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Does corporate social responsibility initiative restrain young people from irregular migration in sub-Saharan Africa? Evidence from Nigeria's oil producing communities [1]

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Does corporate social responsibility initiative restrain young people from irregular migration in sub-Saharan Africa? Evidence from Nigeria's oil producing communities

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Abstract

Purpose –The purpose of this paper is to critically examine the multinational oil companies (MOCs) corporate social responsibility (CSR) initiatives in Nigeria. Its special focus is to investigate the impact of the global memorandum of understanding (GMoU) on irregular migration urge of rural youths in the oil producing communities.

Design/methodology/approach – This paper adopts a survey research technique, aimed at gathering information from a representative sample of the population, as it is essentially cross-sectional, describing and interpreting the current situation. A total of 2100 households were sampled across the Niger Delta region of Nigeria.

Findings – The results from the use of a combined propensity score matching and logit model indicate that GMoU model has made significant impact in dissuading young people from irregular migration drive.

Practical implications – This implies that if the MOCs increase the CSR intervention on young development initiatives that focus on creation of jobs and provision of financial and other resources that support local entrepreneurs, the push factors that compel youth irregular migration in sub-Saharan Africa would be deterred.

Social implications – The fight against irregular migration of African youths and subsequent demise by sea, deserts and along the Mediterranean route can only succeed if cluster development boards (CDBs) of GMoUs are able to draw on young people to participate fully in the CSR intervention plans and programmes.

Originality/value – This research adds to the literature on multinational enterprises' CSR initiatives in sub-Saharan Africa and rationale for demands for social projects by host communities. It concludes that business has an obligation to help in solving problems of public concern.

Keywords: African youth; irregular migration; corporate social responsibility; multinational oil companies; push factors; sub-Saharan Africa.

Paper type Research paper

1. Introduction

Migration is generally taken to mean a permanent or semi-permanent change of habitation; a form of dispersion concerning movement to new sites as a result of financial, cultural, political or ecological reasons (UNECA, 2017). It is a practice that is as old as humanity, and has played an important role in shaping the history of the modern world; humans have always been involved in it for existence and other drives (Ogu, 2017). Yet, images of thousands of sub-Saharan African youths sinking in the Mediterranean, compelled by poverty or conflict at home, and inspired by the hope of jobs in Europe remain a global concern (UNCTAD, 2018). The course is extremely dangerous with threats including making a trip through the Saharan Desert, unspecified detention in austere condition in Libya, and possibly upturning at sea (Kirwin and Anderson, 2018). In Nigeria, the surge of youth irregular migration, calamity and push to leave the country in search of better opportunities began with the economic plans of Structural Adjustment Program (SAP) introduced in the 1980s; which aggravated the nation's economic woes with high rates of joblessness, paucity, dishonesty and hardship for the people (Egbuta, 2019).

Meanwhile, the main oil and gas reserves in African is in Nigeria, with virtually 37 billion barrels of oil and 47.2 billion cubic meter (bcm) of gas (IMF, 2017). The Niger Delta where multinational oil companies (MOCs) keep up a significant presence has turned into a region of ceaseless violent conflicts. The federal government of Nigeria (FGN) is in joint-venture agreement with the MOCs operational in the oil and gas sector of the country. The FGN is in charge of and has possession of the land with its natural resources (FGN, 2017). This is a key source of conflict in the Niger Delta, as lands can be obtained by the government for prevailing public purposes by virtue of the Land Use Act 1978. The damaging effects of the activities of the MOCs in the region include environmental pollution, gas flaring, oil spills, adverse social impacts, conflict and viciousness among others (Eweje, 2006). Traditionally, Niger Delta people have been farmers and fishermen. But decades of oil spillage and gas flaring, in addition to fast growing population, has meant these traditional sources of living are either no longer practicable or have witnessed significant decline (Uduji and Okolo-Obasi, 2017, 2018a, 2018b, 2018c, 2018d). Thus, the region's joblessness and migration rates are greater than the national average (PIND, 2015a, 2015b, 2017, 2018, 2019; Watts, 2004).

Nevertheless, MOCs have been engaged in some activities of corporate social responsibility (CSR) in host communities, principally in their business operation zones; which include health care, water schemes, roads and civil infrastructure, small businesses and education amongst others (Chevron, 2014). In this process, MOCs have tried to improve on how it gets involved with local communities to make available these projects. In the year 2006, they came up with a new way of working with the communities called the global memorandum of understanding (GMoU); which represent an essential shift in CSR approach, emphasizing on clearer and accountable processes, steady communication with the grassroots, sustainability and avoidance of conflict (SPDC, 2013). In this model, the communities choose the development they want, while MOCs make available secure funding for five years, seeing to it that the communities have stable and consistent financing as they take on the execution of their community development blueprint (Alfred, 2013). This system substitutes for the previous method whereby MOCs agree to hundreds of isolated development projects with separate communities and execute them directly and distinctly. Within six years(2006 to 2012), MOCs have signed agreements with 33 GMoU clusters, covering 349 communities which account for 35% of the local communities around their business activities in the region; GMoUs have completed a total of 723 projects; with a cumulative total funding of over $117. Nine of the 33 cluster development boards (CDBs) have grown into registered foundations receiving third party funding (SPDC, 2018; Chevron, 2017).

In spite of the attempted positive change in GMoUs approach, academics such as Idemudia (2014), Ekhator (2014), Frynas (2009), Asgil (2012), Marchant (2014), Slack (2012) and others have argued that the CSR process in the region is not far reaching or deeply rooted. Thus, it has been argued that some of these CSR initiatives are not executed on a rational basis and also not always continued (Amaeshi *et al,* 2006). Debatably, even with the adoption of the GMoU model by MOCs, the Niger Delta youth's participation in the illegal boat migrants in the Mediterranean big crossing remain unrestricted (Uduji and Okolo- Obasi, 2019a, 2019b; Uduji *et al,*2019g, 2020a;Egbuta, 2019). With the minimal efforts of CSR to the communities, many households encourage and even pay for a family member to migrate to Europe with the expectation that the consequent transmittal could help boost their financial state (Uduji *et al,* 2018a, 2018b, 2018c, 2019e, 2019f, 2020b, 2020c). On the opposing side, Ite (2007), Lompo and Trani (2013) are of the opinion that the CSR initiatives of MOCs have played a significant role in community development in the region given the degree of governmental failures, but have also not helped human development. In this context and

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seeming gap in the literature, the positioning of this research has three core aims which are consistent with the GMoU model, relative to sustainable development goals (SDGs) associated with aiming at the most vulnerable, growing basic resources and service, and supporting communities that are casualties of conflict and violence:

i. Ascertain the level and frequency of irregular migration among the youths in the Niger Delta region of Nigeria.

ii. Analyse the level of MOCs' CSR interventions using the GMoUs in the factors driving irregular migration among the youths in the Niger Delta region of Nigeria.

iii. Examine the impact of GMoUs in deterring youth from Central Mediterranean route migration in the Niger Delta region of Nigeria.

iv. Determine the consequences of dissuading youths' involvement in irregular migration to Europe in the Niger Delta region of Nigeria.

