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Article

Inactive Youth in Sub-Saharan Africa: Does Inequality of Opportunity Matter?

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Abstract: The present study seeks to find out how gender, age, area of living, parent background in terms of educational level and occupation determine the probability of youth to be out of the labour market in six Sub-Saharan Africa countries. We utilize data from the school-to-work transition surveys from 2014 and 2015 from the ILO. For each country, we first calculate a revised version of the Human Opportunity Index developed by the World Bank. Second, we compute the contribution of each factor to that index. The results show that dissimilarity has a marked influence in Madagascar and to some extent Malawi and Uganda, while the major challenges with getting the youth onto the labour market are still in Liberia even after taking dissimilarity of unchangeable background into account.

Keywords: youth; inequality of opportunity; employment; dissimilarity

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1. Introduction

Africa is a continent with the youngest population whereby 70% of its population is below 30 years old (Awad 2019). It is expected that 29% of the world's youth population will reside in Africa by 2050. According to the World Bank (2014) Africa's youth bulge offers a range of opportunities. First, the world's goods and services cannot be produced without working-age labour. Africa is likely to be the leading supplier of the world's workforce, either by producing goods and services in the region or by sending workers to regions that are experiencing a shortage of workers. Second, the manufacturing wage in other regions is rising. Africa's labour force should compete for these jobs. Third, increasing concentration of workers in urban areas can be a source of innovation and rapid economic growth (World Bank 2014). Young people will be at the forefront of these developments. Finally, if fertility continues to fall, rapid growth in Africa's workforce will mean that the number of working-age adults relative to "dependents" will rise from just around 1 in 1985 to close to 1.7 in 2050 providing the space for savings, investment, and sustainable economic growth (Ashford 2007; World Bank 2014).

However, today the potential role of youth (15–29 years) in Africa's development turns out to be a controversial issue. The challenges for youth that are central to Africa's economic development are numerous and varied, they include for instance, employment, health, and political participation. These issues differ among groups, within and across countries, as well as regions. Unemployment has been frequently cited as a key challenge that face youth in the continent (Awad and Hussain 2021; Awad 2020; Anyanwu 2013, 2014; Mabala 2011; Thieme 2010; Kabbani and Kothari 2005), however, it seems that this is not entirely correct. According to the International Labour Organization (2008) the unemployment rate among the youth in Sub Saharan Africa (SSA) remains below 7% during 1997–2007, while the inactive rate (people who are neither employed or unemployed, e.g., students, retirees, housewives, etc.) during the same period remained high (increased slightly from 42% to 44%). This figure tells us that nearly half of the youth in SSA are neither in the labour

force (employed or unemployed) nor at school. Consequently, if young people are not in employment or looking for jobs and not at school, there are good reasons to be concerned about their current well-being and their future labour market prospects.

Inequality of opportunity is commonly recognized as a crucial factor in explaining the performance of the labour markets (Dimova and Stephan 2019; Brunori et al. 2019; Assaad et al. 2019). Inequality of opportunity is defined as the difference in individuals' outcomes systematically correlated with morally irrelevant pre-determined circumstances, such as gender, ethnicity, socioeconomic background, and area of birth (Roemer 1993, 1998). Africa in general and Sub-Saharan Africa (SSA) countries in particular are known for their high levels of economic inequality as well as extreme poverty (Moradi and Baten 2005; Thorbecke 2013). It is well known that not all inequalities are the same. More specifically, some sorts of disparities are caused by factors beyond individual control such as gender, age, place of birth/resident, or parental background. However, some types of variations are caused by effort-based inequalities (World Bank 2006; Bradbury and Triest 2016; Marrero et al. 2016; Marrero and Rodríguez 2013; Brunori et al. 2019). A recent study by Brunori et al. (2019) examined the impact of circumstances beyond individual control such as gender, age, ethnicity, birthplace, and parental background on household consumption for ten countries in SSA. The results show that all the mentioned factors play a significant role in determining the welfare of households in terms of consumption.

The present study aims to find out how factors beyond an individual's control determine the probability of youth to be out of the labour market in six countries in the SSA region including the Republic of Congo, Liberia, Madagascar, Malawi, Uganda, and Zambia. More specifically, we seek to find out how gender, age, area of living, parent background in terms of educational level and occupation determine the probability of youth to be out of the labour market in these countries. The selection of these variables is based on the preceding and recent empirical literature (Dimova and Stephan 2019; Brunori et al. 2019; Assaad et al. 2019). Based on a revised human opportunity index (human adversity index) approach that has been developed by the World Bank (2006), the inactivity rate is adjusted upwards by the level of inactivity dissimilarity in the population. After that, we follow the Shapley-Own decomposition approach (Shapley 1953; Owen 1977; Shorrocks 2013) to find the contribution of each circumstance to the dissimilarity in labour market status.

