International Journal of Finance and Banking Research
2024, Vol. 10, No. 1, pp. 11-19
https://doi.org/10.11648/j.ijfbr.20241001.12

Research Article

Sustainable Finance and Economical Profitability in Africa

Ousmanou Alim*

Accounting, University of Buea, Buea, Cameroon

Abstract

African continent is facing a considerable demonstration of financial institutions and especially bank group which are dominating the banking environment. In the absence of developed financial markets, these bank organisations are at the centre of the economic activity. They are even the main financing source for companies, States, households and represent about 80% of African continent assets. This situation is encouraged by the organisational structure of those banks (subsidiary companies, representative offices, affiliated banks and branches) which permit a better representatively at the level of the continent. This research analyses the influence of sustainable finance principles on the economical profitability of 42 banking groups implanted in African continent between 2010 and 2020. Thus, data used are extracted from annual reports and were analysed through a time cross-sectional regression corrected for any latent heteroscedasticity and serial autocorrelation. At the end, the findings of this research are plural. firstly, green credits and transparency have a non-considerable impact on economical profitability. secondly, employee shareholding and gender diversity have a negative influence on economical profitability. thirdly, corporate environmental responsibility is negatively and highly correlated to bank economic profitability. Finally, philanthropy positively and highly affects economical profitability. One can therefore conclude that the profitability of sustainable finance is mitigated in Africa.

Keywords

Sustainable Finance, Economical Profitability, Bank Groups, Africa

1. Introduction

For decades now, many economic, social and environmental shortcomings are perceptible in the African continent development. In this vein, the Economic Commission for Africa reveals that the number of people living below the poverty line (which is 1.25 dollar in the USA per day) has increased from 350 to 505 million between 1990 and 2010 [10]. The ecological footprint of the continent has increased by 240% between 1961 and 2008. Megevand indicates that Africa has lost 4067000 hectares of forest every year between 1990 and 2000 and is now amongst those areas that are most vulnerable [23]. Finally, ratings by *transparency international* indicate that African countries are the most corrupted in the world [23].

If this situation is the proof of a necessity for sustainable development, it is more a manifestation of the emergency for a sustainable finance. In fact, finance is at the heart of development policies and more specifically in Africa where banks are at the centre of economic activity, because of undeveloped financial markets. This sector is attracting more investors, including cross border banks[1]. Those companies are controlling

1 According to Beck and al (2014), a cross border bank is a financial institution

*Corresponding author: alimousmanou18@yahoo.com (Ousmanou Alim)

Received: 14 May 2024; **Accepted:** 29 May 2024; **Published:** 26 June 2024

more than 70% of market shares, the finance market bottom line (banking, insurance, microfinance, leasing, etc.) and are making more profits than in the rest of the world [25].

According to Krüge, there is no unanimous definition of sustainable finance [19]. However, ideas are converging towards two key elements. On the one hand, it is a finance approach which has a long-term vision and where the notion of intergeneration equity is vital. On the other hand, sustainable finance tries to integrate in financial decisions social, environmental and corporate governance criteria. The last definition is at the heart of this study and can be assimilated in the literature as corporate societal responsibility of banks which has an established popularity nowadays. Therefore, one can notice that as soon as *Equator Principles* were implemented, 34 financial institutions decided to join this programme in order to establish social and environmental standards related to projects financing. Moreover, more than 200 organisations have ratified the *Banktrack network* (*Collevecchio Declaration on Financial Institutions*), which aims at monitoring financial sector operations and their effects on the society. Finally, the United Nations Environment Programme (UNEP) permitted a partnership with more than 200 financial institutions on the commitment in favour of sustainable development and environmental management.

Even if the notion of sustainable finance is so fascinating for financial institutions, it shall nonetheless be noticed that there is uncertainty on the economic opportunity of such banks activities. In fact, financial institutions such as bank groups are generally income producing entities subjected to profitability objective of invested assets by stakeholders. Worrell and al. indicate to this effect that this form of "financiarisation" lead to additional expenses and therefore, to the reduction of profits [40]. In addition, very few empirical studies are interested by this relation. Research works related to this are generally partial and not successful. Lastly, African sustainable finance is most of the time ignored in those works.

Thus, this research aim at analysing the influence of sustainable finance on the economic performance of bank groups operating on the African continent. Therefore, the continuation of this study is organised as follows: context of the study, theoretical framework, empirical review, research methodology, results obtained and conclusions.