1.1 Study hypothesis

Oil is mostly extracted in the Niger Delta region of Nigeria. Youths in the region desire to work in the attractive oil and gas sector, but as observed by the communities in the region, MOCs often are cynic about hiring those indigenous to the communities due to the agitation in the region (PIND, 2019). The youths in the region face four options: to obtain high level of education which is not accessible to many of them; to go back to the unattractive rural agricultural sector; to become self-employed by learning a trade; or to opt for migration. Many youths jeopardize everything to fight their way precariously to Europe with the aid of traffickers and phony agencies, in search of the deceptive green pastures. Many who take the route of crooked migration are met with numerous obstacles including apprehension and deportation in callous circumstance, embarrassment on return, life in slave-like circumstances in the deportation camps and, of course, the worst being demise either by sea, deserts, or along the Mediterranean route. In spite of the efforts of the National Agency for the Protection of Trafficking in Persons (NAPTIP) to capture, detain and sue offenders of trafficking in persons, the blight has continued and the endpoint has been greatly varied. The Nigerian government had articulated and authorized the Labour Migration Policy and National Policy on Migration in 2014 and 2015 respectively to address a number of relevant migration issues-emigration of experts, migration of females, irregular migration, human trafficking, management of migration data and others -- the challenge has remained

unnerving. Thus, we hypothesize that the new CSR model of MOCs has not considerably reduced the events of irregular migration in the oil producing communities of Nigeria.

The other parts of the paper are organized thus: section 2 discussing the theoretical underpinnings; section3 describing the methods and materials; section 4 presenting the results and corresponding discussion and, the last, section 5 concluding it all with implications and future research directions.

2. Theoretical Underpinnings

2.1 Theorizing migration

The idea of migration has produced much academic research and engendered a lot of theoretical debate, such as: the new-classical theory of migration, the push and pull theory of migration, the human capital theory of migration, the network theory of migration, the new economic theory of migration, among others. However, in examining the causes of irregular migration from the Nigeria's oil producing region to Europe, we will be drawing greatly from Lee (1966) push factors which induce people to leave their countries to other places. In the context of this study, the push factors include political subjugation and gross human rights violations, the weight of population, the dreadful conditions of natural resources, underemployment, lack, unemployment, want of economic opportunities and violent conflicts. Although this theory has been recognized as a path breaking model that describes the migration at various periods and has stood the test of time, it has been attacked for its failure to ascertain the main factors that influence migration since the push and pull factors are mostly mirror image of each other (William and Balaz, 2012; Wouterse and Taylor, 2007; Shaw, 2007; Pugh, 2004; Raineri, 2018; Van Bemmel, 2019; Asongu *et al* 2020a, 2020b, 2020c, 2020d, 2020e).

The positioning of this paper set off from present-day African migration literature that has focused on, *inter alia:* reflation on international migration and development in sub-Saharan Africa (Adepoju, 2011); State fragility, refugee status and survival migration (Betts, 2013); migration in the age of involuntary immobility (Carling, 2002); geopolitics as a migration governance strategy (Collyer, 2016); African migrations, historical perspectives and contemporary dynamics (Bilger and Kraler, 2005); migration, diversity and economic growth (Bove and Elia, 2017); why development will not stop migration (De Haas, 2007); migration and security (Dunnwald, 2011); migration and trade (Egger *et al,* 2012); internal and

international migration patterns (FAO, 2017); trends, patterns and drivers of African migration (Flohaux and DeHaus, 2016); tourism and insecurity (Asongu *et al*, 2019a, 2019b, 2019c);migration, agriculture and rural development (FAO, 2016); risk taking in West Africa boat migration to Europe (Hernández-Carretero and Carling, 2012); illegal boat migrants in the Mediterranean (Kasser and Dourgnon, 2014); factor driving West African migration (Kirwin and Anderson, 2018); Malta and the rescue of unwanted migrants at Sea (Klepp, 2011); policing migration in the Mediterranean (Lutterbeck, 2006); the European Union between refugee protection and border control in the Mediterranean Sea (Klepp, 2010);the changing nature of migration in Cyprus and Malta, 2008); Deaths, interventions, humanitarianism and human rights in the Mediterranean migration crisis (Perkowski, 2016) and others.

2.2 Theorizing CSR from African perspective

What CSR is faced with in Africa is framed in SDGs – eradicating poverty, hunger and disease, quality education for children, equal opportunities for women and healthier environment for all (UNDPI, 2015). Carroll (1991) CSR Pyramid is probably the most popular model of CSR, but was challenged by Visser (2006) in that the relative priorities of CSR in Africa are expected to vary from the classic, American ordering. Frynas (2009) reasoned that the absence of government action in providing amenities for its citizens bring out the role of multinationals in charitable initiatives as CSR in Africa, even though such philanthropy is not considered as CSR in Western countries. Muthuri (2012), depending on the extant literature on CSR in Africa, posited that CSR issues predominant in Africa include poverty reduction, economic and enterprise development, health and HIV/AIDS, community development, education and training, environment, corruption, sports, human rights, governance and accountability. Amaeshi *et al* (2006) have disputed that the Nigerian notion of CSR is remarkably dissimilar to the Western version, and should be targeted towards addressing the distinctiveness of the socio-economic development challenges of the nation, and ought to be informed by socio-cultural influences. Thus, this paper embraces quantitative methodology, but looks at the outcome from the African theoretical perspective.

3. Methods and Materials

The study drew heavily on previously published works in Niger Delta region (Uduji and Okolo-Obasi, 2017, 2018d, 2019b, 2020; Uduji *et al,* 2018b, 2019b, 2019c, 2019g, 2020a, 2020b, 2020c, among others). Quantitative method was our choice in this study because the

research aims to test a hypothesis. In addition, quantitative works which surveys the nature and extent of CSR in the region is lacking in comparison to qualitative studies (Uduji *et al*, 2019d, 2020b, 2020c, 2020d, 2020e). A survey was conducted with a view to gathering cross-sectional information which defines and interprets the current situation from a representative sample of the population. Figure 1 indicates the constituents' administrative states in Nigeria from the Niger Delta region.

Figure 1: Constituent administrative states of Niger Delta, Nigeria
Source: NDDC, 2004

3.1 Sampling procedure

We adopted a multi-staged (purposive, quota and random) sampling methods in picking the households used for the study. From the nine States of the region, five States were purposely picked on the basis of rate of migration (PIND, 2019; NAPTIP, 2018; NBS, 2017). The States are Cross Rivers, Edo, Imo, Delta and Rivers. In stage two, three local government areas (LGAs) were deliberately chosen from each of the five States. This selection was justified by the fact that the LGA is either hosting or not far from a community hosting MOCs facilities. Out of the selected LGAs, four communities were deliberately picked because they are either host communities or close to one. Two CDB communities and two non-CDB communities were purposely chosen. Finally, from the communities carefully

chosen, we made use of community gate keepers through random sampling to select 700 households from CDB communities and 1400 household from non-CDB communities. The dispersal of the sample was done in the chosen communities based on the population of the state where the community is situated (Table 1).

Table 1. Sample Size Determination Table

States	Population	Population of Household	% of Total Population	Minimum Sample Per Community (CDB)	Minimum Sample Per Community (Non-CDB)	Minimum Sample Per Sate
Delta	4,112,445	587,492	21%	147	294	441
Imo	3,927,563	561,080	20%	140	280	420
Cross River	2,892,988	413,284	15%	105	210	315
Edo	3,233,366	461,909	17%	119	238	357
Rivers	5,198,716	742,674	27%	189	378	567
Total	**19,365,078**	**2,766,440**	**100%**	**700**	**1,400**	**2,100**

Source: FGN, 2017/Authors' computation

3.2 Data collection

To make a distinction between the communities who have gained from the CSR of MOCs, (CDB communities - treatment group) and those who are yet to benefit, (non-CDB communities - the control group), the households were asked if they have received support directly from the MOCs in the area of CSR to enhance their livelihood. A structure questionnaire was administered to the chosen household in a form that represents a suitable tool for the evaluation of qualitative issues by quantitative information. Based on this questionnaire, scores were allocated in line with the aim. The researchers directly administered the questionnaire with the aid of research assistants. The local research assistants played three major roles. First, the study area is multi-lingual with over 50 ethnic groups whose local languages and dialects vary; then, the terrain is rough with high level of violence in some areas and, thirdly, some items in the instrument would require further clarification that could be best done in local dialects. The local research assistants resolved the problems.