As mentioned above, most of the previous studies concerning youth in the SSA concentrated only on the status of the youth who already had joined the labour market (employment or unemployment). Despite the opulent studies about the status of the youth in the labour market, no empirical studies tried to discuss the situation of the inactive youth. The present study will rely on updated microdata that records in detail the critical socioeconomic characteristics of the youth in the SSA. More specifically, the present study will use data about "from the school-to-work transition survey" developed by the International Labour Organization (ILO) in cooperation with the MasterCard Foundation under the Project W4Y (Work for Youth). To the best of our knowledge, so far no study in general and for the SSA region in particular investigated to what extent inequality of opportunity determines the status of the inactive youth in SSA. Several empirical studies tried to link inequality of opportunity with some different types of outcomes such as earnings, consumption, education, health (Singh 2012; Marrero and Rodríguez 2012; Martinez et al. 2017; Hederos et al. 2017; Golley and Kong 2018; Ferreira et al. 2018; Brunori et al. 2019; Assaad et al. 2019). However, concerning the youth employment issue, one study was conducted recently by Dimova and Stephan (2019) for three countries in the MENA region using the same dataset types that we will use but they were using a multinominal logit technique that potentially suffers from the problem of independence of irrelevant alternative hypotheses (Seo 2016). Thus, our study contributes to the field of inequality of opportunity in terms of first, the method that we employ, second, the countries that we cover, and third, the selected variables that reflect the inequality of opportunity.

The present study is intended for the use of policymakers and social partners involved in the implementation of national youth-related policies and programs, as well as for international and non-governmental organizations involved in the development of responses at the regional level. The remainder of the paper is organized as follows. Section 2 presents the economic and demographic structure in the selected countries. Section 3 outlines the theoretical framework and relevant literature review. Section 4 outlines the methodology. The results will be presented in Section 5. Finally, Section 6 presents a discussion and conclusion, and provides policy recommendations.

2. The Status of the Inactive Youth in the Selected Countries

We start by looking at the distribution of the youth across employment, unemployment, study, and inactivity as per Table 1. The figures in this Table reconfirm what we mentioned previously regarding the fact that most of the previous research focus on youth unemployment as the main challenge while ignoring the greater youth inactivity rate. Clearly, in all selected countries the rate of inactive youth constitutes a significant proportion as compared to the unemployed. In other words, these figures tell us that the main problem that faces youth in SSA is the inactivity rather than the unemployment.

Table 1. Distribution of the survey sample by unemployed, employed, students and inactive. 15–29 years.

Countries	Unemployed	Employed	Students	Inactive	Total
Congo, Rep.	253 13%	970 27%	1573 47%	480 14%	3276 100%
Liberia	61 3%	627 27%	806 50%	366 20%	1880 100%
Madagascar	107 2%	3489 70%	1225 24%	223 4%	5044 100%
Malawi	103 3%	1540 54%	1119 32%	335 11%	3092 100%
Uganda	113 4%	1598 53%	1082 33%	306 10%	3045 100%
Zambia	281 9%	1288 40%	1125 35%	531 17%	3225 100%
Total	918 4%	9512 56%	6876 32%	2261 19%	19,567 100%

Note: Inactive here is without students, which are categorized separately. Source: Own calculations based on ILO's School-to-Work Transition Survey (SWTS), 2014 & 2015.

Table 2 represents the distribution of inactive youth by sex and by area of residence in the selected countries. In all countries, females are more vulnerable than males when measured by being out of the labour force. The situation is more severe in Madagascar and Uganda as approximately 80% of the females were inactive. Garcia and Fares (2008) arrive at the same conclusion for 13 countries in SSA. Regarding the distribution of inactive youth by area of residence, Table 2 shows that except for Congo and Zambia most of the inactive youth live in the urban areas. In contrast, in Congo the majority of the inactive youth live in the rural area (80%). In Zambia it seems that they distributed equally between urban and rural areas.

Table 2. Distribution of inactive youth by sex and by area of residence. %.

	Male	Female	Rural	Urban
Congo, Rep.	30	70	80	20
Liberia	40	60	27	73
Madagascar	18	82	36	64
Malawi	19	81	27	73
Uganda	20	80	29	71
Zambia	41	59	51	49

Source: Own calculations based on ILO's School-to-Work Transition Survey (SWTS), 2014 & 2015.

Many scholars believe that inactivity is positively associated with the level of illiteracy among the youth. However, Table 3 shows that this argument is not accurate since in all countries, except Liberia, more than 85% of the inactive youth attended school. However, when we look at the highest qualification of those who completed their school the information is disappointing. Table 4 shows that in Uganda and Malawi nearly half the inactive youth are without any qualification. For the rest of the countries more than 50% are either without qualification or they completed only an elementary level of education.

Table 3. Inactive youth: Ever attended school? %.

	Congo, Rep	Liberia	Madagascar	Malawi	Uganda	Zambia
Yes	94	64	85	91	94	86
No	6	36	15	9	6	14

Source: Own calculations based on ILO's School-to-Work Transition Survey (SWTS), 2014 & 2015.

Table 4. Highest qualification among inactive youth who completed their education/training. %.

	Congo, Rep.	Liberia	Madagascar	Malawi	Uganda	Zambia
No qualifications	15	18	4	51	54	40
Primary level	38	57	53	36	28	36
secondary level	42	24	41	1	17	20
University	6	1	2	12	0	4

Source: Own calculations based on ILO's School-to-Work Transition Survey (SWTS), 2014 & 2015.

Economic reasons in all countries justify why youths leave school/training early (Table 5). In all countries, approximately 45% of the inactive youth mentioned that they left school early due to economic and financial issues. The financial burden that young people from low-income families bore was another layer of pressure that caused them to leave school early. It seems that there is a long journey for these countries to implement the declaration of the United Nations regarding "Education for all". Tuition fees, and other school expenses (uniforms, textbooks, transportation, etc.) seem to be the main problem that prevents families from sending their children to school. To minimise this burden, the government should allocate more resources to the education sector. NGOs should also contribute to this by initiating programs that encourage families to send their children to school (Berry et al. 2018).

