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Tourism and income inequality in sub-Saharan African countries: the role of democracy

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Abstract

The tourism literature has largely neglected another important factor that may influence the tourism and income inequality relationships. This factor reflects democratic institutions of the destination country. To contribute to the tourism literature, this study attempts to fill a gap in the tourism literature by investigating the moderating effect of democracy on the tourism-income inequality nexus for a panel of 23 sub-Saharan African countries over the period 2000-2020. The empirical evidence is based on the panel corrected standard errors (PCSE) estimation technique. The results obtained from our study show that tourism and democracy unconditionally worsen income inequality. Moreover, democracy complements tourism to further undermine income distribution as positive synergies are apparent. Policy implications are discussed.

Keywords: Tourism, democracy, income inequality, Africa, PCSE

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1.Introduction

In recent years, several mechanisms through which tourism can boost economic prosperity have been identified in the tourism literature (Dossou et al., 2023; Nguyen et al., 2020; Ofori et al., 2021; Nyasha et al., 2021; Wang & Tziamalis, 2023; Asongu et al., 2023). For instance, according to Nguyen et al. (2020) and Kumar and Patel (2023), tourism earnings can propel economic growth by attracting international investments. Moreover, Dossou et al. (2023) and Konstantakopoulou (2021) argue that through tax revenues, economic growth can be promoted by tourism earnings. Furthermore, Folarin and Adeniyi (2019) pointed out human capital development as an important tool by which tourism earnings can engender economic growth. On the same account, job opportunities have been found as an important channel by which tourism earnings can enhance economic growth (Xuanming et al., 2023). Moreover, tourism development has been documented to propel economic diversification and generate structural change and tertiarization (Wang & Tziamalis, 2023).

Over the last two decades, the tourism literature has been expanded by translating the positive influence of tourism growth on the growth of national income into economic development (Dossou et al., 2021; Dossou et al., 2023). Among these studies, many have investigated the impact of tourism growth on socio-economic development. In this context, this paper focuses on the tourism-income inequality nexus. In recent years, the tourism-income inequality nexus has been assessed by many studies (Adeniyi et al., 2023; Nguyen et al., 2020). However, these studies have presented mixed and inconclusive findings (Dossou et al., 2023). On the one hand, tourism has been found to exacerbate income inequality. For example, the income inequality worsening effect of tourism can be observed during some global uncertainties (Dossou et al., 2023). According to the authors, health crisis can undermine tourism development, which by extension, could contribute to the exacerbation of income inequality. This argument has been reinforced by Adeniyi et al. (2023) who have documented that the ban on international travel in order to contain the COVID-19 pandemic has depressed the tourism industry's performance which has undermined economic growth and income distribution. Further, the authors argued that the COVID-19 pandemic has crippled tourism-related economic activities, which by extension, retard economic growth and heighten income inequality. In the same vein, income inequality can be aggravated by tourism as it has the power to promote economic growth via growing demand for goods and services, which ultimately engenders inflation. Income inequality can be heightened by tourism if the profits issued from the tourism industry are remitted from the host country to the country of origin (Akarsu, 2021). In the same vein, tourism may hinder income distribution if the marginalized groups are excluded from the process of its development (Croes & Rivera, 2017). On the other hand, many studies have argued that tourism can improve income distribution. As posited by Njoya and Seetaram (2018), tourism can improve income distribution by providing employment for the marginalised people of the population. Moreover, international investments have been pointed out as another channel by which tourism can improve income distribution (Dossou et al., 2023). The aforementioned development calls for an investigation of the tourism-income inequality nexus by considering another factor.

The former strand of studies has largely neglected another important factor that may influence the nexus between tourism and inequality of income. This factor is democratic institutions of the destination country. According to Usman et al. (2020),

democracy can foster economic growth, which by extension, can enhance tourism development and boost social welfare and income distribution. It has been widely believed that improving democracy can protect property rights (Doucouliagos & Ulubas, 2008) which could increase the confidence of foreign investors in the tourism industry, which in turn can enhance employment opportunities and income distribution (Dossou et al., 2021). This has been further corroborated by Konstantakopoulou (2021) who have argued that an improvement in the efficiency of the legal system and property rights could contribute to the enhancement of tourism development and its policies which are likely to improve income distribution. Furthermore, it has been argued that tourism resources can be influenced by the political environment which remains important for economic development (Antonakakis et al., 2016). It has been documented that the freedom of press can positively enhance tourism development through providing information regarding tourism sites, hotels, and infrastructures (Bulut et al., 2019; Demir & Gozgor, 2019), which by extension, can improve income distribution. However, democracy can lead to conflicts due to social, ethnic, and class struggles (Doucouliagos & Ulubas, 2008), which might undermine tourism development and worsen income inequality. Moreover, Fambeu and Yomi (2023) have argued that expanding political and civil liberties could lead to an increase of conflicts which might impede tourism development, economic growth and income distribution. Following the above development, it is imperative to examine the moderation of democracy in the tourism-income inequality nexus which has been largely neglected.

Africa has been used as a case study to examine the moderating impact of democracy in the tourism-income inequality nexus. First, in recent years, tourism growth has significantly impacted African economies (Adeniyi et al., 2023). According to the authors, the contribution of the tourism sector to total GDP was 7.1% in 2019. Moreover, in the same year, the contribution of the tourism sector to job creation was 6.8%. Furthermore, its contribution to exports stood at 10.4% in the same year. However, despite the growing relevance of the tourism sector, Adeola and Evans (2020) and Adeniyi et al. (2023) have pointed out the nascent stage of tourism development in Africa. Second, despite its improvement in some regions namely, West Africa's coast, overall democratic governance overall has stagnated and declined in East and Central Africa (Fambeu, 2021; Fambeu & Yomi, 2023). Third, despite its bright economic prospects in recent years, income inequality and poverty still persist (Dossou, 2023; Dossou et al., 2023; Ofori et al., 2021; Ofori et al., 2022). Moreover, the recent health crisis (COVID-19 pandemic) has crippled economic growth, which by extension, has undermined income distribution and poverty reduction. Fourth, studies on the nexus between tourism and income inequality in Africa are sparse. Moreover, to the best of knowledge, the literature on the moderation of democracy in the tourism-income inequality relationship is quite inexistent.

In the light of the above, the contribution of this study to the extant literature is threefold. First, as prior studies have separately investigated the tourism-income inequality nexus (Dossou et al., 2023; Ofori et al., 2021) and the democracy-income inequality relationship (Acemoglu et al., 2015), this study is the first to assess the moderating incidence of democracy on the nexus between tourism and income inequality. Given the dynamic linkage between tourism and democratic institutions (Antonakakis et al., 2016; Detotto, Giannoni, & Goavec, 2021; Ghalia, Fidrmuc, Samargandi, & Sohag, 2019), it is crucial to determine whether the interaction of tourism and democracy may mitigate or heighten income inequality. Moreover, this

study uses five democracy indicators (i.e., electoral democracy, egalitarian democracy participatory democracy, liberal democracy and deliberative democracy) are used to assess the moderation of democracy in the tourism-income inequality linkage. It is important to note that these indicators have been used in the economic development literature in recent years. For instance, using these five democracy indicators, Acheampong and Opoku (2023) have examined the moderating effect of democracy on the energy-deforestation nexus in Africa. Similarly, Acheampong et al. (2022) have used these five democracy indicators to examine the influence of democracy on environmental quality in Africa. Unfortunately, these studies have failed to assess the moderating incidence of democracy in the tourism-income inequality nexus. Therefore, the investigation of the moderation of democracy in the tourism-income inequality linkage could fill the gap and add to the political economics, development economics and tourism economics literature.