3.3 Analytical framework

The study analyzed the role of the CSRs of the multinational oil companies in discouraging the youth of Niger delta from irregular migration. To achieve the aim of the study and test the hypothesis, both descriptive and inferential statistics were used. The results of the descriptive statistics are made available in tables, charts and graphs. We made use of a combined propensity score matching (PSM) with logit model to estimate the impact of the MOC's Corporate Social Responsibilities using the GMoU on the aforementioned subject matter. The methods were adopted based on the study needing control for the problems of selectivity and endogeneity. In Propensity Score Matching (PMS), we first looked at the households that have received direct CSR of the MOCs "treatment", so as to estimate an average treatment effect of CSR using propensity score matching approach. Propensity score matching (Odozi *et al,* 2010) includes predicting the probability of treatment based on observed covariates for both the treatment and the control group. It sums up the pre-treatment characteristics of each subject into a single index variable and is then used to match similar individuals. In propensity score matching (Ravallion, 2001), an ideal comparison group is picked from a larger survey and then matched to the treatment group based on set of observed characteristics on the predicted probability of treatment given observed characteristics (propensity score). These supposed observed characteristics are those used in choosing households not affected by the treatment, hence, our choice in adopting this methodology. We take on that the decision to be treated (that is, receiving CSR intervention), although not arbitrary, in the end relies on the variables observed. Rosenbaum and Rubin (1983) have reasoned that the ability to match on variable X means that one can match on probability of X. Hence, estimating the impact of CSR on discouraging youths from illegal migration; two groups are identified. In this two groups, those with CSR (CDB communities - treatment group) is denoted as $R_i = 1$ for Household$_1$ and $R_i = 0$ otherwise (non-CDB communities - control group). The treatment group is now matched to the control group based on the propensity score: (Probability of receiving CSR given observed characteristics)

Hence:

$$P(X_1) = Prob(R_2 = 1/X_2) \ (0 < P(X_2) < 1) \qquad \text{Equation 1}$$

Where X_1 is a vector of pre CSR control variables, if R_1's are independent over all 1 and the outcomes are independent of CSR given X_1, then outcomes are also independent of CSR given $P(X_1)$, just as they will do if CSR is received arbitrarily. To draw accurate conclusions

about the impact of CSR activities on discouraging youths from illegal migration, we saw the necessity to sidestep the selection bias on observables by matching on the probability of the treatment (covariates *X*)to this; we defined the PS of Vector X as follows:

$$P(X) = Pr\ (Z = 1/X),\qquad\qquad\qquad\text{Equation 2}$$

The Z represents the treatment indicator equating 1, if the chosen household has received CSR, and zero otherwise. Because the PS is a balancing score, the observables *X* will be spread same for both "treatment" and "control" and the variances are seen as to the attribute of treatment. To get this unbiased impact estimates, we made use of the four steps in line with Rosenbaum and Rubin (1983), and Liebenehm, Affognon and Waibel (2011). In the first place, we acknowledged that the probability of receiving CSR is predicted by a binary response model, with appropriate observable characteristics. Hence, we pooled two individual group, (those who received CSR (treatment) and those who did not (Control). After these, we estimated the logit model of CSR receiving or not receiving as a function of some socio-economic characteristics variables. These variables comprise both individual, household and community variables denoted in this equation as thus:

$$P(x) = Pr(Z = 1/X) = F(\alpha_1 x_1 \ldots\ldots + \ldots \alpha_n x_n) = F(x\alpha) = e^{x\alpha}\qquad\text{Equation 3}$$

We generated value of the probability of receiving CSR from the logit regression assigning each household a propensity score. The control groups with very low PS outside the range found for receiver were dropped at this point. For each household receiving CSR, a household not receiving CSR that has the closest PS as measured by absolute difference in score (referred to as nearest neighbor) was obtained. We used the nearest five neighbours to make the estimate more laborious. The mean values of the outcome of indicators for the nearest five neighbours were calculated and the variance between the mean and actual value for CSR receiving (treatment) is the estimate of the gain due to the GMoU. This variance between treatment and control groups is estimated by the average treatment effect on the treated (ATT). The true ATT, based on PSM is written thus:

$$ATT_{PSM} = E_{p(x)}\ \{E(y_1/Z = 1, P(x) - E(y_0/Z = 0, P(X)\},\qquad\text{Equation 4}$$

EP(X) stands for expectation with respect to the distribution of PS in the population. The true ATT shows the mean difference in deterring youths from irregular migration. In this, we

achieve a sufficient match of a participant with her counterfactual as long as their observable characteristics are identical.

Three different matching methods could be used in obtaining this matched pair. These methods which varies in terms of bias and efficiency are: nearest neighbor matching (NNM) radius matching (RM) and kernel-based matching (KM), a non-parametric matching estimator. The next (third) thing we did was to check the matching estimators' quality by standardized differences in observables' means between receivers of CSR and non-receivers. Representing difference in percent after matching with X for the covariate X, the difference in sample means for receivers as ($\acute{X}_1$) and matched non-receivers as ($\acute{X}_0$). In line with Rosenbaum and Rubin (1983), the sub-samples as a percentage of the square root of the average sample variance is put thus: ($\int_1^2 and \int_0^2$.).

Hence:

$$|SD = 100 * \frac{(\acute{X}1 - \acute{X}0)}{\left(.05 \int_1^2 and \int_0^2 .)1/2\right)}$$
Equation 5

We accepted a remaining bias below 5% after matching, even when there is no obvious threshold of successful or failed matching. This we took as a sign that the balance among the different observable characteristics between the matched groups is sufficient. Generally while considering the quasi-experimental design of the MOC's GMoU activity, there might be a possibility that unobservable factors like specific abilities or preferences and household's intrinsic motivation, had influenced the decision to receive or not. This problem of hidden bias was skirted by the bounding approach. In equation 3, we complemented the logit model to estimate propensity score by a vector U containing all unobservable variables and their effects on the probability of receiving CSR and captured by γ:

$$P(x) = Pr(Z= 1/X) = F(X\alpha +U\gamma) = e^{X\alpha U\gamma}$$ Equation 6

With sensitivity analysis, we examined the strength of the influence of γ on receiving CSR in order to wane the impact of receiving CSR on potential outcomes. Simply put, the supposition is that the unobservable variable is a binary variable taking values 1 or 0. Therefore, the receiving probability of both household is applied in line with the bounds on the odds ratio as stated thus:

$$: \frac{1}{e\gamma} \leq \frac{P(Xm)(1-P(Xn))}{P(Xn)(1-P(Xm))} \leq e\gamma$$
Equation 7

According to Rosenbaum (2002), both individual household have the same probability of receiving CSR, provided that they are identical in X, only if $e\gamma = 1$

4. Results and Discussion

The analysis and discussion of the findings drew heavily on previously published works that contribute to distinct segments of the public-private partnership debate of social challenges in the oil producing region from the corporate social responsibility perspective of multinational oil companies (Uduji and Okolo-Obasi, 2017, 2018d, 2019b, 2020; Uduji *et al,* 2018b, 2019b, 2019c, 2019g, 2020a, 2020b, 2020c,2020d, 2020e).

