β, where the event corresponds to the access to the opportunity and x to the whole. circumstances and characteristics:

$$\ln\left(\frac{p(y=1/X=(x_1...x_k...x_m))}{1-p(y=1/X=(x_1...x_k...x_m))}\right) = \sum_{k=1}^{m} \beta_k x_k \qquad (2)$$

In the Equation 2, x_k denotes the row vector of variables representing m circumstances/characteristics and β_k a corresponding column vector of parameters.

The inequality of opportunity is estimated as the part of between-group inequality that is attributable to circumstances, and obtained by estimating the contribution of these circumstances to the D-Index. Following Shorrocks (2013) we will use Shapley Decomposition to obtain the part of the D-Index due to circumstances:

$$D_C = \sum s_{CN/(C)} \frac{s!(n-s-1)!}{n!} [D(S \cup \{C\}) - D(S)] \qquad (3)$$

In the Equation 3, N is the set of all circumstances and characteristics, which includes (n in total); S is a subset of N (containing s characteristics) that does not contain the set of circumstances C. D(S) is the dissimilarity index estimated with the set of characteristics S. $D(S \cup \{C\})$ is the dissimilarity index calculated with set of characteristics S and the set of circumstances C. We can now define the contribution of the set of circumstances C to the dissimilarity index as:

$$\theta_C = \frac{D_C}{D(N)} \qquad (4)$$

In the Equation 4, Where $\quad \sum_{i \in N} \theta_i = 1$

4. RESULTS

The presentation of our results follows three indicators as mentioned in the previous section. These indicators are $(\bar{p})$: Probability for individuals to have access to the "Employment" opportunity or the average coverage rate or the prevalence of the "Employment" opportunity; HOI: Access rate to this opportunity and represents the number of opportunities existing in a company and which is allocated on the basis of the principle of equal opportunity; and D: Index of dissimilarity that measures inequality of opportunity. This index is interpreted as the share of the number of opportunities that must be reallocated given the circumstances of life to ensure equality in access to this opportunity.

4.1. Results on HOI results, Coverage Rate (p̄) and Inequality of Opportunity (D).

Three indicators were used in the analysis of inequality of opportunity in the labour market. These are the possession of a job, insurance and employment contract. These three dimensions represent opportunities in the labour market. The methodology used allowed us to obtain, for each indicator considered, the results recorded in Table 1.

Table-1. HOI results, coverage rate (p̄) and inequality of opportunity (D).

	$\bar{p}$			D			HOI		
	Benin	**Liberia**	**Togo**	**Benin**	**Liberia**	**Togo**	**Benin**	**Liberia**	**Togo**
Employment	27.6	54.4	62.3	33.6	13.8	17.7	18.3	46.8	51.3
Contract	11.6	10.9	24.5	40.8	31.9	26.5	6.9	7.5	18
Insurance	11.6	0.1	24.4	40.8	49.3	26.4	6.9	0.06	17.9

The results show that the probability of young people having access to the opportunities retained is higher in Togo than in other countries (Benin and Liberia). In Togo, the average coverage rate (prevalence) of "Employment" is 62.3% of young people against 54.4% and 27.6% in Liberia and Benin respectively. This rate is about 24% in Togo for employment with "Contart" and "Insurance" against respectively 10.9% and 0.1% in Liberia and 11.6% in Benin.

For these three opportunities, Togo also has the highest access rates (OHI) compared to Liberia and Benin. The human opportunity index stands at 51.3 for access to employment, 18 for a job with a contract and 17.9 for a job with insurance in Togo. In Benin, the index is 18.3 and 6.9 respectively for job opportunities, contract and insurance against 46.8, 7.5, and 0.06 in Liberia.

Unlike coverage and access rates, the extent of the dissimilarity index, which measures inequality of opportunity, varies across countries. This index is interpreted as the part of the number of opportunities that must be reallocated in the light of life circumstances to ensure equality of access to a given opportunity. The inequality of opportunity is much more pronounced in Benin for job opportunities (33.6), contract (40.8) and Liberia for the job opportunity with insurance (49.3).

4.2. Contribution of Groups of Circumstances

Table-2. Contribution of groups of circumstances.

	Characteristics of parents			**Demographic factors**			**Geographical factors**		
	Bénin	Libéria	Togo	Bénin	Libéria	Togo	Bénin	Libéria	Togo
Employment	15.47	4.99	22.48	74.26	78.02	45.05	10.27	16.98	32.47
Contract	34.69	21.53	17.59	28.27	26.94	17.44	37.04	51.53	64.97
Insurance	34.69	25.6	18.03	28.27	52.47	17.17	37.04	21.93	64.79

For the results obtained in Table 2 we note that the characteristics of parents contribute more to the inequality of opportunity in the access of young people to a job in Togo compared to the situation in Benin and Liberia. In Togo, the characteristics of parents contributed 22.48% against 15.47% in Benin and only 4.99% in Liberia. Regarding the employment opportunity with contract or insurance, the contribution of parental characteristics is higher in Benin compared to the other two countries.