Second, the current study denotes a novel idea that provide knowledge on the marginal effects of the tourism sector on income inequality at various levels of democracy. This is important because it permits policymakers to gain insights into how the promotion of tourism and improvement in democratic institutions affect income distribution.

Third, recently, Africa has embarked on a journey of transformational change especially as it pertains to the African Continental Free Trade Areas (AfCFTA) which aims to boost intra-regional travel in the continent (Xu et al., 2022; Xuanming et al., 2023). According to Xu et al. (2022), any shock from one African country could negatively affect others because of the interrelationship between these African countries in terms of culture, politic and demography. As such, it is important to look at some basic econometric methods such as cross sectional dependence test (Xu et al., 2022). According to Xu et al. (2022) and Ehigiamusoe (2020), neglecting the cross-sectional dependence (CD) test in this situation could lead biased result. Thus, we build on CD test developed by Pesaran (2004) to test for cross-sectional dependence. In the existence of a CD test, Dossou et al. (2021) have suggested the use of an appropriate estimation technique. Following this argument, we use the panel corrected standard errors (PCSE) estimation technique to assess the moderation of democracy in the tourism-income inequality nexus. To the best of our knowledge, the panel corrected standard errors (PCSE) estimation technique of Jönsson (2005) has been used by Xu et al. (2022) to examine the influence of corruption on tourism development. None of the prior studies have attempted to use the PCSE)estmation technique to examine the moderating effect of democracy on the relationship between tourism and income inequality.

2.Literature review

2.1Theoretical background

2.1.1Tourism and income inequality

Given the steady rise in tourism, several developing nations have successfully utilized their abundant resources from tourism to enhance their international reserves. Thus, it should not be odd that tourism has grown to be a sizable portion of these countries' exports. The common understanding that tourism development yields sustainable economic growth and thus a shift in income inequality is better explained by the tourism-led growth theory (Chingarande & Saayman, 2018).

Tourism-led growth hypothesis

In earlier and more recent studies, the connection between tourism and economic growth has been extensively researched (Song & Wu, 2022; Nunkoo et al., 2020; Fonseca & Sánchez Rivero, 2020; Liu & Song, 2018; Lin et al., 2019). Also, Ricardo's theory of comparative advantage provides a basis for forecasting the trends in trade and production based on each country's factor endowments (Ricardo, 1821). The theory suggests that nations export products that employ their averagely abundant and affordable factors of production while importing those that are produced using the nation's scarce factors. According to Ricardo's approach, some economies are better suited to gain from tourism than others, especially those with a relative surplus of natural resources and an adequate supply of labor that is easily accessible to work in the industry. These nations have a strong predisposition to focus on tourism and benefit from unrestricted borders that make it easier to trade both products and services internationally (Haini et al., 2023). The Tourism Led Growth theory (TLG) is a hypothesis of export-led growth that claims that tourism drives growth by boosting productivity and thus, enhancing competition (Krueger, 1980) and boosting economies of scale (Helpman & Krugman, 1985) and income from foreign exchange (Narayan et al., 2021), which in turn increase capital accumulation (Nowak et al., 2007).

On the other hand, some scholars have challenged the contribution of the tourism sector to economic growth. Tourism is linked to growth in some geographic or developmental contexts, particularly where major or second-tier sectors are industries that produce only a fraction of the tourism sector (Song & Wu, 2022). Economies that rely heavily on the tourism sector are vulnerable to the Dutch disease effect since doing so results in a decline in potential-growth industries (De Vita & Kyaw, 2017). Also, in catastrophic situations, tourism's growth-promoting impacts diminish (Liu et al., 2022). For example, in times of economic spike, increased tourism does not always spur growth but rather inflation, and overproduction effects while macroeconomic fluctuations during financial meltdowns are heavily reliant on finding a solution to the pressing problem.

Additionally, Uzar and Eyuboglu (2019) suggested two ways that tourism may impact income inequality. They include; pro-poor growth and a trickle-down impact. Dossou et al. (2023) proposed that by enhancing the potential for employment, earnings, and quality of life, a rise in tourism may help hasten economic growth and eventually lower poverty and income inequality. As mentioned by Saunders (2002), given that the increasing unemployment rate has been established as a key factor determining income disparity and that tourism can help boost economic growth by creating more job opportunities, tourism can help spread wealth more evenly. The underlying is strongly supported by Nguyen et al. (2021), who have made the case that tourism can significantly affect how income is redistributed. According to the trickle-down hypothesis, the positive impacts of tourism on growth are numerous. Zhou et al. (2017) have emphasized that whilst there is a spatial substitution effect between similar attractions in nearby areas, its magnitude is too small to offset the beneficial spillover effect of destinations.

2.1.2 Democracy and income inequality

The multiple definitions used in democracy studies nowadays make them perplexing. More significantly, it is inaccurate because cases are left out because of the unfavorable

circumstances surrounding their democratic evolution cycle, which follow an unidentified design. Currently, there are countless phrases describing democracy in application, making it hard to determine what is being referred to whenever the term is used (Storm, 2008). Over the last couple of years, the term "democracy" has been used to refer to a variety of situations in scholarly works, including that in which there are aggressive, open, and equitable polls as well as that in which voting is not only free and fair. However, the observance of fundamental legal rights are also apparent in addition to the perspective that the executive branch of the government should be in position to effectively wield supremacy. Many researchers have developed categorization models. The work of Collier and Levitsky (1997) is arguably the most well-researched and readily implementable. The above framework suggests that most explanations for democracy fall into one of the following six classifications: maximalist; electoralist; operational minimum; extended operational minimum; repressive, and traditional views of invented industrial democracy. The six groupings were primarily developed by Collier and Levitsky using what they called underlying "theoretical requirements," among which they determined that the subsequent four were especially pertinent: (i) polls with widespread voter registration that are moderately competitive and free from widespread manipulation; (ii) fundamental rights of citizens, including the right to assemble, speak, and associate; (iii) effectively, elected leaders are able to rule and (iv) extra industrial democracy-related monetary, political, and cultural facets.

Additionally, based on the works of Morlino (2004), a democratic government should have several political groups, multiple information sources, recurrent, open to all, vibrant, and equitable elections. Even for those countries that satisfy these minimal requirements, more study remains necessary to determine the extent to their societies have attained political liberty and fairness, which are the two fundamental goals of a perfect democracy. Munck (2016) places a strong emphasis on the quality of democracy by putting forth requirements for judging politics that go beyond what is covered by the bare minimum definition of democracy. It is suggested that the definition of democracy be expanded to include two more domains: the political social context and the procedure by which decisions are made by the authorities.