4.1 Descriptive analysis of respondents

First, we begin with the analysis of household in the study (Table 2) by describing some of their social (education), economic (occupation, household income) and demographic (age, marital status, household size) characteristic. This is really vital as we needed to clearly distinguish the households in CDB communities and those in the non - CDB communities; to easily comprehend the variances in the socio-economic status of the households who have gained from the GMoU and those who are yet to take part in the CDBs of the Niger Delta region. The analysis shows that the household headship is ruled by men as the case is always in Africa (Uduji and Okolo-Obasi, 2018a, 2018c). Nevertheless, among the Non CDB-communities, 45% of the household heads are females while they have only 31% in the CDB communities. This maybe an indicator that male headed households have greater chances of being empowered by the GMoU. On the other hand, both the treatment and control groups had high percentage in the number of household heads whose main occupation is farming; CDB communities recorded 33% while non-CDB communities recorded 35%;moreover, while CDB communities scored 14% in paid employment, the non-CDB communities scored only 7%. This observation is in agreement with Uduji and Okolo-Obasi (2017) in that GMoU somewhat concentrated on dealing with the knowledge gap and poor agronomic practices that lead to below-par produce and absence of competitiveness among the Niger Delta region small-holder farmers.

The analysis (Table 1) also reveals that respondents in the CDB communities are more educated (with only 5% uneducated) than the respondent in the non-CDB communities (with

about 9% uneducated). This means that literacy has a role to play in forming cluster development board and going into the GMoU agreement. As anticipated, the treatment group earns more than the control group as about 36% of the treatment group earns150,000; while about 61% of the control is in the same category. This finding agrees with Uduji *et al* (2020a, 2020b) in that the GMoU guarantees sustainable community-driven development process, institutionalizes the spirit of partnership, human capacity building and economic enablement in the Nigeria's oil producing communities.

Table 2. Socio-economic characteristics of the respondents

Variables	CDB Communities - Treatment Group			Non CDB Communities - Control Group		
	Freq	%	Cum	Freq	%	Cum
Sex of Household Head						
Male	486	69	69	770	55	55
Females	214	31	100	630	45	100
	700	100		**1400**	100	
Primary Occupation						
Fishing	106	15	15	278	20	20
Trading	135	19	34	246	18	37
Farming	231	33	67	491	35	73
Paid Employment	97	14	81	92	7	79
Handicraft	59	8	90	142	10	89
Others	72	10	100	151	11	100
	700	100	200	**1400**	100	
Age of Respondents						
Less than 20 years	18	3	3	27	2	2
21-25 years	42	6	9	75	5	7
26-30 years	86	12	21	138	10	17
31 - 35 years	106	15	36	182	13	30
35 - 40 years	145	21	57	351	25	55
41 - 45 years	213	30	87	282	20	75
45 - 50 years	52	7	95	252	18	93
Above 50 years	38	5	100	93	7	100
	700	100		**1400**	100	
Level of Education						
None	34	5	5	127	9	9
FSLC	256	37	41	483	35	44
WAEC/WASSCE	314	45	86	622	44	88
Degree and above	96	14	100	168	12	100
	700	100		**1400**	100	
Marital Status						
Single	107	15	15	310	22	22
Married	442	63	78	876	63	85

Widow	73	10	89	92	7	91
Divorced/Separated	78	11	100	122	9	100
	700	100	200	**1400**	100	
Household Size						
1-4 Person	361	52	52	732	52	52
5-9 Person	248	35	87	560	40	92
10-14 Person	65	9	96	86	6	98
15 Person and above	26	4	100	22	2	100
	700	100		**1400**	100	
Annual Income						
1000 - 50,000	32	5	5	218	16	16
51,000 - 100,000	54	8	12	275	20	35
101,000 - 150,000	164	23	36	355	25	61
151,000 - 200,000	189	27	63	197	14	75
201,000 - 250,000	128	18	81	173	12	87
251,000 - 300,000	84	12	93	156	11	98
Above 300,000	49	7	100	26	2	100
	700	100		1400	100	
Value of receipts Through CG						
None	67	10	10			
1000 - 50,000	32	5	14			
51,000 - 100,000	64	9	23			
101,000 - 150,000	121	17	41			
151,000 - 200,000	176	25	66			
201,000 - 250,000	104	15	81			
251,000 - 300,000	96	14	94			
Above 300,000	40	6	100			
	700	100				

Source: Computed from the field data by authors

Yet, regardless of receiving or not receiving the direct CSR by households, the average annual income of both the treatment group and the control groups are still poor (Table 1). The treatment group has an average income of NGN195, 000 (equivalent to 640 USD) per annum, while the control group has the average income of NGN75, 000 (equivalent to 246 USD per annum). PIND (2018, 2019) concur to this outcome, in that GMoU has brought noteworthy socio-economic gains to communities around the MOCs operation in Niger Delta.

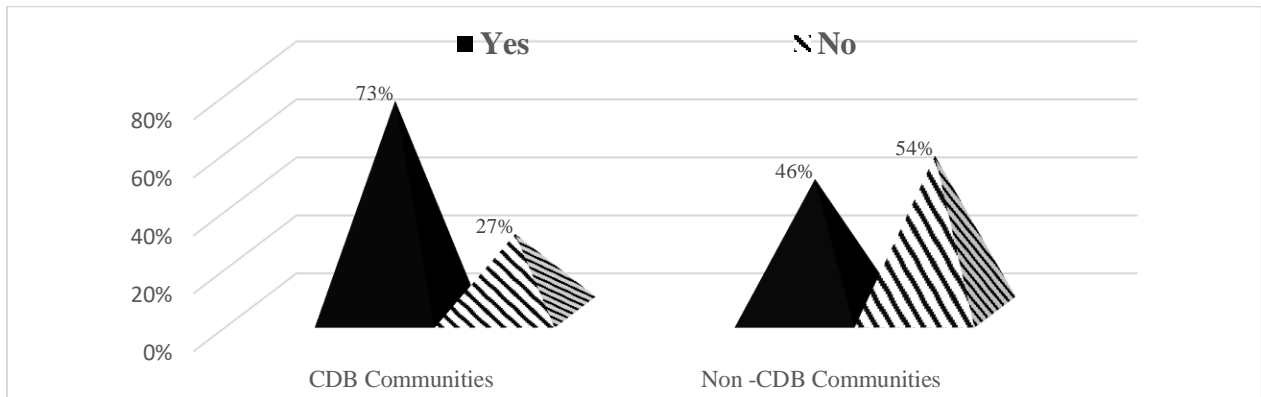**4.2 Rate of youth migration in Niger Delta**

Figure2: Rate of migration in the Niger Delta region of Nigeria.