2. Bank Groups and Development of Sustainable Finance in Africa

African continent is facing a considerable demonstration of financial institutions and especially bank group which are dominating the banking environment. In the absence of developed financial markets, these bank organisations are at the centre of the economic activity. They are even the main financing source for companies, States, households and represent about 80% of African continent assets [25]. This situation is encouraged by the organisational structure of those banks (subsidiary companies, representative offices, affiliated banks and branches) which permit a better representatively at the level of the continent. In this perspective, Beck and al. noticed that between 1995 and 2009, the number branches and subsidiaries of cross border banks has double moving from 120 to 227 [5]. At the individual level, these authors noticed that the presence of the Togolese bank group *Ecobank* increased from 11 to 32 African countries between 2000 and 2013. The Nigerian bank *United Bank for Africa* has reinforced its presence by moving from 1 country to 19 countries. The Moroccan group *Attijariwafa Bank* moved from 1 country to 12 countries, after the acquisition of some subsidiaries of the French bank *Crédit Agricole* in Africa. Lastly, the Moroccan bank *BMCE* moved from 2 countries to 18 countries during the same period due to the strategic acquisition of *Bank of Africa*.

In Africa, the development of sustainable finance is perceptible. Barmaki and Aitcheikh point to this effect that the continent has made significant progresses [4]. That expansion is stimulated by a real political will. In fact, many African countries including South Africa, Ethiopia, Kenya and Ghana have implemented initiatives aiming at promoting sustainable development modes. More than 30 African countries have adopted in 2010 the declaration of the pan African conference on biodiversity of Libreville, under the theme: " *Biodiversity and fight against poverty: which opportunities for Africa*? » Apart from that, the African Development Bank has implemented many programmes aiming at ensuring a sustainable growth on the continent.

In addition, the African bank sector is committed to issue Green Bonds with 1 billion of Dirhams after the COP 22 Conference. The continent is booming in green financial services (teller machines, online banking, mobile banking, etc.) in the sense of Azad and Samanlou [3]. There are many initiatives indicating the commitment of financial institutions to sustainable development (*Morocco Sustainable Energy Financing Facility*, *Climate Finance Day in Africa*, etc.). The South African bank *Standard Bank* is represented in the ranking *Global 100 Most Sustainable Corporations in the World* in 2013. The Beninese bank *Ecobank* has adopted the *Equator Principles* in 2012. It is member of UNEP and has adopted the *Global Reporting Initiative* (GRI) in 2011. Finally, the Agence Française de Développement for example has prepared a green financing line for *Standard Bank Mauritius*, *Banque des Mascareignes*, *Mauritius Commercial Bank* and *State Bank of Mauritius [1]*.

After a look on the literature, there are many and controversial motivations for sustainable finance.

2.1. Theoretical Framework of Sustainable Finance Inside Bank Organisations

In the doctrine, there is a debate on sustainable finance

with a commercial presence out of its country of origin through at least a branch or a subsidiary company. Throughout this research, expressions such as bank groups, multinational banks or bank holdings are used to refer to the same entity.

opportunity. According to the theory of signal, profitable banks are more interested by sustainable development in order to highlight the quality of their management, their performance and attract *in fine* more investors. Furthermore, agency theory justifies the development of sustainable finance principles, through the will for attenuating agency conflicts amongst bankers and responsible investors. For cognitivists, the acquisition of a specific knowledge capable of increasing bank performance justifies a sustainable commitment. However, Gadioux considers the legitimacy theory and the stakeholders' theory at the centre of responsible or sustainable banks activities [13].

In line with the legitimacy theory, banks within the framework of sustainable development act in accordance with societal values in return for acceptance of their product and/or survival [35]. Therefore, they can adopt a strategic approach which consists in taking into consideration legitimacy as an operational value which can be extracted from their environment by organisations and used for profitability purposes by them. In an institutional approach, banks consider sustainable finance as a set of beliefs which encourages some external appearance since a bad reputation can be equals to underachievement.

On the contrary, according to stakeholders' theory, the development of sustainable finance is the result of the will to integrate stakeholders' aspirations, which are more impregnated with *sustainable values*. In fact, this theory recognises the existence of any group or individual capable of affecting or being affected by the organisation's objectives achievement [12]. In this vein, the company is no longer only owned by the shareholders, but also by all stakeholders. As a result of pressure from stakeholders (States, employees, savers, etc.), banks are therefore adopting sustainable banking practices by fearing a bad reputation or a massive rejection of services.

Considering empirical works, a lack of consensus on the influence of sustainable finance on performance is relatively perceptible.