The link between democracy and inequality could be more intricate than the typical Meltzer-Richard model suggests (Acemoglu et al., 2015). Even though democracy alters the real balance of power in society, inequality, and governance results are influenced by both the real-world and statutory allocation of power. Following the writings of Acemoglu and Robinson (2008), people whose legitimate authority is threatened by democratization may be able to substantially expand their financial investments in reality-based power in specific scenarios for instance, through commanding local justice agencies, enlisting armored non-governmental organizations, advocacy, and other techniques for seizing the liberal party system. Unless that were the case, democracy could not affect inequality. Berg (2005) developed a framework explaining how democracy affects income disparity. According to the narrative, democratic liberty leads to public calls for equitable distribution, which in turn affects how much money individuals receive. Instead of providing social assistance at a fixed rate, an approach of progressively increasing taxes can achieve redistribution more effectively. The author demonstrates how the popular method of comparing the allocation of earnings both before and after taxation leads to skewed impacts of distribution on inequality in income. The research also discovers that standardized benefits and proportionate taxation, in particular, make low-income households'

earners' pre-fiscal inequality worse by making them work less than their peers with higher earnings.

In addition, Stigler's (1970) "Director's Law" suggests that democracy may provide citizens in the middle-class with more influence in politics than it does to the poor. Hence, redistribution could escalate and inequality could be reduced only once the middle class is in support of these restructuring schemes (Asongu & le Roux, 2019). Correspondingly, there might be justifications for autocrats to redistribute and lessen inequality to strengthen their rule (Albertus & Menaldo, 2012). However, other researchers base their conceptual framework on existing ideas of dispossession during dictatorships. These draw attention to how a dictator's political weakness can fuel predatory conduct that skews economic discernment. Clague et al. (1996) make the case that autocrats have significant stimuli to raise taxes and reallocate public spending toward national safety and stability, hence lowering future economic growth. This is because they need to depend on the backing of their armed forces and law enforcement officers. Related to this, Albertus and Menaldo (2012) contend that when faced with political unpredictability, autocrats will heavily devalue the future and opt for "easy-to-collect" forms of income, discouraging investment and lowering long-term earnings; a situation that further widens the inequality gap.

2.2 Empirical review

2.2.1 Tourism and income inequality

Several specialists in tourism have lately been working to transform the effect of tourism on the economy into societal and economic concerns, but income disparity has received the greatest focus (Ofori, Am`egnonna, Dossou, Akadiri, & Ofori, 2022; Dossou et al., 2021; Zhao, 2020; Nguyen et al., 2020). Many scholars have examined the relationship between income inequality and tourism (Ofori, Am`egnonna, et al., 2022; Zhang, 2021b; Chi, 2020; Nguyen et al., 2020). Existing research, however, reveals that the impact of tourism on income inequality has been equivocal (Ofori et al., 2022; Akarsu, 2021). Some researchers have discovered that tourism impacts how income is distributed (Ofori et al., 2022; Fang et al., 2020). According to this school of thought, tourism can provide job opportunities for unskilled employees who find it difficult to obtain work in other industries, and so help to reduce income disparity. Winter and Kim (2021), using a capabilities technique found out that the growth of tourism in Brazil promotes the local economy in a variety of ways. They further advised that future research on how tourism affects local communities should address effects on capability and functioning in addition to household earnings. In principle, because it can accommodate a wide range of occupations from various industries and financial backgrounds, tourism has a high impact on income distribution (Zhang & Zhang, 2022).

However, in a different study conducted on Thailand's tourism sector, Wattanakuljarus and Coxhead (2008) discovered that increasing the inflow of demand for tourism increases the overall income of households while worsening the uneven distribution of income. This is because the country's tourism industry is capital-intensive and primarily increased foreign tourism demand has general equilibrium effects that reduce earnings in tradeable industries like the agricultural sector, which provide the poor with a significant portion of revenue. A different field of academic research contends that the local populations do not benefit socioeconomically from increased tourism. This point of view claims that since foreign investment firms dominate the

majority of the tourism industry, tourism does not help to improve wealth inequality in less developed countries (Mbaiwa, 2017). Furthermore, in the findings of Athari et al. (2021), tourism was not beneficial to the local economy because of the real currency rate appreciation, price hikes, and associated losses in other local industries that accrue from foreign tourist receipts. The findings demonstrated that increased conversion and inflation rates, correspondingly, have beneficial and adverse impacts on foreign tourist flows. Wang and Tziamalis (2023) also found out that the income gap in a country can be affected unevenly by the rise of tourism. Following the distribution of wealth, the rise of tourism reduces income disparity in regimes of weaker economic progress but may increase it in regimes of higher prosperity. Similarly, Alam and Paramati (2016) studied how tourism affected income disparity in less developed nations. Employing a balanced panel data sample covering 49 developing nations worldwide from 1991 to 2012, the findings revealed that tourism greatly widens the income gap. Ghosh and Mitra (2021) also concluded that income from tourist receipts has different effects on individual countries' economic groups, highly developed, developed, and developing countries. The income from tourism has no impact on the most advanced nations' inequality indices. This is demonstrated via how income disparities and tourism are related; industrialized nations exhibit a Kuznets curve behavior. When comparing tourism revenue and income disparity, emerging economies show an upside-down Kuznets curve behavior.

2.2.3 Democracy and income inequality

While some recent studies provide mixed results about the role democracy has on income inequality, the consensus on the economic effects of democracy is still understudied. Some research findings, such as those by Scheve and Stasavage (2012), Mulligan et al. (2004), and Friedman (1962), find minimal evidence of a democratic impact on inequality, while other scholars, like Acemoglu et al. (2013), fail to identify significant effects. Once more, certain study results (Acemoglu and Robinson 2008) suggest that inequality rises at first after democratization before it declines. Acemoglu et al. (2019) analyze the effect of democracy over the past five decades on growth using a sample of nations from 1960 to 2010. According to the research, democracy has a positive impact on economic growth. Their computations reveal that the transition from non-democracy to democratization will have a growth rate that is 20 percent higher in two decades than a nation that does not. Similarly, Islam (2016) examined data from 83 nations applying the GMM approach; the findings indicate that democracy lowers inequality between nations. After democratization, the overall influence develops gradually over a lengthy period of roughly twenty-five years. A compelling conclusion is the fact that only within democracies, and not in other countries, can democracy alleviate inequality. According to the research conducted by Hung et al. (2020b) on the bidirectional relationship between Vietnam's governance effectiveness, GDP growth, and income inequality from 2006 to 2017, findings indicated that the GDP growth rate can raise income inequality within provinces while also improving the quality of governance. Therefore, enhancing the quality of governance will not only support economic development but also help to lessen income disparity between regions. Similar observations were made by Hung (2021) who discovered that greater levels of democracy tend to lessen the beneficial effects of economic growth on income disparity. Knutsen (2015) contends, however that democracy lowers income inequality provided inequality is measured as a percentage of income spent on wages. Nevertheless, the

inequality indicator you use will have an impact on this effect as well. In this regard, democracy fails to decrease disparities in income among households.