Focusing on demographic factors we find that this group of circumstance contributes much more to the inequality in access to employment in Liberia (78.02%) compared to Benin (74.26%) and Togo (45.05%). The contribution of demographic factors to inequality in access to job opportunity with contract and access to job opportunity with insurance is almost the same in Benin. This situation is also observed in Togo, where demographic factors contribute 17% to inequality. On the other hand, in Liberia, the contribution of demographic

factors was higher for access to the job opportunity with insurance (52.47%) than access to the job opportunity with a contract (26.94%).

Regarding geographical factors, we find that this group of circumstance contributes the most to the inequality in access to all the opportunities retained for Togo in the two other countries. Geographical factors contribute to the opportunity of access to employment in Togo up to 32.47% against 16.98% in Liberia and 10.27% in Benin. For employment with contract and access to employment with insurance, their contribution is 37.04% in Benin against 64% in Togo. In Liberia, the contribution is 51.53% for access to employment with a contract against a contribution of 21.93% for access to the job opportunity with insurance.

Table-3. Contribution of the variables of circumstances.

	Emploi			**Contrat**			**Assurance maladie**		
	Benin	Liberia	Togo	Benin	Liberia	Togo	Benin	Liberia	Togo
Level of instruction of the individual	30.15	11.15	43.85	32.83	7.19	3.34	–	17.81	3.39
Level of instruction of the father	4.77	0.98	7.22	14.98	12.06	9.00	14.98	8.85	9.31
Level of instruction of the mother	3.12	3.18	5.73	4.10	11.30	4.71	4.10	11.30	4.85
Household size	3.35	5.54	0.21	4.77	0.24	5.56	4.77	2.82	5.39
Training area	1.96	–	–	6.86	–	–	6.86	–	–
Marital status	25.03	29.26	15.15	5.57	0.94	25.10	5.57	7.35	25.18
Middle of residence	3.35	7.30	11.05	17	44.17	39.18	17	9.95	38.96
Sex	2.98	3.94	2.10	11.81	18.82	7.28	11.81	27.92	7.17
Age	25.28	38.66	14.69	2.07	5.26	5.83	2.07	13.99	5.75

The results of the Table 3 show, for the three countries studied, that the level of education of the individual explains much better access to the job opportunity than the level of education of the parents. In Benin and Togo, the level of education of the individual explains more the access to the job opportunity (30.15% for Benin and 43.85% for Togo) than the other variables of circumstances. On the other hand, in Liberia it is the age of the individual that explains the access to the job opportunity (38.66%) more than the other variables of circumstances. In Benin, compared with other variables of circumstances, the training field contributes very little (1.96%) to the opportunity access job. In Liberia, on the other hand, it is the level of education of the father that contributes little. In the case of Togo, it is the household size that makes a small contribution (0.21%) to access an employment opportunity.

While in Benin the level of education contributes the most (32.83%) in the acquisition of a job with contract compared to other variables of circumstances, in Togo this variable of circumstance is the one that contributes weakly to acquiring a job with a contract. Whether in Liberia or Togo, it is the place of residence that contributes significantly (44.17% for Liberia and 39.18% for Togo) in the process of acquiring a job with a contract. The circumstance variable that contributes the least to the process of acquiring a contract job is the age for Benin, whose contribution is only 2.07% and the household size in Benin and Liberia. The case of Liberia with a contribution of 0.24%.

The place of residence contributes most to the opportunity "health insurance" in Togo (38.96) whereas in Liberia and Benin, it is the sex (27.92) and the level of education of the father (14.98) respectively.

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5. FINAL REMARKS

The inequality of opportunity in the labour market is measured by the D-Index which is one of the component of the Human Opportunity Index (HOI). The latter is often used to estimate the extent of inequality in the labour market between groups.

Our findings show different levels of inequality of opportunity in access to youth labour market within and across countries according to the three opportunity variables used. This situation can be explained by each country's priorities and policies implemented to reduce the inequalities in these opportunities. But the results show that there are still more to do in ensuring equitable access to youth labour market with regard to the levels of inequality of opportunities as well as the average coverage and access rates. According to our findings, it appears that equitable access to youth labour market will be provided through sustained efforts aimed at reducing the inequalities.

In addition, we find that the characteristics of parents contribute more to the inequality of opportunity in the access of young people to a job in Togo compared to the situation in Benin and Liberia. It appears also that demographic factors contribute much more to the inequality in access to employment in Liberia compared to Benin and Togo.

To significantly reduce inequality of opportunity and improve the access to youth labour market, it is important to have a better understanding of the individual's characteristics that contribute more to the inequality of opportunity and impact negatively their access.

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