2.2. Sustainable Finance: A Controversial Banking Practice

In order to be in accordance with the definition of sustainable finance of Krüger, this study makes a distinction between environmental aspect (environmental responsibility and green credit), social aspect (philanthropy and gender diversity) as well as corporate governance (transparency and employee shareholding) [19].

2.2.1. Corporate Environmental Responsibility and Banks' Performance

Ecosystems preservation is related to banks activities and is concerning corporate environmental responsibility which is the obligation for bankers to take measures protecting the nature as well as their own interests. However, profitability of such ecological commitment is less certain by looking at the literature. Thus, Jo and al. have analysed the influence of corporate environmental responsibility on the performance of 4924 financial institutions in 29 countries between 2002 and 2011 [17]. After a panel data regression, they concluded that «ecological *charges*» increase in the long term the performance of financial institutions. Also, profitability of green technologies is observed at the end of the first or second year preceding the investment. In the same perspective, Azad and Samanlou have analysed the influence of 23 factors that could hamper the competitiveness of *green banks* in Tehran [3]. To that effect, they consulted 230 experts using questionnaires. Finally, they concluded that adoption of green procedures, online banking, mobile banking, green financial products, green bank loans and green strategies are positively and significantly correlated to competitiveness. In this light, one can mention works of Wahba in Egypt [37].

In Kenya, Sali Sheikh has studied the effect of green operations on the return on investment of 43 banks in April 2014 [33]. At the end of that study, he concluded that there is a positive but not significant relation between banks performance and green operations. A similar result was also obtained by Rajput and al. in India [31].

In another perspective, Hamilton shows that banks that disclose information about their carbon footprint and that control their level of pollution tend to be less profitable [15]. Worrell and al. show that there is a negative link between banks environmental responsibility and financial profitability [40]. In Bengladesh, Rahman and Barua noticed that there is a less performance of green banks [29]. They justify this fact with absence of qualified workers, less appropriate managerial knowledge, expenses related to the installation of ecological equipment and least importance given to environmental issues by bankers.

Based on precepts of legitimacy and stakeholders' theories as well as empirical works of Azad and Samanlou [3] and Wahba [37], one can assume that:

H_1: Environmental preservation improves banking performance.

H_2: Granting green loans permits a greater profitability of banks.

2.2.2. Social Commitment and Banking Performance

Recognising stakeholders leads to a support to the community. In the same perspective, banks are multiplying philanthropic activities in order to meet that requirement. Thus, Malik and Nadeem, using a sample of 8 Pakistani banks between 2008 and 2012, show that donations to the community, expenses related to employees' education, health care and philanthropic activities are positively correlated to the return on the capital invested, managerial efficiency, net earnings per share and net banking income [22]. In a similar position, Weshah and al. noticed that the amount of donations and philanthropic activities are positively and significantly related to banks performance in Jordan [39].

On the opposite perspective, Rahmawati and Putrid using a

sample of 26 firms for the period 2006-2008, revealed that there is no influence between banks social activities and net banking income [30]. A similar result is obtained by Soana using 21 international banks including 16 from Italy [34].

Nowadays, the integration of gender problems is essential in the management of companies. This issue is much more urgent in Africa where women are marginalised. Therefore, Wachudi and Mboya have analysed the influence of the gender approach on the performance of 32 Kenyan banks between 1998 and 2009 [36]. At the end of their study, they concluded that the female presence and the proportion of women in boards of directors are negatively related to performance. The negative influence of gender diversity on the performance has also been shown by Bohren and Strom in Norway [7].

Within the framework of banking management, Reniert and al. have analysed the influence of women leaders on the performance of 264 banks in Luxembourg between 1999 and 2013 [32]. They concluded at the end of their study that the proportion of women is positively and significantly correlated to banking profitability. In this light, feminists consider that women are more creative. They have better control skills and also make a good signal to stakeholders. Finally, analyses reveal that they are less likely to take banking risks than men.

In accordance with the theoretical framework (legitimacy theory and stakeholders' theory), one can assume that:

H_3: Philanthropy increases profit margins of banking organisations.

H_4: Gender diversity is favourable to banking performance.

2.2.3. Corporate Governance and Profitability of Banks

Requirement for transparency is vital in the banking sector as banks are the opaquest organisations ([24]). This requirement is generally met through a better information disclosure. However, researchers do not agree on the financial advantages of this practice. Therefore, Hossain has analysed information disclosure of 38 banks in 2004 [16]. At the end of his study, he showed that banking communication is negatively and significantly related to performance. In the same logic, Wallace and al. found that there is no significant relation between transparency and benefits [38].