3. Model specification, data and methodology

3.1 Model specification

To assess the moderation of democracy **in the tourism-income inequality linkage**, we follow the studies by Adeniyi et al. (2023) and Acemoglu et al (2015). However, our model differs from those two studies. The first study examines the influence of tourism on income inequality and fails to consider the role of democracy while the second study assesses the impact of democracy on income inequality without considering the economic characteristics. Considering these gaps, our model can be specified as follows:

$$IIE_{it} = \beta_0 + \beta_1 TOP_{it} + \beta_2 GDPpc_{it} + \beta_3 GDPpc_{it}^2 + \beta_4 FDI_{it} + \beta_5 FD_{it} + \beta_6 Demo_{it} + \beta_7 Tour_{it} + \beta_8 (Demo \times Tour)_{it} + \varepsilon_{it} \quad (1)$$

Where: IIE=income inequality which is Gini coefficient before tax and transfer (IIE1) and alternatively Gini coefficient post-tax and transfer (IIE2); TOP=trade openness which represents the sum of exports and imports over GDP; GDPpc=per capit gross domestic product; $GDPpc^2$ =square of per capit gross domestic product; FD=financial development which is domestic credit to private sector (%GDP); FDI=foreign direct investment as percent of GDP; Dem= democracy which is participatory democracy, electoral democracy, egalitarian democracy, liberal democracy, and deliberative democrac; Tour=tourism development which is international tourism receipts and aleternatively international tourist arrivals; $Demo \times Tour$ =interaction between democracy and tourism; ε_{it} is error term; t=2000-2020 (21); and i=26 African countries. The net effect of tourism on income inequality can deducted from equation 1 as follows:

$$\frac{\partial IIE_{it}}{\partial Tour_{it}} = \beta_7 + \beta_8 Demo_{it} \quad (2)$$

Where $Demo_{it}$ remains the mean value of democracy.

3.2 Justification of the control variables

Trade openness: We include trade openness in our equation beacause previous studies have posited that trade openness can influence income inequality (Dossou et al., 2023; Dossou et al., 2023; Xu et al., 2021). For example, through the Trickle-down hypothesis, trade openness can encourage job creation and improve income distribution (Xu et al., 2021). Moreover, Jain and Mohapatra (2023) have documented that trade openness has the power to increase market size, which by extension could improve economic growth. Similarly, the authors posited that increasing openness in trade could improve living standard, health and education outcomes. In the same vein, these arguments have been supported by the Stolper–Samuelson theorem and Heckscher-Ohlin model (Dzator et al., 2023). According to the authors, the unskilled could get income benefits from trade in developing countries. Conversely, another strand of literature has posited that trade can contribute to the exacerbation of income inequality (Ucal, Haug, & Bilgin, 2016).

Economic growth (GDP): It is important to consider economic growth in our model following the seminal work of Kuznets (1955) who stated that economic growth and

income inequality may have an inverted U-shaped relationship. Later studies have confirmed the Kuznets theory (Dossou et al., 2023; Dossou et al., 2023; Nguyen, Schinckus, Su, & Chong, 2021). However, another strand of literature has found a U-shape relationship between economic development and income inequality (Ofori et al., 2022).

Foreign direct investment (FDI): Empirical studies have argued that FDI can contribute to economic prosperity via the provision of opportunities which could help to improve social cohesion and foster social inclusion (Dossou et al., 2023). Accordingly, it has been established FDI has the capacity to transfer technology which plays a crucial role in hastening economic growth and generating employment as well as improving income distribution (Xu et al., 2021).

Financial development (FD): Finance studies have suggested that financial development has the power to influence income distribution (Abbas, Afshan, & Mustifa, 2022; Batuo, Guidi, & Mlambo, 2019). Based on this argument, many studies have assessed the nexus between financial development and the distribution of income (Hyeon, Joyce, Shu, & Lin, 2021). By assessing the empirical literature of the relationship between financial development and income inequality, de Haan and Sturm (2017) unveiled that the empirical evidence regarding the nexus between these two variables is mixed. On the one hand, Abbas et al. (2022) have argued that an organized financial system has the capacity to promote economic growth through amassing savings. Moreover, it has been revealed that a well-functioning financial sector can help to diversify risks which could play a crucial role in improving income distribution (Batuo et al., 2019). On the other hand, a strand of literature has shown an increasing impact of financial development on income inequality (de Haan & Sturm, 2017).

3.3 Data

This study uses the data of 23 African nations¹ from 2000 to 2020. Data regarding tourism indicators, financial development indicators, foreign direct investment, trade openness and economic growth were emanated from World Bank's World Development Indicators. Data on Gini coefficient before tax and transfer and Gini coefficient post-tax and transfer were collected from Standardized World Income Inequality Database (SWIID), while data on electoral democracy, deliberative democracy participatory democracy, liberal democracy, and egalitarian democracy were taken from Varieties of Democracy (V-Dem). It is important to note that Africa contains 54 countries. However, we consider 23 African economies due to data availability constraints.

3.4 Estimation strategy

With short time span and consistent with prior works that have investigated the influence of tourism on income inequality (Toyo Amegnonna Marcel Dossou et al., 2023; Fang, Gozgor, Paramati, & Wu, 2020), we evaluate the cross-sectional dependence test as it recommended by Pesaran (2004). As shown in Table 1A, all

¹ Benin, Botswana, Burkina Faso, Burundi, Central African Republic, Cote d'Ivoire, Egypt, Ethiopia, Ghana, Guinea, Kenya, Malawi, Mauritania, Morocco, Mozambique, Niger, Nigeria, Senegal, Sierra Leone, South Africa, Sudan, Uganda and Zimbabwe

variables are statistically significant, which indicates that there is a presence of a cross-sectional dependence among these countries. To account for the underlying cross-sectional dependence, the present study uses the PCSE estimation technique developed by Jönsson (2005) to investigate the moderation of democracy on the tourism-income inequality relationship. It is important to note that the PCSE estimation technique has been employed in recent years in the literature on tourism. For instance, the PCSE estimation technique has been employed by Xu et al. (2022) to examine the incidence of corruption on tourism. In the same, using the PCSE estimation technique, Dossou et al. (2021) and Dossou et al. (2023) have respectively, examined the moderation of governance quality on tourism-poverty nexus and the moderation of governance quality on tourism-income inequality. However, none of the prior studies has attempted to use the PCSE estimation technique to assess the moderating effect of democracy on the relationship between tourism and income inequality.