Table 5. Inactive Youth that left school before completion by reasons. %.

	Congo, Rep.	Liberia	Madagascar	Malawi	Uganda	Zambia
Failed examinations	18	0	10	4	8	7
Not interested in education/training	6	2	23	19	9	12
Wanted to start working	4	1	0	0	3	2
To get married	7	6	15	17	0	7
Parents did not want me to continue/start schooling	8	2	3	3	2	3
Economic reasons	31	69	36	47	44	55
No school nearby	0	2	1	1	0	2
Maternity	18	0	0	0	11	0
Health reasons	6	0	0	8	11	0
Other (specify)	3	19	12	0	11	11

Source: Own calculations based on ILO's School-to-Work Transition Survey (SWTS), 2014 & 2015.

Similarly, to their children, the educational background of parents was also disappointing, especially for mothers (Tables 6 and 7). In all countries, approximately 79% of the mothers and 65% of the fathers had no qualifications or just a primary level of education at best. At the country level, it seems that father's education is relatively very poor in countries such as Liberia, Malawi, Uganda, and Zambia since approximately 40% of them are without qualifications. Regarding mother's education, Liberia, Malawi, and Uganda are the countries in which more than 60% of the mothers are without any qualifications. Overall, it seems that in these countries, younger generations were considerably more educated with much higher productive employment potential than for their predecessors.

Table 6. Highest qualification for the father of the inactive youth %.

	Congo, Rep.	Liberia	Madagascar	Malawi	Uganda	Zambia	Total
No qualifications	32	54	19	40	40	38	38
Primary level	24	13	40	28	25	27	27
secondary level	32	25	21	14	12	16	16
University	12	3	2	2	2	3	3
Do not know	0	5	18	16	21	16	16

Source: Own calculations based on ILO's School-to-Work Transition Survey (SWTS), 2014 & 2015.

Table 7. Highest qualification for the mother of inactive youth. %.

	Congo, Rep.	Liberia	Madagascar	Malawi	Uganda	Zambia	Total
No qualifications	40	79	23	64	62	13	57
Primary level	30	10	50	25	12	37	22
secondary level	27	4	17	5	6	31	8
University	3	1	1	1	1	1	1
Do not know	0	6	9	5	20	18	12

Source: Own calculations based on ILO's School-to-Work Transition Survey (SWTS), 2014 & 2015.

In all countries, a large proportion of the inactive youth failed to explain why they are not looking for a job in the past 30 days (Table 8). However, for the majority of the countries (Liberia, Madagascar, Malawi, and Zambia) it seems that the unavailability of jobs in the area/district is the main reason why youth stops looking for jobs. In Uganda personal family responsibilities appear to be one of the main factors behind the inactivity of the youth.

Table 8. Reasons for not looking for a job in the past 30 days. %.

	Congo, Rep	Liberia	Madagascar	Malawi	Uganda	Zambia
Was waiting for the results of a vacancy	2.3	0.0	1.6	2.6	2.9	6.0
Awaiting the season for work	2.5	1.5	0.4	6.7	11.3	6.2
Education leave or training	3.3	3.2	0.0	1.2	2.0	11.4
Personal family responsibilities	10.6	7.6	12.1	14.9	31.5	11.7
Pregnancy	15.8	9.3	15.2	15.4	6.6	3.9
Own illness, injury or disability	9.4	7.8	4.0	2.5	8.8	1.0
Do not know how or where to seek work	17.2	13.5	12.1	7.8	9.0	7.6
Unable to find work for his/her skills	7.7	3.9	7.3	4.8	8.0	4.4
Had looked for job(s) before but had not	8.8	3.3	6.7	4.0	3.5	7.8
Too young to find a job	1.5	1.1	2.9	0.9	0.9	2.4
No jobs available in the area/district	9.6	33.6	28.7	32.8	10.9	20.7
Other reason	11.3	15.1	8.9	6.4	4.6	16.9
Total	100.0	100.0	100.0	100.0	100.0	100.0
Missing	63.6	61.7	76.0	43.9	36.4	40.0

Source: Own calculations based on ILO's School-to-Work Transition Survey (SWTS), 2014 & 2015.

3. A Conceptual Framework & Related Literature Review

Earlier effort on measuring inequality of opportunity begin with Roemer (1998) who differentiated between "circumstance" and "effort" variables. The general form of the model of advantage as proposed by Bourguignon et al. (2007) take the following form

$$H = f(C,E,W) \quad (1)$$

where H refer to the outcome of interest, C stand for a vector of circumstance-based variables; E refer to a vector of effort–based variables; and W stand for random variables. Roemer's theory assume that the C variables must be exogenous (e.g., an individual has no control over them) and E variables must be endogenous to the C variables. For instance, an individual will not be able to change his or her race, but this might affect his or her education and work choices. Considering this, EQ (1) can be rewritten as:

$$H = f[C,E(C, Z),W] \quad (2)$$

As per Roemer's explanation, the equality of opportunity requires $F(H/C) = F(H)$. Therefore, this definition implies two conditions; the first condition is that $\frac{\partial f(C,E,W)}{\partial C} = 0$, $\forall C$, which indicates that no C variable has a causal impact on H. The second condition requires that $N(E/C) = N(C)$, $\forall E, \forall C$, e.g., each E variable should be distributed independently from all circumstances (C). Thus, the existence of inequality of opportunity occurs when

F(H/C) ≠ F(H), e.g., the outcome depends on circumstances. Therefore, the first step in detecting and measuring inequality of opportunity is by examining whether the conditional distributions F(H/C) differ across the elements of C.