However, Cerf has studied the quality of information disclosed in annual reports of 258 American companies, using an observation grid containing 34 items [9]. At the end, he concluded that publishing voluntarily information is positively correlated to profitability. A similar result was obtained by Raffournier in Switzerland [28].

In order to permit a better implication of workers in the company, a policy of employee shareholding is generally established. However, the influence of such practice on banking performance remains a debate. Therefore, Ben Bouheni has examined the influence of employee shareholding on the performance of three bank groups of France between 2005 and 2011 [6]. He exploited annual reports of those banks and a panel data regression. At the end of his analysis, he revealed that the proportion of capital attributed to employees is positively and significantly correlated to performance. A similar remark was made by Ginglinger and al. who noticed that the participation of employees in the capital and their representatives in the board of directors increase the profitability and the value of the company in France [14].

However, advantages of employee shareholding revealed by the literature, Livingston and Henry [21] as well as Faleye and al. show that employee shareholding policy is negatively related to profitability of companies [11].

Based on stakeholders' theory and legitimacy theory, one can assume that:

H_5: Banking transparency improves profitability of banks.

H_6: Employee shareholding increases the performance of banks.

3. Materials and Methods

The methodology used is basically hypothetical-deductive. It is based on a sample of 42 bank groups which are established on the African continent. These financial institutions are derived from the list of cross border banks presented by Beck and al [5]. In order to constitute a sample, the purposeful sampling method was used. Indeed, from a hundred of bank holdings listed, a sample of 42 multinational banks was selected based on the availability of information. The choice of those financial institutions is justified by the fact that they control African finance. In fact, they have more than 70% of market shares and represent about 80% of financial assets [25]. Moreover, their transnational and trans regional investments permit to make a continental research.

In order to ensure a good representatively at the level of the continent, this sample includes 3 banks from West Africa, 2 banks from Central Africa, 7 banks from the Maghreb, 8 Nigerian banks, 4 banks from East Africa, 3 Southern African banks, 7 South African banks and 8 Western banks with have a well-established presence in the banking sector [5]. This spatial distribution is inspired by works of Nyantaky and Sy on the convergence of banking regulations and practices in Africa [27].

Data on multinational banks are extracted from annual reports, collected between March and June 2023. These annual reports were downloaded on the website of those various banks. Concerning the study period, it is the decade 2010-2020. 2010 coincides with the launching of main sustainable development programs (Equator Principles, GRI, UNEP, etc.), while 2014 is referring to the availability of annual reports for most of the banks in the sample.

The dependent variable of this study is economical profitability. That means the assets used by the banker to generate profits. In this specific case, this variable is measured by the ratio between net income and total assets.

As far as independent variable is concerned, we have:

Environmental responsibility: This is the average of green

measures implemented by the bank in order to protect the nature. Besides, this method is encouraged by Li and al [20]. Thus, a list of 20 items, inspired by Canadian Bankers Association [8] and research of Sali Sheikh [33] in Kenya are used as reference. These measures are: the use of teleconferences; waste recycling; water consumption reduction; decreased energy consumption; reduction in the use of paper; implementation of online banking; the establishment of mobile banking; installation of teller machines; making socially responsible investments; implementation of a green savings plan; fight against pollution; environmental research; bank's carbon footprint evaluation; training of employees on nature protection; appointment of an environmental officer; definition of adopted environmental standards; environmental impact assessment of projects financed; categorisation of funded projects; field visits before financing some projects and consultation of third party reports after proposal.

Green credits: That is the proportion of bank credits granted to non-polluting investments. In accordance with Megevand, this concerns any credit granted to activities sectors other than agriculture, energy, mining, logging, chemical industry, transport, public works and civil engineering [23].

Philanthropy: with this variable, one can evaluate the level of commitment towards the community. It is measured using the napierian logarithm of the philanthropic investments value of the banking group.

Gender diversity: this variable is evaluated using the proportion of women in the multinational bank.

Bank transparency: in this case, transparency is assimilated to the level of information disclosure in annual reports. It is calculated through the 120 items of the observation grid of Zanga and a system of binary notation which took the value 1 if the information needed is published and the value 0 if not [41]. This grid is reliable from the Cronbach alpha (0.984) and inter items correlations (0,527) point of view.

The employee shareholding (X_6): It is the part of shares held by employees of the bank group.

The following table shows the synthesis of variables means.