To achieve objective one, our foremost task was to determine the rate of international migration both regular and irregular. Result (Figure 2) reveals that the rate of international migration is higher in the CDB communities. About 73% of the households in the CDB communities have at least a member of their household who has moved (migrated) out of the country; while the non-CDB communities have only 46%. This may be linked to the fact that the CDB communities get more resources from the MOCs and can have enough to sponsor international migration from such funds, which has become a very expensive venture. Shaw (2007) sees reason in this observation in that migration requires resources, so that emigrants to Europe or North America have a tendency to be wealthier and more educated than emigrants to other African countries, while often the underprivileged (poor) cannot migrate.
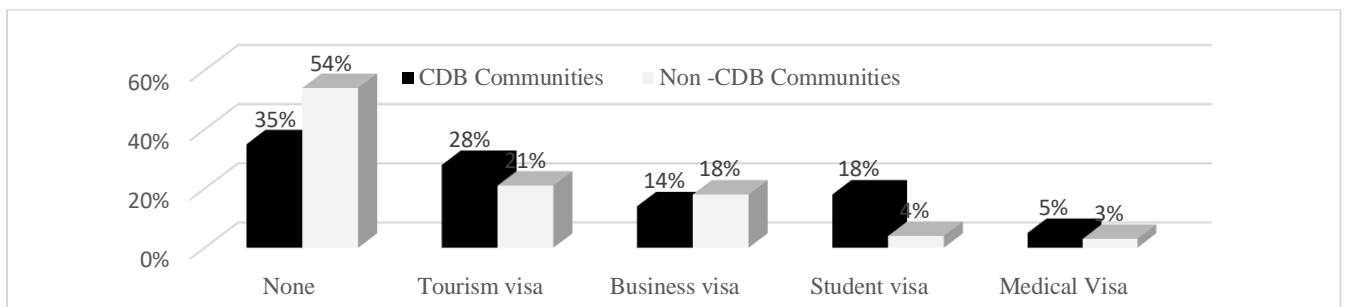

Figure3: Typesof visa the migrants travelled with from the Niger Delta region of Nigeria.

The analysis (Figure 3) reveals that 35% of the migrants from the CDB communities voyaged without obtaining the requisite visas, while the non-CDB communities recorded 54% of such case. On average about 45% of youth migrant from the region move without visa and are led by traffickers most likely through the desert of the Mediterranean Sea. About 28% of the migrants from CDB communities move with tourist visas, while 11% of the control group

take part in such. Adding this to the number that journeyed without any type of visa reveal that over 60% of the migrants moved from the country irregularly, which is a big indicator that irregular migration activity is in the high in the Nigeria's oil producing region. This discovery concedes to Bove and Elia (2017) where migrants gave a description of the years of planning that went into their making their journey: selling personal possessions, saving money, and depending on their social networks to access resources necessary to making the voyage. They gathered information to guide their journey via social media tools, such as Facebook and WhatsApp in their country and while embarking on the journey.
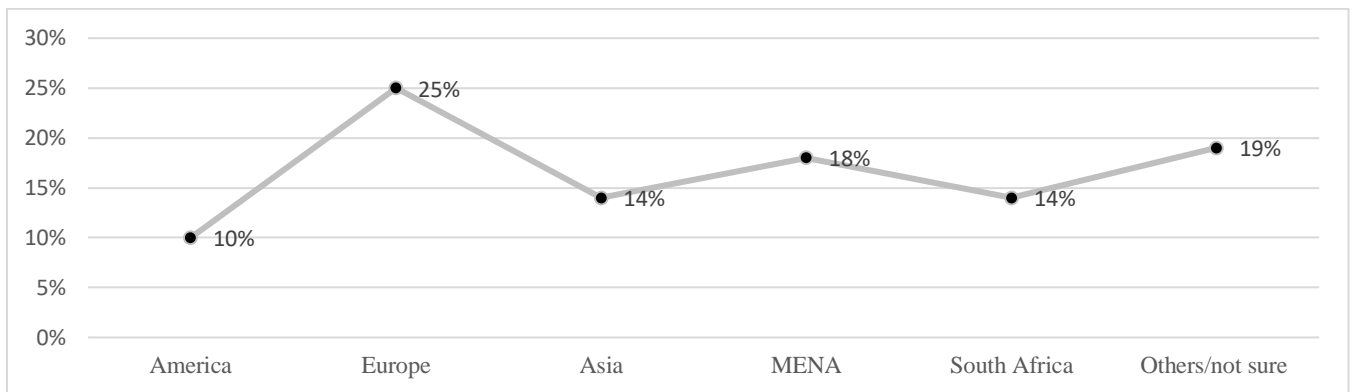

Figure 4: Destination of migrants from the Niger Delta region of Nigeria.

We also show in figure 4 that Europe is the uppermost destination point to the migrants as reported by the household members. Combing the response of both the CDB and Non-CDB household respondents, 19% are uncertain about the destination of their household member(s); however, about 25% are known to have headed to Europe, 10% to America, 14% to both Asia and South Africa, and about 18% to the Middle East and North African countries (MENA). A further analysis reveals that those who move to the North African countries are doing so to cross over to Europe through the sea. Kassar and Dourgnon (2014) concur with this finding in that most migrants consider North African countries as transit area, but a growing number who fail to reach Europe settle in the MENA countries.
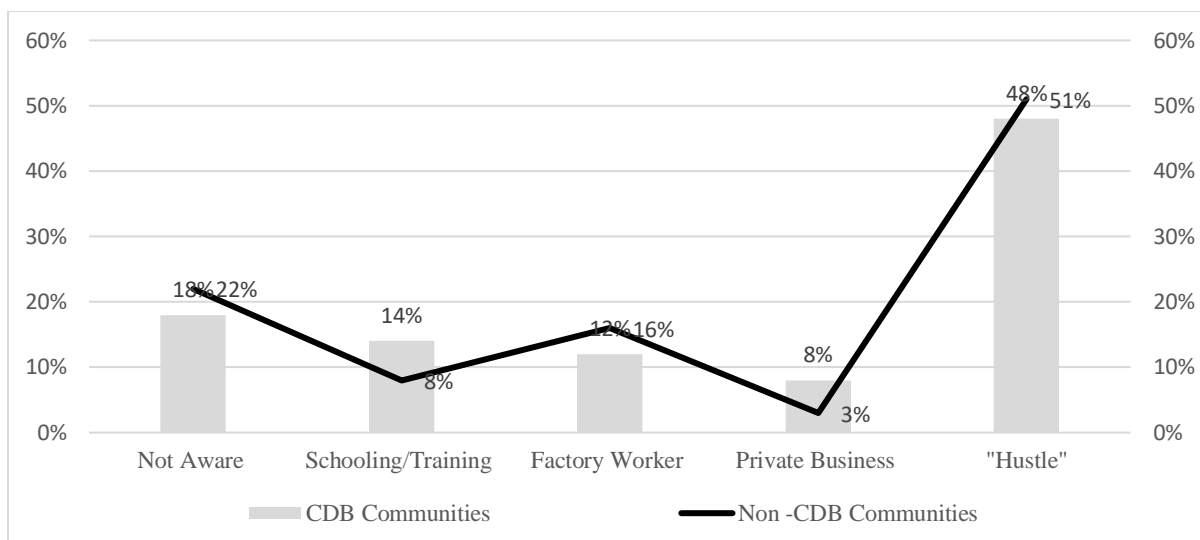
Figure 5: Career of migrant from Niger Delta region of Nigeria in their destination countries.