In general, studies on the impact of inequality of opportunity on a specific outcome is relatively limited. Most previous studies addressed the impact of such disparities on poverty and economic growth (Krafft and Alawode 2018; El-Saadani and Metwally 2019; Anis and Mekki 2020; Shekhar and Christian 2020). Most importantly, only very limited studies have linked such inequality with specific labour market indicators so far. So, to save space, we limited our review to the recent studies that linked inequality of opportunity with the outcome related to the labour market. Dimova and Stephan (2019) try to explore whether large youth unemployment and discouragement rates relate to inequality of opportunity or to deeper structural characteristics that create a mismatch between the skills demanded in the market and those supplied by labour market entrants. Using school-to-work transition surveys for Egypt, Jordan, and Tunisia, their findings show that inequality of opportunity explains a considerable part of youth unemployment and discouragement rates in these countries. Awad and Hussain (2021) tried to identify whether the youth's status in the labour market is affected by inequality of opportunity or effort-based inequalities. They utilized the Human Opportunity Index on data from the school-to-work transition surveys from 2014 and 2015 related to six Sub-Saharan Africa countries (the Democratic Republic of the Congo, Liberia, Madagascar, Malawi, Uganda, and Zambia). Overall, they demonstrated that effort-based inequalities and not inequality caused by factors beyond individual control played a significant role in explaining youths' status in the labour market. Ahmed et al. (2020) examine the impact of inequality of opportunity in the labour market in Sudan, using data from the Poverty Survey, 2014. The results of a logit model show that differences in circumstances are the main factor that explains access to employment opportunity. Studies that linked such inequality with specific labour market indicators are limited and rare. This confirms one of the critical objectives of the present study; to enrich our standing on the potential impact of inequality of opportunity on the labour market.

4. Methodology

4.1. Equality of Opportunity

The model of Equality of Opportunity assumes that the outcome of an individual is entirely determined by two classes of variables: circumstances and efforts (Roemer 1998; Van de Gaer 1993; Peragine 2002). Examples of circumstances are gender, age, ethnicity, region of birth, and parental background. These are factors beyond an individual's control but nonetheless exogenously affect individual outcomes. A focus could be employment as the outcome. The Human Opportunity Index (*HOI*) developed by the World Bank (Molinas et al. 2012; World Bank 2021) is defined as:

$$HOI = (1 - D) \cdot C \tag{3}$$

where *C* is the fraction of the population with a favourable outcome (coverage rate) like employment. *D* is the dissimilarity index (inequality of the outcome) in the population:

$$D = \frac{1}{2 \cdot C} \sum_{j=1}^{k} P_j \cdot \left| C_j - C \right| \tag{4}$$

where k is the number of possible combinations of the circumstances, C_j is the average employment outcome for combination j, and P_j is a fraction of the population in combination j. The human opportunity index is thus basically the employment rate adjusted downwards by the level of employment inequality in the population.

Higher human opportunity index *HOI* implies an improved situation since the coverage rate *C* measures a good outcome, like being employed (in contrast to being unemployed)

or being in the labour force (in contrast to being out of the labour force, e.g., inactive in relation to the labour market). The fraction L on the labour market is by definition equal to one minus the fraction I not on the labour market (inactive). Utilizing this definition $L + I = 1$, the human adversity index HAI for not being on the labour market is:

$$HAI = 1 - HOI \quad = 1 - (1 - D_L)L = 1 - (1 - D_L)(1 - I) = \left(1 + \tfrac{A}{I} D_L\right) I = (1 + D_I) I \tag{5}$$

where D_L is the dissimilarity index in the case where the focus is on people on the labour market and D_I is the dissimilarity index in the case where we focus on people who are inactive (not on the labour market).

4.2. Decomposition

Although the level of D is informative as an overall monitoring instrument, a decomposition of the D can inform policy about possible ways to reduce D and thus increase HOI. Here we follow the Shapley-Own decomposition approach (Shapley 1953; Owen 1977; Shorrocks 2013) to find the contribution of each circumstance to the dissimilarity index D.

Assume we have three circumstance variables X_1, X_2, and X_3 (Table 9). The idea behind the decomposition is that we find the average increase in D by introducing the variable/circumstance of interest (like X_1). The rise in D will depend on what other variables are already used to calculate D (like X_2 and X_3). The two end cases are, where the variable (X_1) is introduced when there are no other variables present, and when the variable (X_1) is introduced while all other variables (X_2 and X_3) are present. Both of these two cases only have one combination, e.g., increase in D caused by going from no variable to introducing X_1, and increase in D caused by first including both X_2 and X_3 and next including X_1. In between these two end cases, there are all the other possible combinations, like going from (X_2) to (X_1, X_2), and from (X_3) to (X_1, X_3). This gives four possible combinations of D increases, but only three different combinations with the different number of circumstance variables. Thus, the increase caused by (none) to (X_1) weighs 1/3, (X_2) to (X_1, X_2) weighs 1/6 (= 1/2 × 1/3), (X_3) to (X_1, X_3) also weighs 1/6 (= 1/2 × 1/3), and finally (X_2, X_3) to (X_1, X_2, X_3) weighs 1/3. With four circumstance variables, the following combinations are possible:

Table 9. Calculating the dissimilarity index D contribution of variable X_1 (D_{X1}).

without X_1	**with X_1**	**Change in D**	**# Variables**	**Weight**	**D Contribution**
None	X_1	g_1	1	0.25	$0.25 \cdot g_1$
X_2	X_1, X_2	g_2	2	0.0833	$0.0833 \cdot g_2$
X_3	X_1, X_3	g_3	2	0.0833	$0.0833 \cdot g_3$
X_4	X_1, X_4	g_4	2	0.0833	$0.0833 \cdot g_4$
X_2, X_3	X_1, X_2, X_3	g_5	3	0.0833	$0.0833 \cdot g_5$
X_2, X_4	X_1, X_2, X_4	g_6	3	0.0833	$0.0833 \cdot g_6$
X_3, X_4	X_1, X_3, X_4	g_7	3	0.0833	$0.0833 \cdot g_7$
X_2, X_3, X_4	X_1, X_2, X_3, X_4	g_8	4	0.25	$0.25 \cdot g_8$
Total				1	D_{X1}

Source: Own calculations.

4.3. Data

The micro survey data stems from representative country surveys conducted by the International Labour Organization (ILO) under the United Nations (UN). The data sets cover issues related to youth employment. The included Sub-Saharan Africa countries include: The Republic of Congo Liberia, Madagascar, Malawi, Uganda, and Zambia.

An overview of sample sizes is presented in Table 10. The original sample size is 20,103 respondents. However, after excluding persons who are either employed, unemployed or students (all countries) and after excluding individuals outside the 15–29 year interval (Liberia), we end up with almost 2/3 of the original sample size (12,691 respondents). The largest sample size is for Madagascar (3819), while Liberia is down at 1074, and the remaining countries are around 2000 respondents. Half of the countries' data originates from 2014 while the other half originates from 2015.

Table 10. Country years and sample sizes.

	Original	Used	Year
Congo, Rep.	3276	1703	2015
Liberia	2416	1074	2014
Madagascar	5044	3819	2015
Malawi	3097	1978	2014
Uganda	3045	2017	2015
Zambia	3225	2100	2014
Total	20,103	12,691	2014–2015

Source: Own calculations based on ILO's School-to-Work Transition Survey (SWTS), 2014 and 2015.

The circumstance variables that will be used are gathered from the previous literature (Dimova and Stephan 2019; Brunori et al. 2019; Assaad et al. 2019) and includes gender, education of the father and the mother, occupation of the father and the mother, age and age squared, as well as whether living in rural or urban areas. In all countries the educational levels of parents are harmonized to fit into the following eight levels: No schooling (incl. missing), primary education, secondary professional education, secondary general education, post-secondary education, university education, "I don't know", and "other". The occupation classification of parents was very different across countries, and thus rather than trying to harmonize across countries we made sure that the aggregation within countries ended up with a similar number (eleven) of categories. Unweighted averages of all variables used are presented in Table 11. We see that the sample is almost evenly split between males and females in all countries except for Malawi and Uganda, where women account for nearly 60%. Age shows some variation with the youngest in Madagascar (21.6 years) and the oldest in Congo (24.1 years). There is a considerable variation in the fraction living in rural areas with Congo at the bottom (34%) and Madagascar at the top (76%). Only 10% of the sample belongs to the lowest educational category for fathers in Zambia, while this fraction is around 50% in Liberia and Uganda. Somewhat the same pattern is observed regarding mother's education with 16% and 76% in the lowest educational category in respectively Zambia and Liberia. As mentioned, the occupational categories are not comparable across countries and thus we do not comment on these.

4.4. Descriptive Inactivity Risk Results

Table 12 shows the fraction of a given sub-group of the population (excluding students) being inactive (not in the labour market, e.g., neither employed nor unemployed). In all countries females have a much higher probability of being inactive compared with males with the most substantial relative disparity existing in Madagascar, Malawi, and Uganda. Inactivity is systematically related to age such that inactivity risk is markedly reduced with age. There is generally some variation in inactivity risks based on father's and mother's education in different countries. In some cases, this may reflect a low sample size in some educational categories since the inactivity risks do not exhibit a systematic pattern across increasing education. Inactivity gaps based on parents' occupation seem even more pronounced.

Table 11. Variable averages. Unweighted.