Table 1. *Study's variables synthesis.*

Variables	Descriptions	Measures	Predicted signs	Sources
EP	Economical profitability	Net benefits / total assets		[6]
CER	Corporate environmental responsibility	Green measures average set up by the bank	+	[8, 20]
GC	Green credits	Proportion of credits granted to non-polluting investments	+	[8, 41]
BP	Bank philanthropist	*Ln* of the amount of charitable investments	+	[38]
GD	Gender diversity	Proportion of women in the bank	+	[8]
BT	Bank transparency	Extent of communication through annual reports	+	[41]
ES	The Employee shareholding	Part of capital hold by employees	+	[2, 14]

Source: Authors

The data processing was done through a panel data decreasing, in accordance with Li and al [20]. Thus, Fisher, Hausman and Breusch-Pagan tests respectively enable to detect common, fixed and random effects. In case of residual heteroscedasticity or errors autocorrelation, estimation by the method of generalised least squares or *White* is applied. The general model used is written as follows:

$$EP_{it} = \alpha_0 + \beta_i X_{it} + \varepsilon_{it} \quad (1)$$

$EP_{i\,t}$ = Economical profitability of the i bank group at the t period;

$X_{i\,t}$= The matrix of variables of the sustainable finance of the i bank group at the t period that includes:

1) Corporate environmental responsibility
2) Green credits
3) Bank philanthropist
4) Gender diversity
5) Bank transparency
6) Employee shareholding

α and β show the correlation coefficients;

ε is the remainder.

4. Results and Discussion

This part presents descriptive statistics (1) and main results (2).

4.1. Sustainable Finance and Economical Profitability in Africa

The following table summarises the descriptive statistics.

Table 2. *Synthesis of descriptive statistics.*

Variables	Average	Standard deviation	Maximum	Minimum
EP	0.023	0.097	1.870	-0.062
CER	0.351	0.264	0.95	0
GC	0.607	0.194	0.90	0
BP	7.558	0.994	11.95	4.485
GD	0.484	0.069	0.618	0.33
BT	0.59	0.264	0.96	0
ES	0.014	2.77	0.15	0

Source: Author

Table 2 shows the poor performance of the bank groups (Y=0.023). This observation can be generalised in case the standard deviation of that variable is strongly concentrated. This situation foresees a difficult economic context (subprime *crisis*, fall of oil prices, terrorist threats, etc.) that enables a poor profitability of bank organisations.

Relatively to the bank holdings' environmental responsibility level (ER), it is included a sub appropriation of *green managerial values* in the whole sample. In fact, the average of this variable is reliable and its standard deviation is concentrated. This statistic can be justified by a less developed statutory framework and the absence of a preservation culture of ecosystems in bank organisations. Also, it is noticed that the green credit average given by these organisations is high. It is a global tendency due to the fact that the standard deviation of this variable is reliable. This result raises awareness of the bank organisations to the urgency of environmental issues.

From a social stance, it should be noted that the philanthropy level of bank groups installed in Africa is disparate from the standard deviation. This shows the heterogeneous character of the banks of our sample (as far as the importance is concerned). Concerning the gender diversity within the multinational banks, it is satisfactory and close to the parity. This shows how banks raise awareness in consideration of women's discrimination.

The transparency level of cross border banks in Africa is satisfactory (59%). This tendency that can be generalised because the standard deviation is concentrated (0.265). This statistic can be justified by the coming of foreign investors that generally require most managerial transparency for a possible investment. In the same vein, it is noted workers have a small participation in the capital of holdings banks in Africa (1.4% average). This shows a low participation of employees in the management of bank organisations in Africa.

4.2. Plural Effect of Sustainable Finance on the Economical Profitability of Group Bank in Africa

The correlation matrix analysis of independent variables shows that all Pearson coefficients are below 0.7, as it is the limit where one generally begins to have a serious problem of multi-co-linearity ([18]). This therefore indicates the absence of multi-co-linearity between independent variables included in the model. Table 3 below present this result.

Table 3. *Correlation Matrix Analysis of independent variables.*

Variables	CER	GC	BP	GD	BT	ES
CER	1.000					
GC	0.0478	1.000				
BP	-0.051	-0.145	1.000			
GD	0.596	-0.206	-0.270	1.000		
BT	0.443	0.227	0.045	0.071	1.000	
ES	0.265	0.016	0.116	0.429	0.086	1.000

Source: Author

Concerning effects specification test, latent heteroscedasticity, serial autocorrelation, normality test and estimation method choice, table 4 summarises the main findings.

