

## Using Green Finance for Attaining Sustainability: A Comparative Study Of The Iraqi Private Banks

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**Abstract:** The economic growth of the current century calls for a rapid shift from the brown projects to green economy because of the environmental damage being caused by the depletion of the natural resources. It is time that banks must adopt green financing rapidly by assigning a big share for green projects. The current study aimed to investigate the green financing trend of the Iraqi private banks listed with Iraqi Stock Exchange Market. The investigation is quantitative in nature and sampled 15 private banks while purposively accessing them to collect data through green banking items disclosure. The data analysis showed three trends in green financing during the time period of 2018 – 2020 namely increasing, decreasing and unchanging. The study suggests that Iraqi private banks must increase their green finance so as to increase their share to green economy and attain sustainability.

**Keywords:** Green Finance, sustainability, Iraqi private banks, Iraqi Stock Exchange Market.

### I Introduction

In the 21<sup>st</sup> century, the world is exceedingly seeking economy growth to sustain the developmental process. To achieve this economic object, banks are vital financial institutions of a country because they provide consistent and ample financial support to realize the economic development (Elsinger, Lehar & Summer, 2006, p. 76). The financial resources of banks satiate a variety of financial needs to different sectors of a state while strategically supporting a government's economic plans for the state and its people. Banks are the financial hub that not only provide support to governmental plans and state projects but also fulfill public's various personal, business and financial needs by providing loans. This way, investment is also encouraged by effective loan packages to the state and private businesses.

Another significant financial pillar for a state, on the track of progress and economic growth, is a state's stock exchange markets (Levine & Zervos, 1996, p. 328). It is a financial hub where both resources and opportunities are provided to the clients using the financial surplus of the stakeholders. The financial markets invest economic resources by directing the cash flow and surplus towards economic units of a state. They provide the necessary financial help to the business projects that require support in the time of financial deficit, and the financial assistance is provided in a strategic and comprehensive financial environment. It is

the investment environment of the financial institutions that attracts local and foreign investors while playing a major role on realizing the state plans of steady economic growth.

An important benefit that a state and its public obtain from banks and stock exchange markets is that the financial and investment help of these institutions is not limited to any specific type of financial security. These financial hubs provide various kinds of securities and finances to assist the plans and projects of various natures. One of the modern financial types is green financing that banks and other financial center provide to a present generation keeping in view how actively the plans and projects will assist the coming generations. To elaborate, green finance is financial innovation that financial institutions like banks, stock exchange markets and financial companies are adopting as a means to provide financial assistance keeping in view the factor of environment for the present and future generations (Lindenberg, 2014, p.2). In this way, projects are aided while ensuring that banks operate in an environment that cares for climate, environmental protection, behaviours and management involving a concern for the future generations.

In post-war Iraq, economy requires a rapid and effective renewal however, the inclusion of green finance in the financial centers is slow. This is not surprising after a huge recession in Iraq's economic growth during the war from 2003-2011. It was a time when trade, industry and businesses underwent a decline and halted for 8 long years. On the other hand, the depletion of green environment due to the extensive use of the war weapons, made it essential for Iraqi government and public to brood over the lack of greenery and climate change. No surprise that it has never been more necessary for Iraq to attain sustainability through green finance. Sustainability is another significant issue in the present world, where financial disparity is rapidly increasing (Kim & Lin, 2011, p. 318). In this state of affairs, it is necessary for Iraqi banks to promote sustainability through green financing projects. However, the current progress of the Iraqi banks with regard to green finance and sustainability seems slow. The current study aimed to investigate the comparative progress of the Iraqi banks, listed in the stock exchange market, in using green finance and the relevant resources to attain sustainability. The study period of the current investigation is 2018-2020.

## **II Literature Review**

The present world is widely engaged with green banking that has become a modern and ethical notion in banking and other financial institutions (Bahl, 2012, p. 179). Iraq as well as other countries need to seek new dimension in projecting green financing to attain sustainability marking consistent growth in economy. Banks' resources with regard to green finance encourage the projects that involve reducing the climate and environment degradation along with providing the stakeholders with the required financial assistance. The rapidly changing climate due to environment unfriendly activities and natural calamities have diverted the attention of the financial institutions towards saving the environment directly or indirectly. Banks are vital entities in providing the resources, which can be utilized in introducing an increase in green projects. Green finance can be supplied in two ways, direct and indirect (Chen et al, 2018, p. 571). Through direct green financing, banks invest in purchasing green products and plans, starting green industrial projects and converting the current projects to environment-friendly projects through applying green strategies. The outcome is attaining sustainability through green finance. In indirect green financing, financial institutions assist the green projects so as to increase environment-friendly projects.