4 Empirical results

4.1 Descriptive statistics and correlation matrix

Tables 1 and 2 display respectively, the descriptive statistics and correlation matrix. The mean value of the Gini coefficient before tax and transfer and Gini coefficient post-tax and transfer are 3.806 and 3.875, respectively. Furthermore, the mean values of international tourist arrivals and international tourism receipts are 19.295 and 13.389, respectively. Moreover, the mean value of democracy (electoral democracy, liberative democracy, participatory democracy, deliberative democracy and egalitarian democracy) are 0.498, 0.365, 0.306, 0.406 and 0.340, respectively. The results have been supported by Figures 1, 2, and 3. Figure 1 shows the mean value of tourism and income inequality. Moreover, while Figure 2 shows the mean value of democracy, Figure 3 reveals the relationship between democracy and income inequality.

Table 1. Summary statistics

Variable	Mean	Std. Dev.	Min	Max
IIE1 (log)	3.806	0.1472	3.493	4.152
IIE2 (log)	3.875	0.157	3.552	4.282
International tourism receipts (log)	19.295	2.150	13.71015	23.380
International tourists arrivals (log)	13.389	1.658	7.972	16.531
Electoral democracy	0.498	0.194	0.115	0.849
Liberative democracy	0.365	0.186	0.022	0.731
Participatory democracy	0.306	0.126	0.058	0.585
Deliberative democracy	0.406	0.185	0.052	0.77
Egalitarian democracy	0.340	0.155	0.059	0.642
Trade openness (log)	3.956	0.604	-0.278	5.097
GDPpc (log)	8.024	0.864	6.446	10.39338
Foreign direct investment	4.101	8.613	-11.198	103.33
Financial development	21.963	25.823	1.603	142.422

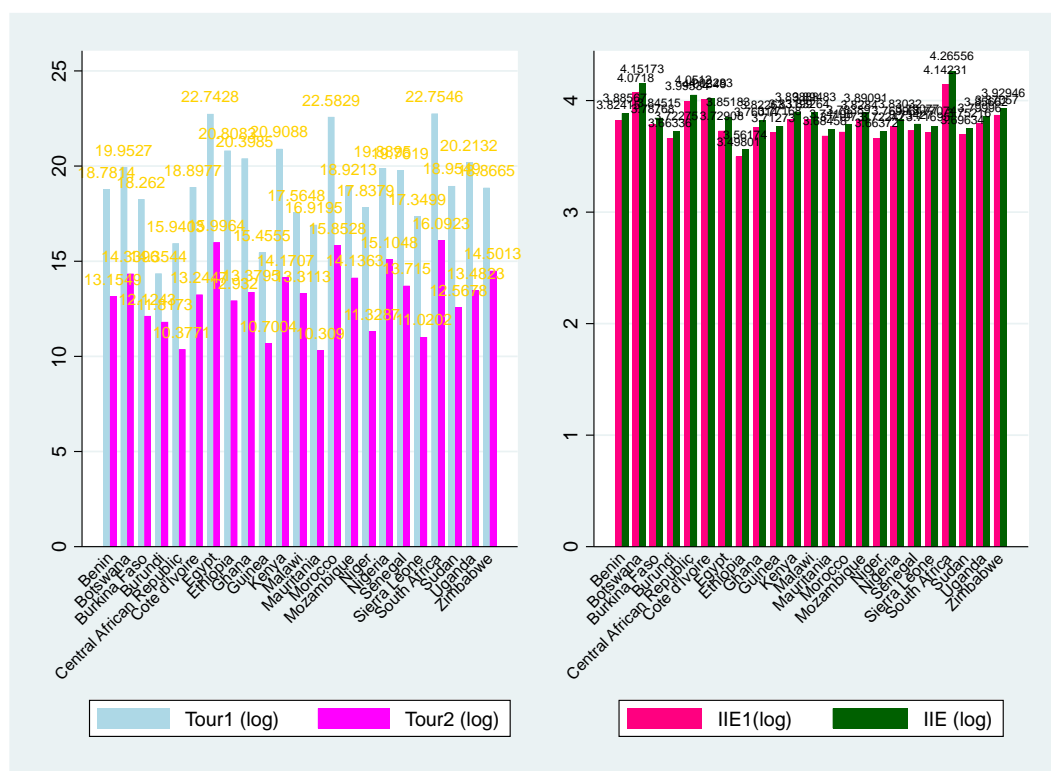


Figure 1. The trends of Tourism and income inequality in sub-Saharan Africa from 2000 to 2020