Table 4. *Main Result of preliminary Test.*

Items	Tests
Specification model test:	
Statistique F	0.642
signification	0.546
Breush-Pagan test-heteroscedasticity:	
Chi2(1)	4.45***
signification	0.035
Skewness/Kurtosis test of normality:	
Pr (skewness)	0.0145
Pr (kurtosis	0.0524
Adj Chi 2	0.456
Signification	0.6678

Items	Tests
Breush-Godfrey tests-serial autocorrelation:	
Chi2(1)	1.837
Signification	0,1134
Estimation Method	OLS corrected by White Method
Number of Observations	420

Source: Author

The results of table 4 show that the model implemented is a common effect model. Indeed, probability value of Fisher statistic is above the maximum level of significance 10% (0.546). This result may reflect a similarity of conformity of behavior in matters of sustainable finance in the face of the economic profitability of banking groups in Africa. Moreover, these results also show that this does not suffer the serial correlation problem and the normality problem, because the Breusch-Godfrey test is not statistically significant. Even the Skewness/Kurtosis test is not significant. But, there is latent heteroscedasticity problem, since the Breusch-Pagan test is significant at 5%, in the light of preliminary result obtained.

The model in equation (1) is a model of common effect, estimated by Ordinary Least Square method corrected by the robust of White. The analysis on table 5 documents a significant explanatory power with R^2 in the model. This is confirmed by significant F-value of 6.58. The R^2 value suggest that approximately 33.4% of the variation in the economic profitability of banking groups in Africa can be explained by the variation of whole set of independent variables. This model can be considered reliable. Moreover, the results of table 5 show that corporate environmental responsibility negatively and significantly affects the economic performance of cross border banks in Africa. This result is different from the first hypothesis and the theoretical framework (theory of stakeholders and legitimacy). It confirms Worrell and al. research in Switzerland [40]. This shows the financial expenses linked to the setup of ecological infrastructures, generally implies a reduction of beneficiary margins.

The econometrical analysis show that green credits positively affect, but not significantly the economical profitability of bank groups established in Africa. This mitigated result does not confirm the second hypothesis of this study and the theoretical framework. Nevertheless, the parallel can be done with research of Sali Sheikh in Kenya [33]. In the same position, Rahman and Barua notice that employees mostly are less qualified to grant green credits [29]. This lack of competence could justify the low performance of green credits in Africa.

It is observed that the bank philanthropy positively and significantly impacts the economic performance of bank holdings in Africa. A similar conclusion is done by Malik and Nadeem [22] in Pakistan, Weshah and al. in Jordan [39]. This result confirms our predictions (theoretical framework and third hypothesis). It is concluded that charitable activities of banks infer an improvement of *the reputational capital* and then the acceptation of bank services.

Analysis also shows that the gender diversity negatively influences the economical profitability of cross border banks in Africa. In that way, a refutation of the fourth hypothesis of this study is concluded, as well as precepts of the legitimacy and stakeholder's theories. In the literature, Bohren and Strom reached to the same conclusion in Norway [7]. In a similar stance, Wachudi and Mboya think that the mixture (men/women) does not facilitate the diffusion of information, create administrative slowness and conflicts [36]. Above that, women from their absenteeism increase companies' responsibilities and are generally appointed not on the basis of competence, but on the parity principles.

The table 5 shows that the transparency affects positively but not significantly the economic profitability of bank groups in Africa. This mitigated result is different from our predictions, but confirms the researches of Wallace and al. in Spain [38]. In order to justify this low performance, Zanga concludes that the bank transparency infers risks (over information, disinformation, etc. [41]. Then, it implies a reduction of banks power (more external control, less opportunism, etc.) In the same vein, it increases conflicts within organisations (behavioural means, equity problems, etc.). And it is an expensive activity that generates direct, legal and exclusive costs.

Finally, the result of table 5 notices that the employee shareholding negatively affects economic profitability of banking groups in Africa. This conclusion is contrary to the sixth hypothesis as well as the conceptual framework. this result can be explained by the low opening of capital to employees. in the sense that the work of Ngongang shows that the positive effect of employee shareholding on performance is explained by the degree of opening of the capital to employees, i.e. at least 5% of the capital [26]. Alim speaks of an average rate of 7% [2].

Table 5. *Effect of sustainable finance on the economic profitability of Banking groups in Africa.*

Variables	Model
Corporate environmental responsibility	-0.017** (-2.44)
Green credits	0.002 (0.27)
Bank philanthropist	0.043** (2.345)
Gender diversity	-0.013 (-0.59)
Bank Transparency	0.001 (0.09)
Employee Shareholding	-0.01 (-0.14)
constant	0.0234*** (3.456)
R^2	0.334***
R^2ajusted	0.234

Variables	Model
F-value	6.58
Significance	0.000
Notes:	t statistics are in parentheses.
*,**,***	Level of significance at 10%, 5% and 1% respectively
Dependent variable	Economical profitability

Source: author

5. Conclusions

In an African context where the need of sustainable development is notorious, this research analyses the influence of sustainable finance principles on the economical profitability of cross border banks in the African continent. Then, 42 bank groups are observed during the period 2010-2020. The data used are from annual reports and are analysed through the White method estimation.