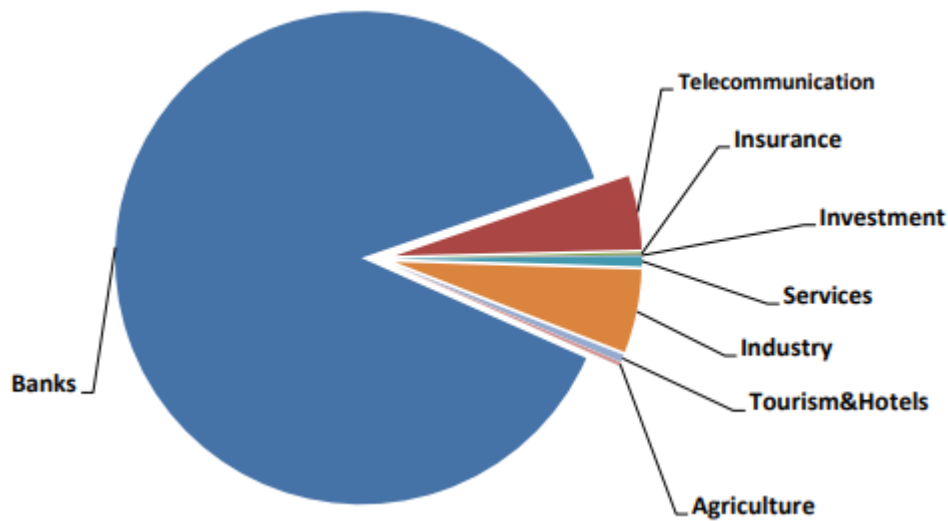
With regard to the annual report of Asian Development Bank on the role of the financial institutions in incurring green transformation through green investment, Lindenberg and Volz (2016, p. 3) state that the financial system in Asia largely requires rapid greening.

The report recommends rapid proliferation of green funding and projects on behalf of the financial institutions through sound investment. Sustainability attainment through green funding has become an emerging issue in the developing countries such as Iraq. However, the post-war Iraq is struggling to aid its green projects through green finance because the recessive economy requires effective monetary policies to remove hindrances in green investment (Looney, 2005, p. 4)

In a report of Arab Forum for Environment and Development Annual Conference, 2018, It is indicated that Arab countries including Iraq, need to pay urgent attention to identify the financial requirements and relevant gaps in green projects by viewing the available options and adopting effective mechanisms. The Arab countries need to enhance the role in attaining sustainable development by investing their bank resources in green industry, green projects and environment-friendly plans (Kandavel, 2013, p. 220). World Commission for Environment and Development in 1989, recommended to take immediate necessary action to reverse the unfavorable effects of depleting natural resources by sustaining bio-capacity (Nathaniel, 2021, p. 437). To do this, banking is the most significant means. Apart from the state banks, private banks also have to play a central role to urgently meet the environment needs by starting attain sustainability through green investing and booting green projects (Volz, 2018, p. 3).

Sustainable development is the need of the time because the global industrial development, along with lending global progress, has also incurred its side effects on the global environment depleting natural resources. Moreover, the rapid transformation in the global economy has created a fierce competition among the countries of the world. This state of affairs requires a rapid shift from polluting projects to using banks' resources in green projects without damaging the existing of the future generations on the earth. Arab financial Institutions and the forums for financing for development and investments in the Arab world recommend not to neglect complex societal issues while economically progressing because economy overlaps with political strategies, demographic profiles, legal policies and climatic issues (Ridolfo, 2001, p. 916).