Circumstance			Congo, Rep.	Liberia	Madagascar	Malawi	Uganda	Zambia
Female			0.5390	0.5493	0.5478	0.5950	0.5905	0.4748
Age			24.12	22.72	21.64	22.94	22.82	22.09
Rural			0.3353	0.7225	0.7599	0.7169	0.7348	0.5610
Education	Father	None	0.2819	0.5158	0.2283	0.3782	0.4799	0.0981
		Elementary education	0.2548	0.1425	0.4938	0.3478	0.2142	0.2081
		Vocational school (secondary)	0.0282	0.0196	0.0045	0.0248	0.0203	0.0148
		Secondary school	0.2848	0.1769	0.1474	0.1198	0.0823	0.3143
		Vocational school (post-secondary)	0.0376	0.0363	0.0010	0.0172	0.0248	0.1181
		University	0.1127	0.0326	0.0089	0.0344	0.0169	0.0633
		Post-graduate studies	0.0000	0.0764	0.1118	0.0779	0.1537	0.1833
		Do not know	0.0000	0.0000	0.0042	0.0000	0.0079	0.0000
	Mother	None	0.4304	0.7607	0.3113	0.5475	0.6673	0.1638
		Elementary education	0.2760	0.1006	0.5075	0.3382	0.1388	0.3752
		Vocational school (secondary)	0.0211	0.0074	0.0013	0.0066	0.0114	0.0067
		Secondary school	0.2196	0.0456	0.1160	0.0592	0.0382	0.2429
		Vocational school (post-secondary)	0.0305	0.0093	0.0005	0.0046	0.0084	0.0576
		University	0.0223	0.0112	0.0034	0.0147	0.0035	0.0162
		Post-graduate studies	0.0000	0.0652	0.0571	0.0293	0.1185	0.1376
		Do not know	0.0000	0.0000	0.0029	0.0000	0.0139	0.0000
Occupation	Father	1	0.0898	0.0112	0.0513	0.0369	0.0243	0.0319
		2	0.0235	0.0130	0.0079	0.0612	0.0144	0.1319
		3	0.1491	0.0922	0.0094	0.0804	0.0461	0.0252
		4	0.0493	0.0549	0.0178	0.0121	0.0283	0.0171
		5	0.0258	0.0047	0.0084	0.1729	0.0045	0.0976
		6	0.1045	0.0754	0.0105	0.3817	0.0897	0.1567
		7	0.2308	0.5680	0.0244	0.1203	0.5954	0.0900
		8	0.1879	0.0419	0.7607	0.0910	0.0778	0.0657
		9	0.1063	0.0177	0.0615	0.0389	0.0317	0.0876
		10	0.0329	0.0633	0.0160	0.0046	0.0858	0.0319
		11	0.0000	0.0577	0.0322	0.0000	0.0020	0.2643
	Mother	1	0.1709	0.0037	0.0199	0.0035	0.0010	0.0148
		2	0.0012	0.0000	0.0021	0.0253	0.0035	0.0710
		3	0.0687	0.0298	0.0010	0.0829	0.0188	0.0067
		4	0.0159	0.0121	0.0081	0.0020	0.0074	0.0157
		5	0.0159	0.0019	0.0034	0.1673	0.0010	0.1452
		6	0.3417	0.2430	0.0016	0.4717	0.0917	0.1243
		7	0.3441	0.6313	0.0547	0.0956	0.7521	0.0181
		8	0.0182	0.0065	0.7680	0.0910	0.0198	0.0057
		9	0.0000	0.0009	0.0767	0.0561	0.0010	0.1167
		10	0.0235	0.0065	0.0031	0.0046	0.1036	0.0033
		11	0.0000	0.0642	0.0613	0.0000	0.0000	0.4786
Sample size			1703	1074	3819	1978	2017	2100

Note: All variables are 0/1 dummies, except age, which is the number of years between 15 and 29. Source: Own calculations based on ILO's School-to-Work Transition Survey (SWTS), 2014 and 2015.

Table 12. Inactivity fraction by circumstance. %.

Circumstance	Level		Congo, Rep.	Liberia	Madagascar	Malawi	Uganda	Zambia
All			25	41	6	16	15	26
Gender	Male		18	34	3	7	7	20
	Female		32	45	8	22	20	31
Age	15–19		32	60	6	22	19	36
	20–25		28	44	7	15	16	24
	26–29		21	25	4	13	11	17
Area	Urban		27	29	9	16	17	30
	Rural		22	48	5	16	14	23
Education	Father	1	30	50	5	14	13	26
		2	24	41	5	14	18	22
		3	30	43	8	7	14	9
		4	22	33	8	17	14	23
		5	20	12	44	18	14	22
		6	27	21	15	18	18	30
	Mother	1	23	46	4	15	14	21
		2	29	33	6	14	12	26
		3	48	11	0	14	4	16
		4	24	15	9	16	12	24
		5	20	16	0	40	19	28
		6	32	34	26	27	44	30
Occupation	Father	1	28	54	12	21	23	23
		2	32	34	9	15	15	24
		3	26	37	14	14	14	23
		4	23	32	3	22	26	25
		5	16	24	14	14	10	21
		6	31	27	21	17	14	21
		7	27	48	11	13	14	23
		8	23	12	4	11	12	26
		9	19	29	10	19	14	25
		10	39	40	12	29	20	26
	Mother	1	26	39	12	8	45	11
		2	49	0	0	12	15	28
		3	17	13	0	22	3	8
		4	52	9	8	0	28	28
		5	49	100	21	12	0	24
		6	27	30	10	16	15	16
		7	24	47	9	18	14	24
		8	13	10	5	11	10	64
		9	0	0	8	20	0	29
		10	19	5	16	29	22	30

Source: Own calculations based on ILO's School-to-Work Transition Survey (SWTS), 2014 and 2015.

The table indicates how different characteristics might affect the distribution of inactivity. Before we can conclude more precisely, we need to include a more sophisticated analysis taking inactivity gaps (inactivity probability differences between a characteristic and the national average) and (characteristics) prevalence into account. This requires an estimation of the dissimilarity index *D* presented earlier, which is the focus in the next section.