The analysis (Figure 5) also reveals that while 18% of the household in the CDB communities do not know what their family members are doing, 22% of the non-CDB is in the same category. Interestingly, 48% of those from the CDB communities say their relatives are involved in "hustle" (a word used to mean doing just about anything), 51% of those in the non-CDB communities are also involved in "hustle". This suggests that many of the migrants travelled with the sole drive of making money at all cost. FAO (2017) corresponds with this observation in that economic motivations for migration include to improve earnings (either instantly or over the long term via training) and to spread earning sources to reduce the risks facing households; and migration plays a vital role in reducing poverty, mainly through remittances, and is also useful in smoothing consumption of the poor. Also Flahaux and Dettaus (2016) agree with the finding in that network play a vital role in reducing the costs and risks of migration, and may clarify why different regions or communities account for a large part of emigrants from sub-Saharan Africa.
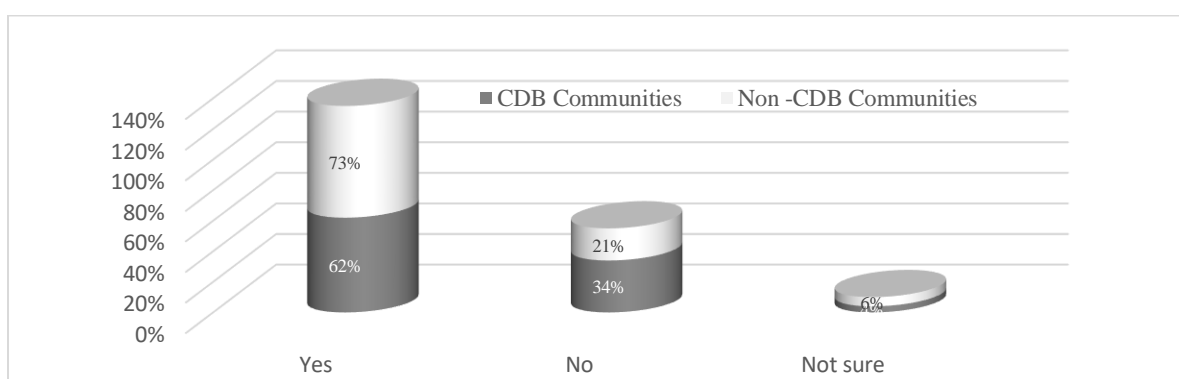

Figure 6: Willingness of the youth to migrate from Niger Delta region of Nigeria.

In attempt to confirm how the people feel about migration, we noted (Figure 6) in this study that about 73% of the household member in the non-CDB countries are still ready to migrate at any cost, while 62% of the CDB household are also willing to do same at any slightest offer. This shows that migration has become a big source of reward mainly to the youths of the Niger delta in the face of wreckage of their traditional livelihood due to land degradation and environmental pollution caused by oil exploration and extraction. Hernándex-Carretero and Carling (2012) agreed in that migrants are aware of the risks of the journey; many of them experienced distressing events but remained undeterred in their desire to migrate abroad.

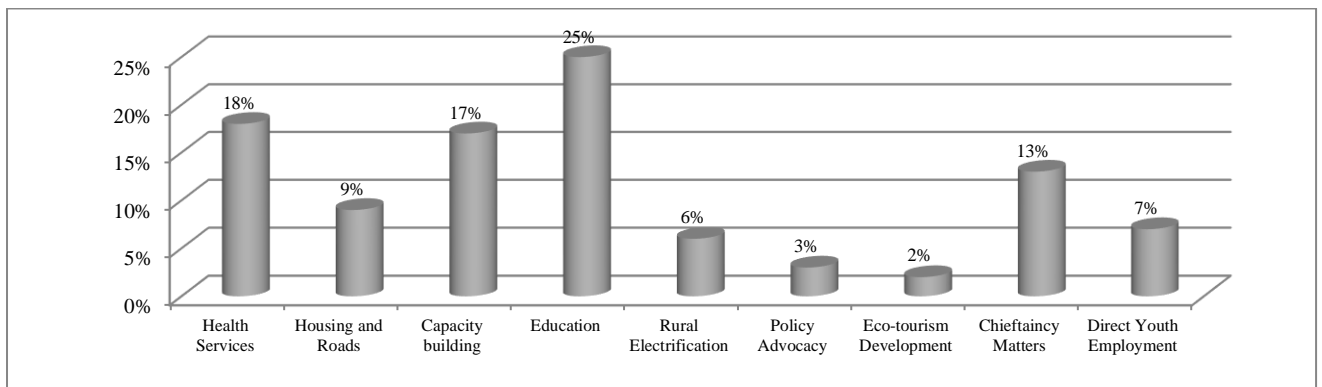## 4.3 Level of MOCs' CSR Interventions using the GMoUs

Figure 7. Percentage distribution of CSR intervention of MOCs by sectors in the Niger Delta.
Source: Computed from the field data by authors

In figure 7 analysis, we indicated that health services accounted for 18% of the CSRs of the MOCs while education (provision of scholarship, library, infrastructure, laboratory equipment and teachers training) accounts for 25%. On the other hand, capacity building accounts for 17%; chieftaincy matter: 13% and policy advocacy: 3%. Instead of investing 13% on chieftaincy matters, it would have been more sensible to invest on issues that will cut down the factors pushing the youths out of the country. The bait of remittances from successful migrant hanging on the hook of migration has influenced more youths than any other factor. To this, unless the youths are gainfully employed to earn enough that can sustainably hold out the remittance force, they would carry on the adventure through the Sahara Desert and Mediterranean Sea to Europe. This is in line with Pugh (2004) which posit that many youths are readily released by their parent(s) who also support them with the

money received from the MOCs after a promise of a better future, a lucrative job and a better skill from the traffickers. The CSR interventions as shown in Figure 7 are useful, but a youth specific intervention directed at entrepreneurship and decent job creation, will be more effective and turn the tide of most of these boat crossing expeditions. Thus, these are main areas that if the CSR are concentrated on will reduce the incidence of youth irregular migration from the region. However, many of those represented by the control group (non-CDB communities) are yet to receive CSR interventions in the areas that would be decided by them. Nevertheless, this finding is contrary to the assertions of Kirwin and Anderson (2018) that economic standing does not have a substantial effect on Nigerian's desire to leave their home; rather, the individual perceptions of the strength of the nation's democracy are most strongly associated with their desire to migrate abroad. This is followed by low levels of trust in local security. Instead, this paper makes available new evidence that remittances play a significant role in families' backing for members to migrate abroad.

4.4 Econometric analysis

Analysis (Table 3) summarized the average variances in the basic scores and independent observable characteristics between households in the CDB communities and those in the non –CDB communities. In general, the difference in means indicates that the score on finance and production inputs, on employment and decent works (jobs), on access to quality education and health and on basic security measures were at as good as the same level for both the CDB (treatment) and Non CDB (control) communities. The differences are from -6.25% in the category of youths that get employment and decent jobs, to 0.23% in the group of those that could access basic security measures. When the selected observable characteristics were examined it indicates that there are significant positive differences in Age (1.06), Marital Status (1.32), Education (16.32), Sex (0.53), Primary Occupation (2.83),Access to Shelter (3.5), Access to portable water (6.2), Annual Income (18.83), income of other household members (6.11), Liberty of be involved in socio-economic activities (1.86); also, household Size (-3.11), and access to land (-0.01) recorded negative significant mean. The implication of the findings in Table 4 analysis is that as the CDB communities (the treatment group)shows just but a little reduction in almost all the indices measured; there is every likelihood that CSR investment correctly channeled will quickly help in deterring irregular migration of Nigerians from Niger Delta region to Europe.   Hence, recognizable participation incentives can be identified, which underlines the probability that selective placement is in existence and, therefore, the need to apply propensity score matching.