The Republic of Iraq has become evidently interested in raising awareness of green investment through starting several green projects aimed to achieve sustainable growth through Iraqi banks' green investment. The legal policies are relevantly set up and have started working on shifting the financial institutions' attention towards the exercising control over climate-unfriendly projects. The Iraqi environmental policy of 2005 has, its regulations, ensured that it will work to protect the environment from depletion and degradation even if it has to work with the regional governates that are not associated with Iraqi territory (Sacca, Markham & Fares, 2020, p. 101). It is notable that due to huge projects of Iraqi oil industry, which is the major pillar of Iraqi economic growth accounting to 96% of the overall economic growth, has also played a significant role in depleting Iraqi natural resources (Squalli, 2007, p. 1201). Apart from the environmental pollution in Iraq, it is notable that by 2030, the Iraqi population is expected to increase by 3% from 2.66%. This calls for an urgent action for the Iraqi financial markets and banks to consider catalyzed green financing to attain sustainable development through green finance (Keulertz & Woertz, 2015, p. 319). For Iraq, it is all the more necessary to adopt green financing in its banks because Iraqi banks are the largest entity in Iraqi Stock Exchange Market. Figure 1 shows how Iraqi banks are linked to this Financial Market more than any other companies:



**Figure 1** Banks in Iraqi Stock Exchange Market (2014)

Source: Iraqi Stock Exchange Cited in Ali (2019, p. 51)

Green financing links a state's financial markets with the state's banks. For this activity, a sophisticated and an effective banking system is required. However, Iraqi banking system and their orientation towards green financing is underdeveloped (Volz, 2018, p. 3). Its progress is slow because of the unresponsiveness to the modern technology adoption, obsolete administrative strategies and ineffective customer service. A few indicators show that Iraqi banks are currently incapable of keeping up with modern banking system requirements. The most significant of these indicators is the rise in dubious debts that in 2015, amounted to 3079.7 billion IQD. The credit default rate, due to this financial burden on stability, touched 67.1% (Abed, Sultan & Naser, 2020, p. 1054). Keeping current situation and global requirements in view, Iraqi banks, particularly listed in the Iraqi Stock Exchange Market, need to take immediate measures to promote green financing so as to attain sustainable development. The current study aimed to fill in the gap present in the research with regard to promoting green banking proliferation concepts in order to attain sustainability, in Iraqi private banks.

Mohammad, B. (2018). Sustainable local development and small and medium enterprises, Arab Planning Institute, 141st Issue, Kuwait.

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Though the theoretical development of green finance can be traced back in 1970s, Germany was the first country, which set up the first Eco Bank in 1974 that offered green loans (Jiang et al., 2020, p. 5). Green financing theoretically embeds the following products in banking:

- a. Environmental services
- b. Increased Funding for green projects
- c. Reduce funding for unclean projects
- d. Funding for new job opportunities in green sectors
- e. Consideration for green banking in using resources
- f. Redrafting the infrastructure while increasing the share of green demands
- g. Replacing the traditional harmful technology through funding green technology

Keeping in view the above issues, there is an array of several theoretical considerations, which are used to compare banks progress with regard to green financing during different times.

### III Hypothesis

**H1:** The private banks listed in Iraqi Stock Exchange Market list have increased green financing in the time period from 2018 to 2020.

### IV Method

The research method of the current investigation is listed below:

#### a. Research Approach

The current investigation adopted a quantitative research approach. This approach was found suitable because the investigations involving largely quantitative data pertaining to finance and banking usually rely on quantitative paradigms of investigations (Sanadada & Kanhukamwe, 2016, p. 90). The data collected from the approached banks was quantitative in nature because the objective of the study was to compare the progress of banks with regard to green financing. To answer the research objective, it was required of the research to investigate within quantitative research paradigm and adopt the relevant methodology.

#### b. Samples

The samples of the current study were 15 private banks in Iraq, which were listed with the Iraqi Stock Exchange market. The purposive sampling was performed because the banks were selected on the basis of their involvement in the economy with regard to green finance. The researchers accessed the secondary data of these banks without any ethical research violation.

#### c. Time Duration

The data of the Iraqi private banks was ethically accessed for the current investigation. The listed banks were accessed for their data from the time period of 2018 and 2020. With the increased concern about environment, it was expected that during this time, the concern about green financing will also increase.

#### d. The Analytical Formula

Investment analysis of the green finance is a significant step in unrolling banks' diachronically comparative activity with regard to their green investment. Iraqi Stock Market (ISX) evidently slowed down during the time period of 2018 – 2020. However, this was exactly the time when due to COVID pandemic, the concerns about green financing rose up around the world to put in efforts to make the globe more habitable than the specified time period. To the participants' green investment, Green Banking Index (GBI) was used, the indicator formula of which is:

$$GDB = \sum_{i=1}^n di$$

where GDB= Disclosure of Green Banking, and  $di = 1$  or  $0$ , and  $n =$  the expected number of the disclosed items.