5. *HAI* Results

The dissimilarity index *D* summarizes the magnitude and distribution of inactivity gaps, and thus it quantifies more precisely the contribution of circumstances. From Figure 1, we see that youth inactivity dissimilarity is lowest in Congo, Liberia, and Zambia, where the index is around 0.20. Inactivity differences are on the other hand much more pronounced in Madagascar, where the index reaches 0.34. Malawi and Uganda are in between with moderate levels of dissimilarity of inactivity (0.26–0.27). The dissimilarity index of inactivity is much higher than for employment (Awad and Hussain 2021).

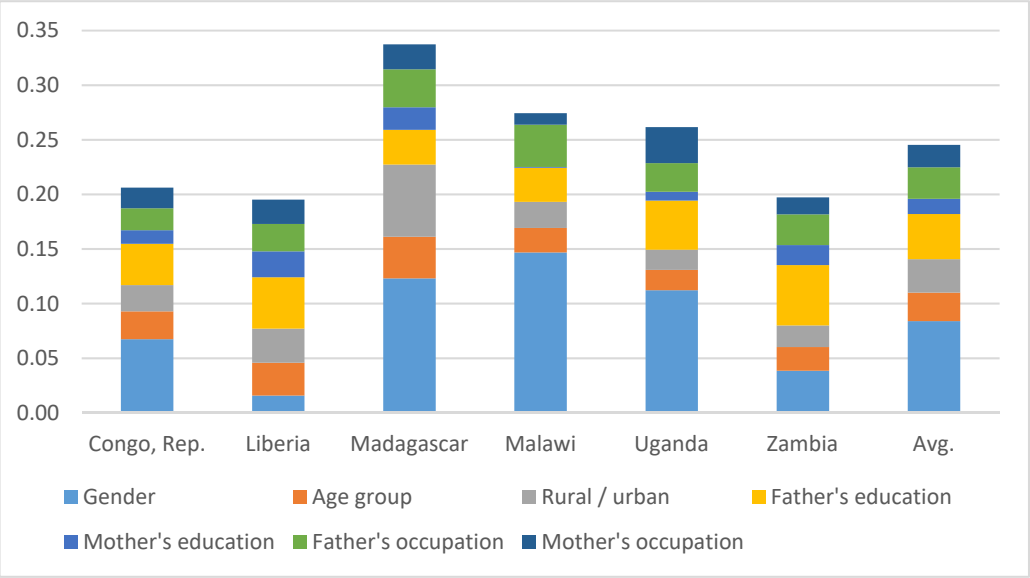

Figure 1. Contribution to the dissimilarity *D* index, 2014 or 2015. Source: Own calculations based on ILO's School-to-Work Transition Survey (SWTS), 2014 and 2015.

Generally, circumstances in terms of gender and father's education are the main drivers of labour market inactivity dissimilarity (Figure 2). This is particularly the case for Malawi, Uganda, Congo, and Madagascar, where gender's contribution to inactivity dissimilarity is between 33% and (Congo, Rep.) and 54% (Malawi). Father's education is particularly important in Liberia (24%) and Zambia (28%). Policymakers need to pay special attention to these disadvantaged groups to reach a more just society in terms of access to the labour market irrespective of circumstances that people cannot change since they are given (like gender and father's education).

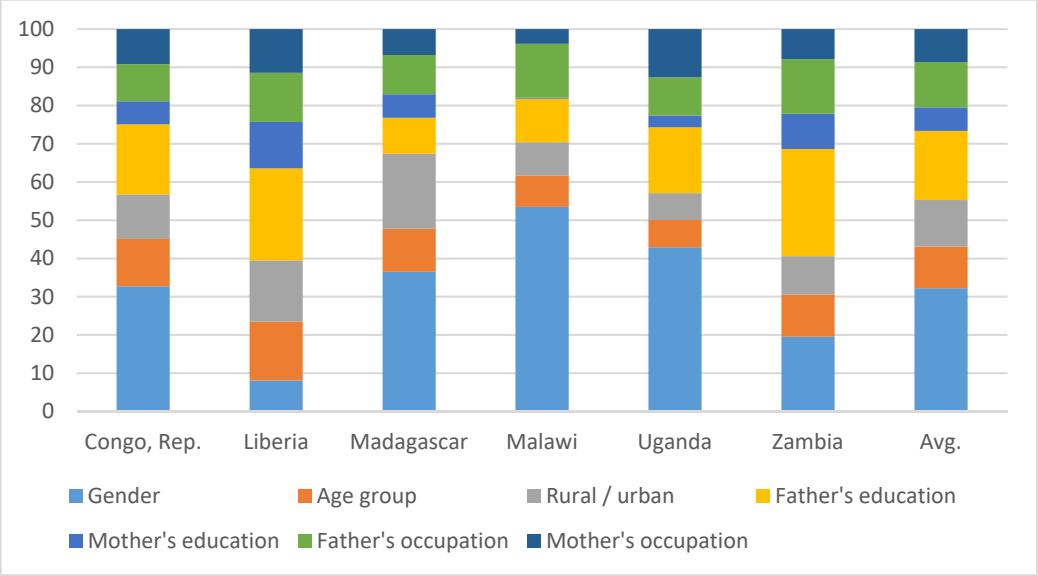

Figure 2. % contribution to the dissimilarity *D* index, 2014 or 2015. Source: Own calculations based on ILO's School-to-Work Transition Survey (SWTS), 2014 and 2015.