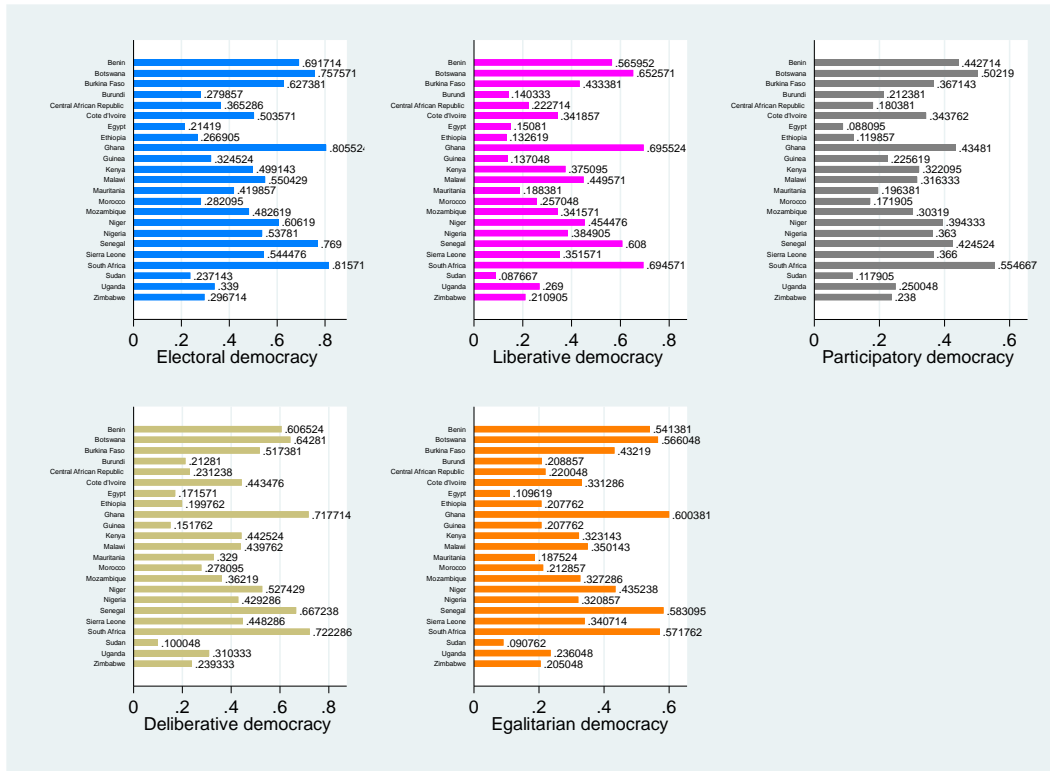


Figure 2. The trends of Democracy in sub-Saharan Africa from 2000 to 2020

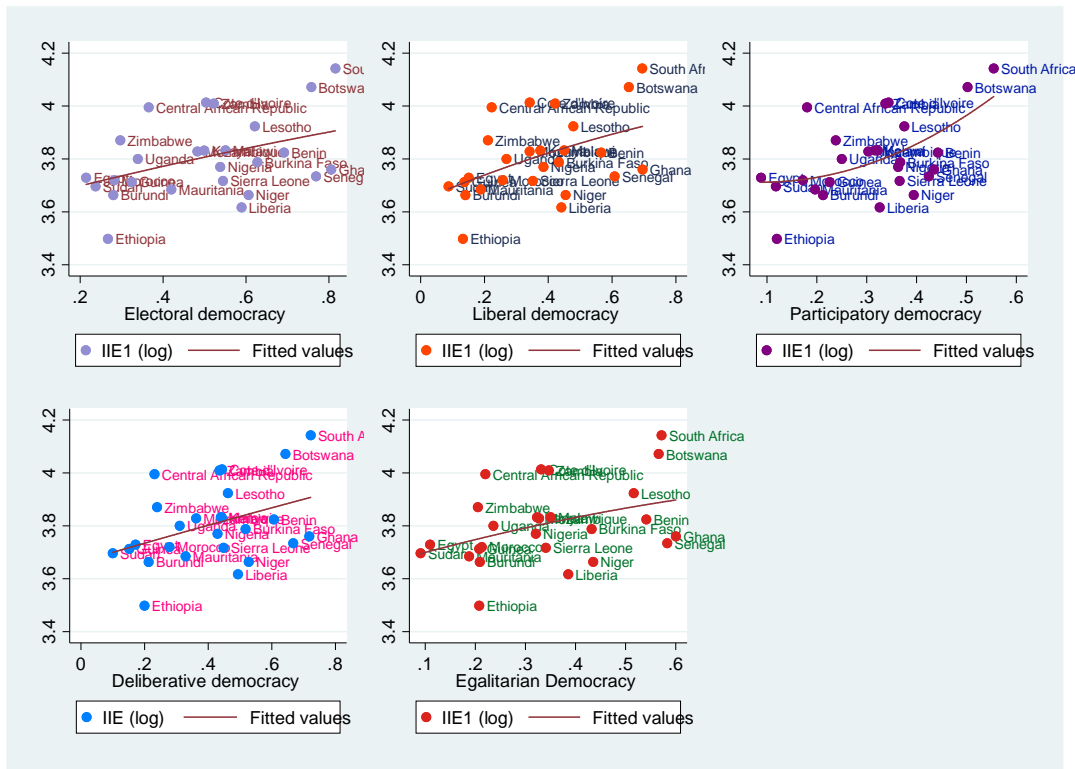


Figure 3. The relationship between democracy and income inequality in sub-Saharan Africa from 2000 to 2020

Table 2. Correlation matrix

	1	2	3	4	5	6	7	8	9	10	11	12	13
(1)IEE1 (log)	1												
(2)IEE2 (log)	0.986***	1											
(3)International tourism receipts (log)	0.329***	0.415***	1										
(4)International tourists arrivals (log)	0.300***	0.390***	0.863***	1									
(5)Electoral democracy	0.426***	0.412***	0.226***	0.140*	1								
(6)Liberative democracy	0.470***	0.467***	0.338***	0.243***	0.974***	1							
(7)Participatory democracy	0.499***	0.478***	0.188**	0.163*	0.955***	0.937***	1						
(8)Deliberative democracy	0.430***	0.419***	0.278***	0.191**	0.975***	0.984***	0.941***	1					
(9)Egalitarian democracy	0.401***	0.384***	0.175**	0.0981	0.982***	0.976***	0.943***	0.982***	1				
(10)Trade openness (log)	0.242***	0.232***	0.215**	0.203**	0.355***	0.398***	0.356***	0.377***	0.374***	1			
(11)GDPpc (log)	0.622***	0.675***	0.552***	0.431***	0.0375	0.132*	0.0227	0.0459	-0.00822	0.0735	1		
(12)Foreign direct investment	-0.0902	-0.0906	-0.0148	0.00567	-0.0142	-0.0213	-0.00921	-0.0580	-0.0150	0.362***	-0.189**	1	
(13)Financial development	0.568***	0.654***	0.627***	0.620***	0.266***	0.345***	0.327***	0.305***	0.242***	0.147*	0.505***	-0.0762	1

4.2 Tourism, Democracy and income inequality

The PCSE estimations are displayed in Table Table 3. Beginning with the control variables, the findings show that trade openness entails a positive and significant coefficient, meaning that trade in Africa engenders an increasing impact on income inequality. A similar outcome was found by Xu et al. (2021) who stipulated that trade in Africa is not diversified enough to contribute to the equalization of income. Our finding is consistent with the argument of Furusawa et al. (2020) who documented that import competition could contribute to worsening income inequality. Moreover, the authors argued that increasing import competition has contributed to income inequality by 16% from 1999 to 2009. This outcome is consistent with the argument of Stiglitz (1998) who postulated that trade may undermine income distribution due to disparities in returns to education and skills. Conversely, our finding is not in line with Asteriou et al. (2014) who documented that trade liberalization can improve income distribution through financial integration. Moreover, our result is not consistent with Stolper–Samuelson theorem which stipulated that trade may narrow income gap between the rich and the poor people in developing nations.

Considering the Kuznets hypothesis in our model, the results unveil that while economic growth improves income distribution, its square undermines income distribution. This implies that inequality in income and economic growth reflect a U-shaped relationship. The U-shaped found in this study is in line with Ofori et al. (2021) who have examined the influence of economic growth on income inequality using the Kuznets hypothesis in 48 African countries over the period 1996 – 2020. However, the U-shaped found in this study is not consistent with Kuznets (1955) and Nguyen et al. (2020) who establish an inverted U-shaped linkage between income inequality and economic growth.

Moreover, the negative effect of FDI found in this study means that as FDI inflows increase, income inequality decreases. The positive effect of FDI on income distribution found in this study is consistent with the recent report of the World Bank that pointed out FDI as an essential determinant of competitiveness and economic development.² Our findings are corroborated by Xu et al. (2021) who found that FDI enhances income distribution in Africa using the generalised method of moments (GMM) as an estimation technique. Similar outcome was found by Sarker (2020) who argued that FDI could promote industrialization and economic integration which by extension could improve economic growth and income distribution. This empirical evidence is consistent with the argument of Iddrisu et al. (2023) who posited that FDI can contribute to inequality and reduction through global value addition. Similar evidence was found by Xu et al. (2021) who posit that FDI can enhance income distribution through tax revenues.

The coefficient of financial development is negative and significant. It means that improving financial system in Africa can reduce income inequality. The positive effect of financial development on income distribution found in this study is in line with Peparah et al. (2019) who postulated that improving financial development could promote technological innovations which have been found to enhance economic growth and thereby improving social welfare and income distribution. However, our finding

² <https://blogs.worldbank.org/developmenttalk/elusive-link-between-fdi-and-economic-growth>

are not in line with Shi et al. (2020) who posited that the growth in financial development indicators seems to undermine income distribution.