This formula was applied because the current study proxied green banking by Green Banking Index (GBI). Mehedi et al. (2017, p. 2) discuss the factors instrumental to measuring green finance, encompassing the indicators that can report

a financial institution's green financing. These green finance indicators are enlisted below:

- i. Training and education about environmental awareness
- ii. Environment-based performance evaluation
- iii. Reward system based on the environment
- iv. Paper-saving work
- v. Using energy-saving gadgets
- vi. Recycling
- vii. Eco banking
- viii. Green loaning
- ix. Financing green projects
- x. Facilitating green enterprises
- xi. Evaluating credit based on the environment
- xii. Managing green branches
- xiii. Green policies
- xiv. Green partnerships
- xv. Green planning
- xvi. Green procurements

This measurement of above indicators is performed on the basis of disclosure of the items. If a bank discloses any of the above indicators, it is given a score of 1, and in any case otherwise, it is given a score of zero (0). The disclosed item number(s) is/are then compared with the expected value of the disclosed items number(s).

## V Data Analysis

The obtained data were analyzed by SPSS, and the banks were grouped into three categories in which the first category pertained to those banks in which there was an increase per annum in green financing from 2018 to 2020. The second category was of the banks who slumped their green financing per annum from 2018 to 2020. The third category of the banks whose green financing remained almost unchanged. The categorization was performed by calculating the means of the banks' green financing disclosures. Table 1 shows the data of the first category of banks:

**Table 1**  
*Banks with Increasing Green Banking during 2018 – 2020*

Year	Green Financing Value
2018	.86500
2019	.86500
2020	.92740

(created by the researcher)

Table 1 presents the year-wise green financing values of the category of banks whose per annum green finance values showed an increasing trend. In this category, in 2018, the green financing was .86500; in 2019, the green financing was .86500 whereas in 2020, the green financing value .92740. This shows that after remaining unchanged in 2018 and 2019, the green financing increased by 0.0624. Figure 2 shows this increase in the banks' green finance through the increasing linear trend-line.



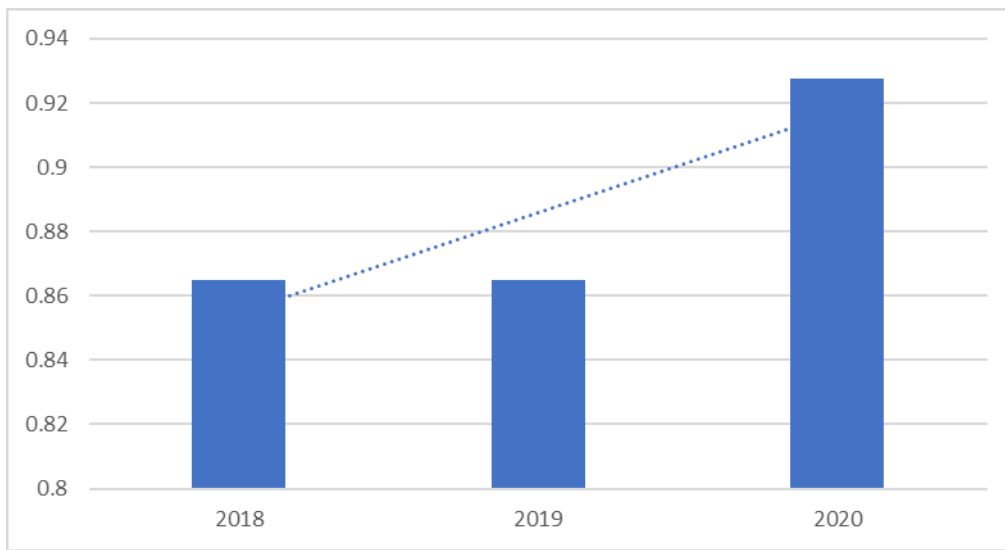


Figure 2 Increasing Green Finance (2018-2020)  
(created by the researcher)

Table 2 below shows the data for the second category of the banks:

**Table 2**  
*Banks with Decreasing Green Banking during 2018 – 2020*

Year	Green Financing Value
2018	.80016
2019	.86500
2020	.74100

(created by the researcher)

Table 2 shows the per annum green financing values of the category of banks whose green financing decreased in the time period of 2018 -2020. In 2018, the green financing value was .80016; in 2019, the green financing value was .86500 whereas in 2020, the green financing value was .74100. This implies that after increasing by 0.0648 from 2018 to 2019, it decreased by 0.124. Figure 3 shows this decrease through a slumping linear trend-line.