Table 3. Comparison of mean score and observable characteristics across participants and non-participants (N = 2100)

Score in Percentage of maximum score	CDB	Non CDB	Difference
Score on employment and decent jobs	18.12	24.37	-6.25**
Score on finance and production inputs	21.34	23.32	-1.98**
Score on access to quality education and health	19.13	21.82	-2.69**
Score on basic security measures	13.48	13.25	0.23**
Socio-Economic Characteristics			
Age	23.41	22.35	1.06
Sex	32.18	31.65	0.53
Education	38.48	22.16	16.32
Marital Status	32.15	30.83	1.32**
Household Size	12.51	15.62	-3.11
Primary Occupation	21.31	18.51	2.83*
Annual Income	51.26	32.43	18.83
Income of Other Household Members	17.62	11.51	6.11
Household Characteristics			
Access to Shelter	18.31	14.81	3.5**
Access to portable water	21.72	15.52	6.2**
Freedom of participation in socio-economic activities	24.74	21.88	1.86**
Access to land	16.21	16.23	-0.01
Observation	**700**	**1400**	

Source: Computed from the field data by authors

We followed the chosen characteristics which capture relevant observable variances of both the treatment and control to foresee the probability of receiving and utilizing the CSR of the MOCs. In Table 4analysis, we represent the Logit model from equation 3 with the estimated coefficients, the odd ratios expressed in terms of odds of Z=1, and the marginal effect and standard error too. In analyzing single observables, the evidence is that sex of the household head, highest educational level, primary occupation and perception of the GMoU are factors that positively impact on the household head seeking and receiving direct CSR in the GMoU programmes. On the contrary, age of the household head, annual income of the household head, remittances from household members that migrated, and income of other household member affects it negatively.

Table 4. Logit model to predict the probability of receiving CSR conditional on selected observables

Variables	Coefficient	Odd Ratio	Marginal Effect	Std. Error
Age	.-021	.0713	.011	.014
Sex	.021	.531	.301*	.026
PriOcc	.751	1.721	.201*	.231
Edu	1.127	.753	.072**	.018
AY	.-052	.701	.0014	.004
Relrem	-.021	.238	.021	.034
BaSC	.132	1.025	.021**	.041
MS	.034	1.370	.0013	.013
HHcom	-.251	.234	.0102	.043
AsFPInput	1.391	1.512	.0217**	.091
Asqhcare	1.241	3.25	0.006	.052
Perception of GMoU	2.341	6.238	.102*	.045
Constant	9.236	3.321	.00346	.676
Observation	2100			
Likelihood Ratio - LR test (ρ=0)		χ2 (1)=1422.231*		
Pseudo R^2	0.43			

*= significant at 1% level; ** = significant at 5% level; and * * * = significant at 10% level

Source: Computed from the field data by authors

In line with the probability of receiving CSR anticipated in the model (Table 5), we estimated the effect of the CSR on reducing irregular migration in the Niger Delta region by the ATT, as outlined in equation 4. We cautiously noted that the observations are ordered arbitrarily and there are no large discrepancies in the distribution of propensity scores. Hence we noted that the NNM (nearest neighbor matching) yields the utmost and most significant treatment effect estimate in all the four outcome categories.

Table 5. Estimated impacts of CSR activities using the MOCs' GMoU on youth migration via different matching algorithms

Matching Methods	Access and Knowledge Score in Percentage of Maximum Score		Average Treatment effect on the treated
	Receivers	Non- Receivers	
Nearest neighbor matching	Using single nearest or closest neighbor		
Score on employment and decent jobs	18.12	24.37	-6.25**
Score on finance and production inputs	21.34	23.32	-1.98**
Score on access to quality education and health	19.13	21.82	-2.69**
Score on basic security measures	13.48	13.25	0.23**
Observations	**620**	**620**	
Radius matching	Using all neighbors within a caliper of 0.01		
Score on employment and decent jobs	21.21	24.13	-2.92**
Score on finance and production inputs	22.45	23.18	-0.73**
Score on access to quality education and health	25.28	26. 31	-1.03**
Score on basic security measures	19.22	20.15	0.91**
Observations	**645**	**1320**	
Kernel-based matching	Using a bi-weight kernel function and a smoothing parameter of 0.06		
Score on employment and decent jobs	18.62	20.32	-1.7**
Score on finance and production inputs	22.71	28.48	-5.77**
Score on access to quality education and health	24.32	25.24	-0.92**
Score on basic security measures	17.34	16.12	1.22**
Observations	700	1400	

*= significant at 1% level; ** = significant at 5% level; and * * * = significant at 10% level

Source: Computed from the field data by authors

The nearest neighbor estimate of the access to employment and decent jobs due to GMoU is approximately 6%; however, believing that the NNM method yields relatively poor matches due to the limitation of information, we progressed to the other two matching method (Radius and Kernel-based matching). The estimated impact using radius matching algorithm is about 3%; while Kernel-based matching algorithm produces average treatment effect on the treated of approximately 2%. As a result, it can be confirmed that CSR has made little but significant impact in discouraging youths from irregular migration, and if invigorated and enhanced will

lift many out of poverty line which is at the root of the Lee (1966) push and pull factors of migration. However, it is important to also noted that, when the CSR intervention is not properly channeled, benefits from it could be abused in funding more irregular migration by family members.

Table 6. Imbalance test results of observable covariates for three different matching algorithms via standardized difference in percent

Covariates X	Standardized differences in % after		
	Nearest neighbor matching	**Radius matching**	**Kernel-based matching**
Age	4.8	13.7	12.4
Sex	3.8	18.5	23.2
PriOcc	2.1	22.7	13.4
Edu	4.3	31.6	12.8
AY	3.1	32.2	11.1
Relrem	4.2	11.9	10.2
BaSC	3.3	15.9	11.1
MS	4.2	21.2	16.1
HHcom	2.9	42.1	11.2
AsFPInput	4.1	65.2	13.2
Asqhcare	8.1	16.2	21.7
Perception of GMoU	5.2	5.2	14.5
Constant	7.3	41.87	26.5
Mean absolute standardized difference	4.4	26.0	15.2
Median absolute standardized difference	3.3	15.9	11.1

Source: Computed from the field data by authors

We looked at the imbalance of single observable characteristics and it reveals that the quality of the simple method of picking the only closest neighbor with respect to the propensity score NNM is much higher than that the KM and RM in matching. The summary statistics (Table 6) for the overall balance of all covariates between the CDB communities (treatment group) and the non- CDB Communities (control group) confirms the higher quality of NNM. For the kernel-based matching and radius, both the mean and the median of the absolute standardized variance after matching are far above the threshold of 5%, while the NNM is quite below. Furthermore, following equation 7, we looked at the sensitivity of significance levels knowing that it is the duty of a suitable control strategy for hidden bias. Our study does a comparison of the sensitivity of treatment effects on scores on the four major variables

among the three introduced matching algorithms; in all, sturdiness results produced by Rosenbaum's bounds are somewhat similar as shown in Table 7. Moreover, analysis (Table 7) reveals that there is a more generated robust treatment effect in Kernel-based Matching than in Nearest neighbor Matching and Radius Matching with regard to estimates to hidden bias, for all the four categories measured, i.e. employment and decent jobs, access to quality education and health, access to finance and production inputs, and access to basic security measures. Hence, there is the possibility that matched pairs may vary by up to 100% in unobservable characteristics, whereas the impact of GMoU on employment and decent jobs access to basic security measures and access to finance and production inputs, would still be significant at a level of 5% (*p*-value = 0.041 and *p*-value = 0.030, and *p*-value = 0.044 respectively). The same categories of knowledge score are robust to hidden bias up to an influence of $e^y = 2$ at a significance level of 10% following the radius matching approach.