Considering our variable of interest, the incidence of tourism on inequality in income is positive and statistically significant. This suggests that tourism undermines income distribution in Africa. This finding could be explained by several reasons. For instance, Alam and Paramati (2016) have elicited our findings by arguing that tourism propels local economic activities, while increasing economic growth undermines income distribution because greater economic growth appears to raise inflation. Moreover, our study is consistent with Akarsu (2021) in the perspective that the promotion of vertical integration by international tourism could decline the profit of local firms, which in turn can undermine income distribution. Further, Dossou et al. (2023) have argued that tourism can worsen income inequality through local currency depreciation. As explained by the authors, exports can be decreased by a high value exchange rate, which by extension, could negatively affect exporting companies' production. Our finding has also been explained by Dossou et al. (2023) who posited that the tourism sector can undermine income distribution due to the repatriation of the profits from the host country to the country of origin. Moreover, the unfavourable impact of tourism on income distribution could be explained by the domination of the tourism industry by multinational companies (MNCs) (economic leakage) (Paramati & Nguyen, 2022).

Table 3. The moderation role of democracy on the tourism-income inequality nexus (Dependent variable: Gini coefficient before tax and transfer)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Trade openness	0.0896*** (0.0116)	0.0959*** (0.0120)	0.0631*** (0.00843)	0.0599*** (0.00838)	0.0515*** (0.00725)	0.0668*** (0.00876)	0.0542*** (0.00792)	0.0817*** (0.0114)	0.0757*** (0.0108)	0.0794*** (0.0109)	0.0791*** (0.0105)	0.0746*** (0.0118)
Economic growth	-0.467*** (0.0492)	-0.349** (0.108)	-0.451*** (0.0530)	-0.456*** (0.0498)	-0.410*** (0.0591)	-0.467*** (0.0511)	-0.416*** (0.0509)	-0.360*** (0.0977)	-0.364*** (0.0961)	-0.341*** (0.0855)	-0.386*** (0.102)	-0.386*** (0.0938)
Square of economic growth	0.0327*** (0.00309)	0.0258*** (0.00662)	0.0319*** (0.00333)	0.0320*** (0.00314)	0.0298*** (0.00368)	0.0329*** (0.00322)	0.0300*** (0.00320)	0.0260*** (0.00604)	0.0261*** (0.00592)	0.0247*** (0.00525)	0.0275*** (0.00631)	0.0275*** (0.00579)
Foreign direct investment	-0.00408*** (0.00103)	-0.00218** (0.000774)	-0.00336*** (0.000945)	-0.00308*** (0.000896)	-0.00267** (0.000845)	-0.00319*** (0.000949)	-0.00273** (0.000856)	-0.00213** (0.000686)	-0.00209** (0.000722)	-0.00167** (0.000629)	-0.00173* (0.000732)	-0.00219** (0.000694)
Financial development	-0.00103*** (0.000130)	-0.00123*** (0.000227)	-0.000732*** (0.0000880)	0.000636*** (0.000106)	0.000439*** (0.0000811)	-0.000682*** (0.000101)	-0.000709*** (0.0000963)	-0.0000108 (0.000125)	-0.000150 (0.000133)	-0.000258* (0.000116)	-0.0000434 (0.000131)	-0.000120 (0.000138)
Tourism		0.00478*** (0.000)						0.0437*** (0.00487)	0.0318*** (0.00326)	0.0418*** (0.00407)	0.0348*** (0.00364)	0.0392*** (0.00431)
Electoral democracy			0.180*** (0.0138)					-1.414*** (0.160)				
Liberal democracy				0.203*** (0.0201)					-1.494*** (0.150)			
Participatory democracy					0.402*** (0.0206)					-2.231*** (0.209)		
Deliberative democracy						0.174*** (0.0145)					-1.419*** (0.155)	
Egalitarian democracy							0.245*** (0.0162)					-2.067*** (0.220)
Tourism × Electoral democracy								0.116*** (0.0105)				
Tourism × Liberal democracy									0.124*** (0.00994)			
Tourism × Participatory democracy										0.185*** (0.0137)		
Tourism × Deliberative democracy											0.118*** (0.0104)	
Tourism × Egalitarian democracy												0.167*** (0.0147)
Constant	5.067*** (0.180)	4.599*** (0.403)	5.009*** (0.207)	5.068*** (0.192)	4.831*** (0.241)	5.073*** (0.196)	4.895*** (0.196)	5.202*** (0.349)	5.102*** (0.360)	5.109*** (0.309)	5.208*** (0.380)	5.298*** (0.342)
Observations	316	271	316	316	316	316	316	271	271	271	271	271
R ²	0.488	0.518	0.545	0.551	0.603	0.535	0.555	0.650	0.635	0.703	0.629	0.656

Our finding reading on the positive effect of tourism on income inequality is in line with Dossou et al. (2023), Fang et al. (2020), and Alam and Paramati (2016).

The coefficient of democracy is positive and significant, implying that as democracy increases, income inequality also rises. This is not surprising given the fact that Africa continues to deal with autocratic tendencies which undermine economic growth and income distribution. Our finding is also consistent with the thought of Huntington (1968) who argues that political institutions are weak and fragile in developing countries. As such, it may undermine economic growth and income distribution. Similarly, our finding is in line with Drury et al. (2006) who posited that autocrats propel corruption which undermine economic growth and income distribution. Further, the authors argued that corruption distorts resources that promote productivity. In the same vein, the authors documented that as corruption is related to authoritarian regimes, its increase could lead to market distortion, which by extension, could contribute to increasing unemployment and worsening income inequality. Moreover, our finding contradicts the idea of Olson (1993) who postulated that democracy empowers citizens to evict politicians who generally undermine the economy.

Moreover, the empirical outcomes unveil that the coefficient interaction is positive and statistically significant. This means that democracy interacts tourism to worsen income inequality. This is not surprising in the light of the perspective that Africa continues to deal with an autocracy which undermines tourism development through corruption and political instability (Xu et al., 2022). As such, it could undermine economic growth and income distribution. As argued by the authors, autocracies are associated with poor policies for infrastructural development which undermine tourism development and therefore worsen income inequality. The computation of threshold is not necessary because positive synergies are apparent. This is essentially because democratic dynamics complements tourism to further undermine income distribution. In accordance with the relevant interactive regression literature, when positive unconditional and interactive or conditional effects have the same signs, synergy effects are apparent (Asongu & Nwachukwu, 2017; Asongu & Acha-Anyi, 2017).

4.3 Robustness check

The sensitive analysis has been done by replacing Gini coefficient before tax and transfer with the Gini coefficient after tax and transfer. The results reported in Table 4 are similar with the early results disclosed in Table 3.