Finally, the finding of this research is plural. Green credits and bank transparency do not impact significantly the economical profitability of these organisations. Then, the employee shareholding and the gender diversity negatively impact beneficiary margins of the banks. Moreover, the preservation of the environment is negatively and strongly correlated to the benefit of these companies. Finally, the bank philanthropy positively and significantly impacts the economic profitability of multinational banks.

All in all, this study concludes to a limited or mitigated profitability of the sustainable finance in Africa. To that effect, governments and banks should work harder to enable the profitability of this form of banking activities. Thus, the tax exemption or vulgarisation of green investments may be welcome. A bigger promotion of the gender diversity within banks might motivate women to sustainable practices. The reinforcement of the bank regulation might infer more transparency, just like the development of employee shareholding would encourage more workers to the sustainable development. This research should also integrate moderating, median and more explicative variables of the sustainable finance. The intergenerational aspects should be prioritised, just like regional and national analyses. Those developments are therefore considered as interesting research fields.

Abbreviations

BMCE	Banque Marocaine de Credit et D'epargne
BP	Bank Philanthropist
BT	Bank Transparency
CER	Corporate Environmental Responsibility
ES	Employee Shareholding
GC	Green Credits
GD	Gender Diversity
UBA	United Bank of Africa
UNEP	United Nations Environment Programme

Author Contributions

Ousmanou Alim is the sole author. The author read and approved the final manuscript.

Conflicts of Interest

The author declares no conflicts of interest.

References

[1] Agency, F. D. (2010). *AFD and Environmental Finance.* Research Document, Paris. Retrieved from www.afd.fr

[2] Alim, O. (2019). Employee ownership in companies in Cameroon: An instrument for creation of shareholders' wealth? *Journal of Participation and Employee Ownership, 2*(2), 93-114.

[3] Azad, N., & Samanlou, V. (2016). Identifying and ranking the affecting factors of the green banking on banks competitive market (state owned banks and private population of Teheran. *The Capitalism Sea Journal, 10*(16), 114-145.

[4] Bamarki, L., & Aitcheikh, D. (2014). Corporate social responsibility in Africa: A comparative approach (South Africa, Morocco, Senegal and Tunisia). Research File in Economics and Management: 3rd Number.

[5] Beck, T., Fuchs, M., Singer, D., & Witte, M. (2014). Cross-border banking activities serving Africa", research paper published by the Deutsche Gesellschaft für Internationale Zusammenarbeit. Berlin: Deutsche Gesellschaft Fur International Zusammenarbeit.

[6] Bohren, O., & Strom, R. (2005). *Aligned, informed and decisive: Characteristics of value creating boards.* Norwege: Norwegian School of Management.

[7] Bouheni, B. (2015). The impact of governance mechanisms on the performance of French banking groups. *Review of Management and Stractegic, 12*(2), 46-72.

[8] Canadian, B. A. (2014). *Banks and Environment.*

[9] Cerf, A. (1961). *Corporate reporting and investment decision s.* Berkeley: University of California.

[10] Economic, C. f. (2016). Towards green industrialization in Africa. Research Paper.

[11] Faleye, O., Methrotra, V., & Morck, R. (2006). When labor has a voice in corporate governance. *Journal of Financial and Quantitative Analysis, 41*(3), 196-200.

[12] Freeman, R. (1984). *Startegic management: a stakeholder approach.* New-York: Pitman Publishing Inc.

[13] Gadioux, S. (2010). What is a responsible Bank? Theoritical benchmarks, practices and perspectives. *Management et Avenir, 8*(38), 196-200.

[14] Ganlinger, E., Megginson, W., & Waxin , T. (2011). Employee ownership, board representation and corporate financial policies. *Journal of Corporate Finance, 17*, 185-210.

[15] Hamilton, J. (1995). Pollution as newa: media and stock market reactions to the toxic release inventory data. *Journal of ENvironmental Economics and Management, 28*(1), 98-113.

[16] Hossain, M. (2008). The extent of disclosure in annual reports of banking companies: The case of India. *European Journal of Scientific Research, 23*(4), 190-205.