Table 7. Sensitivity analysis with Rosenbaum's bounds on probability values

	Upper bounds on the significance level for different values of e^y				
	$e^y = 1$	$e^y = 1.25$	$e^y = 1.5$	$e^y = 1.75$	$e^y = 2$
Nearest neighbor matching	Using single nearest or closest neighbor				
Score on employment and decent jobs	0.0001	0.0123	0.0231	0.0241	0.041
Score on finance and production inputs	0.0001	0.0021	0.0031	0.0512	0.044
Score on access to quality education and health	0.0001	0.0015	0.0021	0.311	0.211
Score on basic security measures	0.0001	0.001	0.0321	0.231	0.030
Radius matching	Using all neighbors within a caliper of 0.01				
Score on employment and decent jobs	0.0003	0.0214	0.1346	0.682	0.081
Score on finance and production inputs	0.0001	0.0015	0.0012	0.0312	0.0423
Score on access to quality education and health	0.0001	0.0013	0.0021	0.134	0.056
Score on basic security measures	0.0001	0.0002	0.0009	0.0081	0.0363
Kernel-based matching	Using a bi-weight kernel function and a smoothing parameter of 0.06				
Score on employment and decent jobs	0.0001	0.0148	0.146	0.548	0.042
Score on finance and production inputs	0.0001	0.0351	0.012	0.0421	0.025
Score on access to quality education and health	0.0001	0.00121	0.0001	0.005	0.0218
Score on basic security measures	0.0001	0.00731	0.0231	0.213	0.026

Source: Computed from the field data by authors

In sum, the observations of this study show that as youth unemployment deteriorated and socio-political cum economic condition and poverty worsened in the Nigeria's oil producing

region; in anxiety, many youths risk everything to fight their way precariously to Europe through MENA countries with the assistance of traffickers and bogus agencies, in pursuit of the illusory green pastures. The findings arrive at a settlement with Lee (1966) push factors which induce individuals to leave their countries to the destination countries. Consequently, our findings suggest that the relative priorities of MOCs' CSR interventions in the Niger Delta should vary from the classic, American ordering, as proposed by Carroll (1991). Placing value on a cultural context in the determination of appropriate CSR priorities as suggested by Visser (2006) is essential in the context of the Nigeria's oil producing communities. Moreover, there is need for flexibility, as suggested by Amaeshi *et al* (2006), in addressing the uniqueness of the socio-economic challenges in the region, which could take in the push factors that prompt the youths in the region to migrate to Europe, especially through the Central Mediterranean route. Muthuri (2012) also flows along in that it is vital for CSR interventions in Africa to include poverty reduction, economic and enterprise development. Closely linked to the finding of the study is Uduji *et al* (2019g) on business case for human trafficking in the Niger Delta region of Nigeria. However, in addition and contribution, if we are to make an input on how CSR interventions can deter youths from irregular migration in the Niger Delta, we would argue that MOCs' CSR can play a vital role in alleviating irregular migration, when GMoU investment is targeted at the complexities of the push factors that induce the Niger Delta youths to leave the country to other places. It is our contention that the private sector, in general, is well placed to address the problems of youth unemployment in the region. Specifically, this can be achieved by creation of jobs and the provision of financial and other resources to assist local entrepreneurs, as part of their commitment towards strengthening the local economic systems of the region. Hence, increasing support for job creation in the private sector should be made a priority in CSR practices in the Niger Delta; which in turn would make available the enabling environment for more extensive responsible business in the region. What is clear from this study is that CSR in sub-Saharan Africa is a rich and fascinating area of enquiry, which is becoming more important in CSR theory and practice. And since it is profoundly under-researched, it also represents a tremendous opportunity for improving our knowledge and understanding about CSR.

5. Concluding Implications and Future Research Directions

Decades of oil spillage and gas flaring, in addition to a rapidly growing population in the Nigeria's oil producing region, has meant that the traditional sources of livelihood (farming

and fishing) of the people are either no longer sustainable or have experienced significant decline. As a result, the region's unemployment rates are higher than the national average. Many youths in the region have jeopardized everything to fight their way precariously to rich countries with the aid of traffickers and bogus agencies, in search of the illusory green pastures. Thus, we set out to look at the impact of MOCs' CSR interventions via GMoU in the factors motivating irregular migration among youths in the Niger Delta region of Nigeria. A total of 2100 households from both CDB communities and non-CDB communities were sampled across the region. Results from the use of a combined propensity score matching and logit model reveal that CSR has made a significant impact in deterring youths from irregular migration, and if encouraged and enhanced will lift many out of poverty line, which is at root of the push and pull factors of migration. However, the results also indicate that when CSR interventions of MOCs are not well channeled, the benefits could be used in funding more irregular migration adventures by family members. The results put forward the need to support youth development initiatives that will aim at the creation of jobs and provision of financial and other resources to uphold local entrepreneurs as part of efforts to build up the local economic systems of the region. Hence, intensifying support for job creation in the private sector should be made a priority in CSR practices in the Niger Delta as such can contribute towards making the environment for doing business in the region better.

The main limitation of this study is that, it is restricted to the scope of oil-producing communities in Nigeria. Hence, the observations cannot be generalized to other sub-Saharan African countries with the same irregular migration and policy challenges. In the light of this deficiency, copying the analysis in oil-producing communities of other developing countries is advisable in order to ascertain whether the established nexuses withstand empirical scrutiny in varying oil-producing context of developing countries. Also, it is worth emphasizing as a caveat that economic responsibility has two faces – economic contribution on the one side and economic dependence on the other; when host communities become overly dependent on multinationals for their economic welfare, there is risk of governments compromising ethical, social, or environmental standards in order to retain their investment, or suffering huge social disruption if those businesses do decide to disinvest. As research into irregular migration in sub-Saharan Africa is still relatively in the low, there is need for further research on such in African countries at the international, regional, national and local levels, in addition to theoretical constructs. All these dissimilar streams of empirical research should form more conceptual work, or models that would be more suitable for African context.

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Declaration of Conflict of Interests

Funding Information

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Appendix

Variables	Definition
Age	Age of the respondent measure in number of years with a range.
PriOcc	Primary occupation the respondent.
Edu	Highest level of education obtained by the respondent measured in number of years spent in school.
AY	Annual income of the respondent.
Relrem	Dummy for receiving of financial and material remittances from successful migrant relative (Yes = 1 and No =0).
MS	Dummy for Marital status of the respondent (married =1 not married =0).
HHcom	Income of other members of the household of the respondent household head.
"Hustle"	Term used to describe when people are mostly involved in illegal deals such as fraud, drug etc.
BaSC	Dummy for access to basic security measures. This is measure willinglines to trust government security agencies.
AsFPInput	Access to finance and other production input. This is measured by the availability of third party finance and input for the respondents
Perception of GMoU	This is a dummy for how the people see the GMOU and the CSR of the MOCs. (those who perceive it as ours or for us = 1 and those who perceive it as theirs and for them =0)
CSR	Corporate social responsibility interventions of the multinational oil companies using the global memorandum of understanding as received or participated.
Asqhcare	Access to basic medical care. Measure by the availability, functionality and affordability of medical facilities in the communities.