Table 4. The moderation role of democracy on the tourism-income inequality nexus (Dependent variable: Gini coefficient after tax and transfer)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	loggini mkt	loggini mkt	loggini mkt	loggini mkt	loggini mkt	loggini mkt	loggini mkt	loggini mkt	loggini mkt	loggini mkt	loggini mkt	loggini mkt
Trade openness	0.104*** (0.0130)	0.113*** (0.0143)	0.0784*** (0.0106)	0.0748*** (0.0105)	0.0679*** (0.00998)	0.0832*** (0.0111)	0.0683*** (0.00992)	0.0995*** (0.0143)	0.0941*** (0.0138)	0.0982*** (0.0142)	0.0987*** (0.0138)	0.0907*** (0.0143)
Economic growth	-0.544*** (0.0506)	-0.481*** (0.0922)	-0.529*** (0.0525)	-0.533*** (0.0493)	-0.490*** (0.0558)	-0.544*** (0.0507)	-0.493*** (0.0499)	-0.491*** (0.0817)	-0.495*** (0.0809)	-0.473*** (0.0721)	-0.516*** (0.0874)	-0.514*** (0.0777)
Square of economic growth	0.0377*** (0.00314)	0.0341*** (0.00568)	0.0369*** (0.00325)	0.0370*** (0.00306)	0.0349*** (0.00344)	0.0378*** (0.00315)	0.0349*** (0.00310)	0.0343*** (0.00504)	0.0344*** (0.00498)	0.0331*** (0.00442)	0.0357*** (0.00538)	0.0357*** (0.00477)
Foreign direct investment	-0.00443*** (0.00109)	-0.00276*** (0.000770)	-0.00373*** (0.00102)	-0.00344*** (0.000964)	-0.00308*** (0.000921)	-0.00361*** (0.00103)	-0.00305*** (0.000922)	-0.00270*** (0.000760)	-0.00267*** (0.000785)	-0.00228** (0.000713)	-0.00238** (0.000800)	-0.00268*** (0.000769)
Financial development	0.00147*** (0.000152)	0.00142*** (0.000250)	0.00118*** (0.000116)	0.00107*** (0.000139)	0.000903*** (0.000109)	0.00115*** (0.000133)	0.00114*** (0.000126)	0.000222 (0.000196)	0.0000996 (0.000206)	0.0000113 (0.000195)	0.000201 (0.000200)	0.000143 (0.000214)
Tourism		0.000513 (0.00339)						0.0368*** (0.00486)	0.0253*** (0.00318)	0.0346*** (0.00425)	0.0288*** (0.00373)	0.0309*** (0.00410)
Electoral democracy			0.176*** (0.0152)					-1.354*** (0.171)				
Liberal democracy				0.201*** (0.0222)					-1.424*** (0.155)			
Participatory democracy					0.383*** (0.0233)					-2.123*** (0.238)		
Deliberative democracy						0.161*** (0.0167)					-1.397*** (0.165)	
Egalitarian democracy							0.249*** (0.0193)					-1.877*** (0.229)
Tourism × Electoral democracy								0.112*** (0.0115)				
Tourism × Liberal democracy									0.118*** (0.0104)			
Tourism × Participatory democracy										0.176*** (0.0159)		
Tourism × Deliberative democracy											0.115*** (0.0113)	
Tourism × Egalitarian democracy												0.153*** (0.0157)
Constant	5.364*** (0.189)	5.042*** (0.353)	5.308*** (0.208)	5.366*** (0.193)	5.139*** (0.231)	5.370*** (0.197)	5.189*** (0.195)	5.622*** (0.292)	5.523*** (0.307)	5.527*** (0.260)	5.635*** (0.327)	5.683*** (0.290)
Observations	316	271	316	316	316	316	316	271	271	271	271	271
R ²	0.574	0.603	0.621	0.628	0.665	0.609	0.634	0.707	0.693	0.742	0.686	0.711

5. Conclusions and policy recommendations

In recent years, income inequality has been worsened due to the health crisis which has undermined the effort to achieve the Sustainable Development Goals (SDGs) by 2030. Recently, a myriad of studies has assessed the tourism-income inequality-nexus. While many studies have found the positive influence of tourism on income inequality, another strand of literature has shown the negative impact of tourism on income inequality. Unfortunately, prior studies have largely ignored another important factor that may affect the positive impact of tourism on income inequality; this factor is democracy. To fill the gap in the tourism literature, this study examines the moderation of democracy on the tourism-income inequality nexus for a panel of 23 African economies over the period 2000-2020. The panel corrected standard errors (PCSE) estimation technique is used as an appropriate econometric method to achieve this goal. The results obtained from our study unveil that tourism and democracy unconditionally worsen income inequality. Moreover, the results reveal that the coefficient of interaction is positive and statistically significant, meaning that democracy complement tourism to further undermine income distribution.

The policy recommendations regarding the moderation of democracy on the tourism-income inequality linkage can be formulated as follows. First, democratic institutions must be improved in Africa in order to increase confidence of foreign investors in the tourism sectors. Such improvement can be made through promoting electoral system. Second, democratic system cannot help in limiting the unfavorable influence of tourism on income inequality. The unexpected findings are traceable to the perspective that the tourism sector in sampled countries is poorly managed for the most part and thus, the corresponding income from the sector is unevenly distributed and thus skewed more to the fraction of the population already enjoying comparatively higher levels of income. It follows that more stringent measures should be formulated and implemented in view of favoring a more equitable distribution of the fruits and income of the tourism industry. The fact that democratic institutions also promote income inequality can be traceable to the young nature of democratic institutions in Africa. Hence, such institutions need to be further consolidated in order for the anticipated theoretical benefits in terms of equitable income distribution to be achieved. It follows that more needs to be done to improve democratic standards in the sampled countries.

The study obviously has some room for extension, especially as it pertains to inviting other researchers to examine the moderating role of democracy on the tourism-income inequality linkage in Asia or Latin America. The suggestion is in view of assessing if income from the tourism sector in the corresponding continents is evenly distributed on the one hand and on the other, whether democratic institutions are strong enough to promote favorable income redistribution, especially as it pertains to moderating tourism to enhance income redistribution. Moreover, future research could investigate the moderation of democracy on the tourism-income inequality linkage in developed countries due to the large gap in terms of democratic institutions between developing and developed nations.

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Appendix

Table 1A. Cross-sectional Dependence test

Variables	Statistics	p-value
IIE1 (log)	6.746 ^{***}	0.000
IIE2 (log)	6.781 ^{***}	0.000
International tourism receipts (log)	4.891 ^{***}	0.000
International tourists arrivals (log)	5.325 ^{***}	0.000
Electoral democracy	6.644 ^{***}	0.000
Liberative democracy	6.6141 ^{***}	0.000
Participatory democracy	6.655 ^{***}	0.000
Deliberative democracy	6.609 ^{***}	0.000
Egalitarian democracy	6.689 ^{***}	0.000
Trade openness (log)	5.539 ^{***}	0.000
GDPpc (log)	6.752 ^{***}	0.000

Foreign direct investment	5.005 ^{***}	0.000
Financial development	4.980 ^{***}	0.000