Less important drivers of inactivity dissimilarity are mother's education and mother's occupation, where the contribution is less than 4% in Malawi (mother's education and occupation) and Uganda (mother's occupation).

These differences in the dissimilarity index indicate that the challenges facing societies are in some instances much more significant than when only focusing on the average inactivity rate (see Table 13). In Liberia the inactivity rate is 40.5% (*C*) and the dissimilarity index is 0.195 (*D*), which gives a circumstance adjusted inactivity rate (*HAI*) of 48.5% (=40.5 × (1 + 0.195)). Thus, rather than having a national policy goal of decreasing the inactivity rate from the observed 40.5%, the unequal distribution of inactivity can be interpreted as if the policy challenge is actually to reduce the inactivity rate from the even higher level of 48.5%. In other words, the challenge for policymakers is even bigger than observed in relation to the inactivity rate since we also need to take the circumstance inequality in inactivity into account. For Zambia and Republic of Congo, the extra challenges regarding labour market policies due to circumstances are less severe, but serious enough since inactivity is 25–26% and the dissimilarity index is 0.20–0.21, which means the adjustment due to circumstance inequality is around 5% points (higher inactivity rates).

Table 13. Human adversity index.

		Congo, Rep.	Liberia	Madagascar	Malawi	Uganda	Zambia
Fraction inactive	C	25.4	40.5	5.8	15.6	15.0	25.8
Dissimilarity index	D	0.206	0.195	0.337	0.274	0.262	0.197
Human adversity index	HAI	30.6	48.5	7.7	19.9	19.0	30.9

Source: Own calculations based on ILO's School-to-Work Transition Survey (SWTS), 2014 and 2015.

It is worth noting that the actual inactivity rates and the circumstance adjusted inactivity rates do not lead to any differences in country rankings. The reason being that there is a very high correlation ($\rho = -0.90$) between the level of actual inactivity (*C*) and the level of circumstance inequality (*D*), e.g., the higher the inactivity rate, the lower the dissimilarity index. The correlation also means that the differences between the countries' adjusted inactivity rates are even more significant than the standard inactivity rates that are usually in focus.

For Madagascar (and to some extent Malawi and Uganda), we can conclude that factors beyond the control of individuals cause a large chunk of inactivity disparity. Here, a particular policy focus must be on ensuring that youth with the disadvantaged unchangeable background are given extra support to provide them with equal chances of being on the labour market as their peers who were fortunate to be born into better circumstances. For the other countries Liberia, Zambia, and Congo, the circumstance variables are less influential regarding the inactivity risks, and thus focus in these countries can be more on improving efforts of individuals, including development and access to education.

6. Conclusions

Unemployment among the youth has been cited and identified as the key challenge that face youth in SSA. In the present study we believe that the inactivity and not unemployment is the main challenge that faces youth in this region. More specifically, the present study aimed to find out how factors beyond the youth's control determine the risk of labour market inactivity in six Sub-Saharan Africa countries (The Republic of Congo, Liberia, Madagascar, Malawi, Uganda, and Zambia). Inequality of opportunity is defined as the difference in individuals' outcomes systematically correlated with morally irrelevant pre-determined circumstances, such as gender, ethnicity, socioeconomic background, and area of birth. Africa in general and Sub-Saharan Africa (SSA) countries in particular are acknowledged for their high levels of economic inequality as well as extreme poverty. It is well known that not all inequalities are the same. More specifically, some sorts of disparities are caused by factors beyond individual control such as gender, age, place of birth/residence, or parental background. However, some types of variations are caused by effort-based inequalities. We employed data from the school-to-work transition surveys from 2014–2015 from the International Labour Organization (ILO). For each country, first we calculated the Human Adversity Index (derived from the Human Opportunity Index developed by the World Bank). Second, we computed the contribution of each factor to inequality dissimilarity. The results show that while Madagascar has relatively high inequality dissimilarity originating from given circumstances, Liberia, Zambia, and Congo have comparatively low inactivity dissimilarity indices. Likewise, the study detected that among factors beyond the youth's control that determine their risk of inactivity, primarily gender and father's education are fundamental drivers in creating a difference in inactivity risk for their offspring. Overall, the results imply that effort-based inequalities and not inequality caused by factors beyond the individual's control play a significant role in explaining the status of the youth in the labour market. More specifically, for Madagascar, Malawi, and Uganda, we can conclude that factors beyond the control of individuals cause a large chunk of inactivity disparity. Here, a particular policy focus must be on ensuring that youth with disadvantaged backgrounds are given extra support to reduce their risk of inactivity compared to peers who were fortunate to be born into better circumstances. For the other countries Liberia, Zambia and Congo, the circumstance variables are less influential on the inactivity risks, and thus focus on these countries can be more on improving efforts of individuals, including development and access to education.

Although this study covered a critical aspect of the youth labour market inactivity, some limitations of the study still exist and are important areas for future research. First of all, some chief circumstances could be included but which are often not available in existing surveys due to ethical, moral, or safety reasons. This consists of the respondent's religious affiliation, race, ethnicity, IQ, and ability. All of these variables can be assumed to be vital predictors of inactivity status. Concerning the central variable of interest, inactivity status, it could be worth investigating a continuous variable, like individual inactivity intensity during the year, instead of a binary variable indicating inactivity (1) and employment/unemployment (0). This will give a more nuanced view on inactivity, but would require a more advanced econometric treatment (Tobit model instead of the logit model).

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