[17] Jo, H., Hakkon , K., & Kwangwoo, P. (2015). Corporate Environmental Responsibility and firm performamce in the Financial Services sectors. *Journal of Business Ethics, 131*, 257-284.

[18] Kervin, J. B. (1992). *Methods for business research.* New-York: Harper Collins.

[19] Krüger , P. (2016). Sustainable finance and Switzerland. *La Vie Economique, 1*(2), 65-76.

[20] Li, J., Zhao, F., Chen, S., Jiang, W., Liu, T., & Shi, S. (2016). Gender diversity on boards and firms' environmental policy. *Business Strategy and the Environment*, 67-90.

[21] Livingston D, & Henry, J. (1980). The effects of employee stock ownership on corporate profits. *Journal of Risk and Insurance, 47*(3), 491-505.

[22] Malik, M., & Nadeem, M. (2014). Impact of corporate social responsibility on the financial performance of banks in Pakistan. *International Letters of Social and Humanistic Sciences, 21*, 9-19.

[23] Megevand, C. (2013). Deforestation dynamics in Congo Basing: Reconciling economic growth and forest protection. Washington D.C,: World Bank.

[24] Morgan , D. (2002). Rating banks: risk and uncertainty in an opaque industry. *American Economic Review, 92*(4), 187-210.

[25] NEPAD, O. (2009). *Africa: developing financial markets for growth and investment.* Working document of the ministerial meeting and the expert roundtable of the NEPAD-OECD initiative.

[26] Ngongang , D. (2013). Employee ownership , as a lever for creating added value and productiviy in cameroonian companies. *Review of Management and organisation, 5*(1), 1-8.

[27] Nyantaky, E., & Sy, M. (2015). The banking system in Africa: Keys facts and challenges. *Office of the Chief Economist, 10*, 56-78.

[28] Raffournier, B. (1995). The determinants of voluntary financial disclosure by Swiss Listed Companies. *The European Accounting Review, 4*(2), 196-200.

[29] Rahman, M., & Barua, S. (2016). The design and adoption of green banking framework of environment protection : Lessons from Banladesh. *Australian Journal of Sustainable Business and Society, 2*(1), 19-45.

[30] Rahmawati, M., & Putrid, S. (2011). Analysis of the effect of corporate social responsibility on financial performance with earnings management as moderating variable. *Journal of Modern Accounting and Auditing, 7*(10), 1034-1045.

[31] Rajput, N., Aurora, S., & Khanna, A. (2013). An empirical study of impact of environmental performance on financial performance in Indian Banking Sector. *International Journal of Business and Management Invention, 2*(9), 19-24.

[32] Reniert, R., Weigert, F., & Winnefeld, C. (2015). Does female management influence firm performance?Evidence from Luxembourg Bank. *Swis Institute of Banking and Finance, 1*, 18-29.

[33] Sali, S. A. (2014). Effect of green operations practices on financial performance of commercial bamks in Kenya. Nairobi: School of Business University of Nairobi.

[34] Soana, M. (2011). The reltionship between corporate social performance and corporate financial performance in the banking sector. *Journal of Business EThics, 104*, 133-148.

[35] Suchman, M. (1995). Managing legitimacy: strategic and institutional approaches. *Academy of Management review, 20*(3), 196-200.

[36] Wachudi , J., & Mboya , J. (2011). Effect of board gender diversity on the performance of commercial banks in Kenya. *European Scientific Journal, 8*(7), 128-148.

[37] Wahba, H. (2008). Exploring the moderating effect of financial performance on the relationship between corporate environmental responsibility and institutiona investor: Some Egyptian Evidence. *Corporate Social Responsibility and Environmental Management, 15*, 100-117.

[38] Wallace , R., Naser, K., & Mora, A. (1994). The relationship between the comprehensiveness of corporate annual report and firm characteristics in Spain. *Accounting and Business research, 25*(97), 118-137.

[39] Weshah, S., Dahiyat, A., Awwad, M., & Hajjat, E. (2012). The impact of adoption corporate social responsibility on corporate financial performance: Evidence for Jordanian Banks. *Interdisciplinary Journal of Contempory Research in Business, 10*(16), 86-100.

[40] Worell, D., Gilley, K., Davidson, D., & El-Jelly, A. (1995). When green turns to red: Stock Market Reaction to Announced Greening Activities. *Academy of Management Meeting*, (pp. 19-24). Vancouver.

[41] Zanga, P. (2015). Corporate governance and transparency of multinational banks in the Franc Zone. Doctoral thesis in Management Sciences. Soa: Univsersity of Yaounde 2.