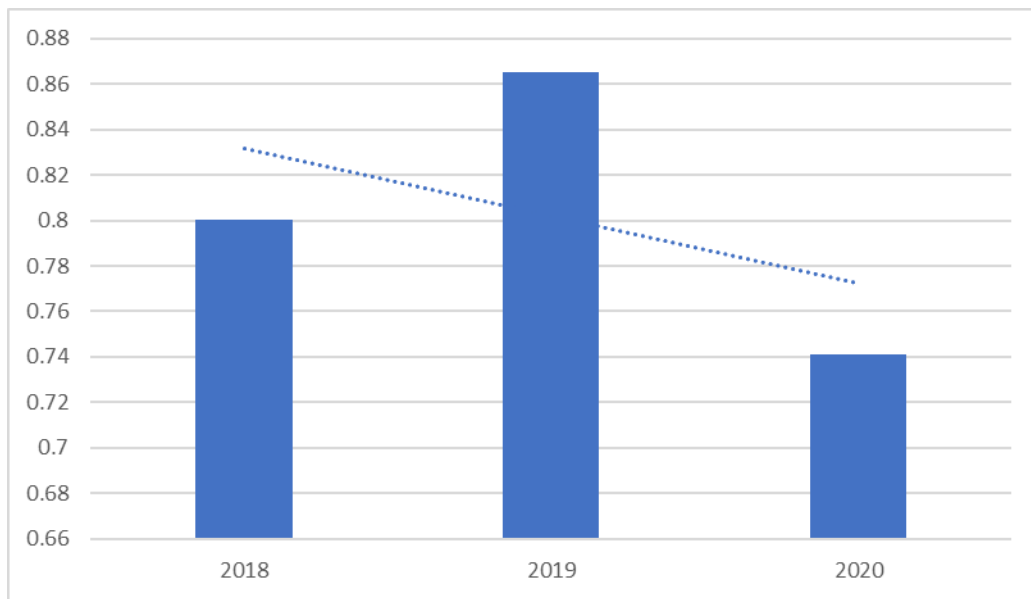


Figure 3 Decreasing Green Financing (created by the researcher)

Table 3 shows the data for the third category of the banks:

**Table 3**

*Banks with Decreasing Green Banking during 2018 – 2020*

Year	Green Financing Value
2018	.64620
2019	.86500
2020	.86500

(created by the researcher)

Table 3 shows the green financing trend of the category of banks that showed no significant change from 2018 – 2020. The green financing value of this category in 2018 was .64620; in 2019, the green financing value was .86500 whereas it remained unchanged in 2020. This implies that from 2018 to 2019, the green financing increased by .2188 whereas from 2019 to 2020, the increase was zero. Figure 4 shows this unchanged green financing status through two unchanged columns.



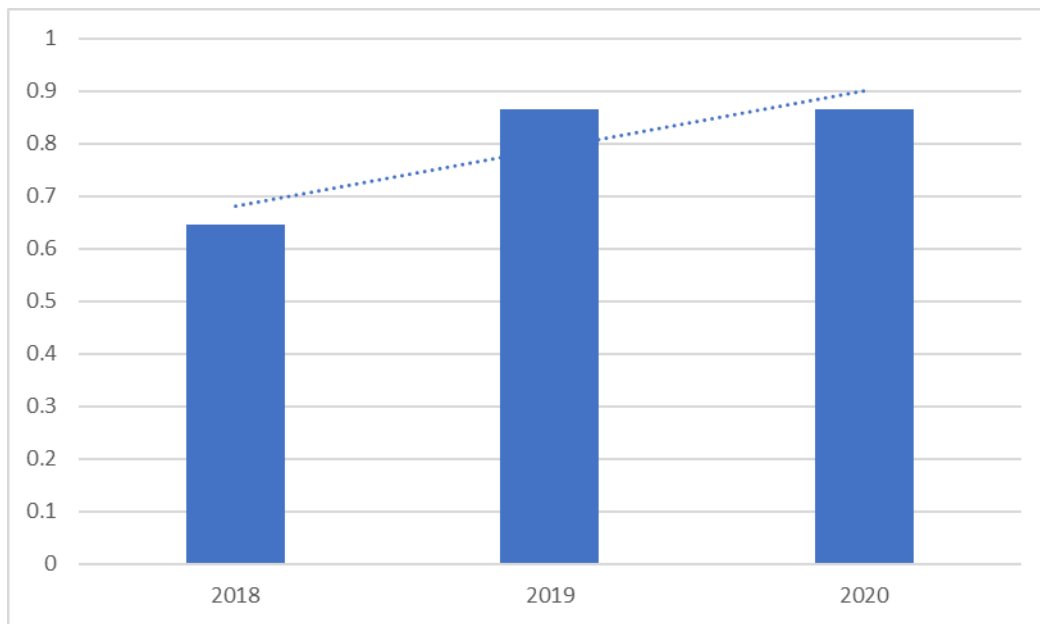


Figure 4 Unchanging Green Financing  
(created by the researcher)

## VI Discussion

The comparative analysis of the participant banks shows that Iraqi banks started to incur green financing in their operations during the years of the current study, namely 2018 – 2020. However, there have been three trends in financing green projects. The data analysis, through the green financing values (the indexes) shows that one category of banks, listed with Iraqi Stock Exchange Market, seems to have implemented green financing using strategic proliferation because it showed an increasing trend of green-financing the projects. On the other hand, the second category of the listed banks showed decreasing green financing, which implies that the banks require to raise both their profitability and green financing share for the clients. Karyani and Obrien (2020, p. 223) investigated the link between green banking and bank profitability, and concluded that by adopting green banking, the profitability may face a slump, however, it increases the bank value. On the other hand, Rachman (2021, p. 481) concluded that green financing has a positive effect on bank profitability.

Keeping the rapid climate change and polluted environment around the globe, ethical banking must be the part of every state. Iraqi banks, however, have shown more decrease in green financing during 2018- 2020 than increase. Furthermore, the huge oil businesses in Iraq require that the banks follow green economy and green finance even quicker than ever before. The carbon emission during the oil refining and other similar activities makes it extremely necessary for Iraq to raise awareness in green financing while increasing the bank resources devoted for it.

There are certain factors that may pose a challenge to adopting and increasing green finance in Iraq. The significant factor is lack of awareness and training with regard to the impact of green finance on credit and profitability. Most of the banks adhere to the traditional view about profit and loss. They lack the readiness to identify the financial implications of the environmental risk factors. Furthermore, a lack of skills that can help internalize the environmental externalities, is affecting the growth of green financing in Iraqi banks. These externalities may cause an inclination to perform more brown activities and fund brown projects than financing green projects. However, there are other factors also which may affect

the growth of green finance. This is the high time when Iraq must catalyze green banking at large.

## VII Conclusions

1. Green financing is a modern and valuable trend that banking is rapidly adopting to avoid environmental distress.
2. The cost of the 21<sup>st</sup> century development is reflected in the global environmental condition, which is dissatisfactory and polluted. It required banks to rapidly adopt green financing and keep in their financial resources a palpable share for green financing.
3. Iraqi private banks during the time period of 2018 – 2020 have shown three kinds of green financing trends namely increasing, decreasing and unchanging. 4
4. The increase in green financing is slow less than desirable. It is the high time that Iraq must focus on green and ethical banking to achieve sustainable development.

## VIII Recommendations

Keeping in view certain conclusions, the current study recommends that:

1. The banking sector in Iraq is provided direct and crash awareness as to why green financing is necessary to survive in the 21<sup>st</sup> century. In Iraq, it is all the more important to boost green projects because Iraq's main dealing in the world's business is in oil. On this basis, Iraq needs immediate research on green banking awareness programs.
2. Iraqi banking and finance studies must investigate as to why Iraqi banks, both private and public, are slow in adopting green banking and climate-saving projects.
3. There should be further investigation on public banking and their contribution in green finance. The current study investigated private banks and their adoption of green finance.

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