

# Construction of Transparency and Disclosure Index for Commercial Banks in Vietnam

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This study proposes a composite index to measure the transparency and disclosure practices of commercial banks in Vietnam. The index is developed based on the measurement framework of previous scholars at the Bank of England and the World Bank, as well as the binding rules and regulations of disclosure in Vietnam. In this study, the proposed composite index consists of four factors with 40 items. After developing the index, the researcher uses the data of 28 commercial banks in the Vietnamese commercial banking system to calculate the index for each bank in the period of 2006 to 2018. Results indicated that the transparency and disclosure practices of Vietnamese commercial banks have significantly improved over the period of 2006-2018. Particularly, those that have above-industry-average index of transparency and disclosure are usually listed banks with substantial capital and assets, with the participation of foreign investors in the shareholder structure.

**Key words:** *Transparency, disclosure, corporate governance, index, Vietnam*

**JEL Classifications:** G21, G28, D82

## 1. Introduction

Disclosure is of utmost importance to institutional and individual investors. Not only will timely and complete disclosure of information improve the organisations' transparency but also serves as determinants of behaviours and actions of investors. Transparency and disclosure, notably, is not only the legal obligation but also the rights of the organisations in enhancing their reputation and image in the market, hence increased organisation value.

In terms of comparison, disclosure is of much significance to banking organisations more than other non-financial ones. There exist differences where the size of tangible assets of the banks is relatively small compared to the total assets, and investors mainly assess their operational performance and assets quality based on the bank disclosure of information. However, the general accounting data failed to provide sufficient information for the public, since the most important ones are usually contained in reports related to income and expense, or assets quality. For instance, this information can be used by investors to make analysis and evaluation of sustainability of income sources or significant expenses. Therefore, it is vital to develop a composite index based on standardised criteria of disclosure, aiming to measure the banking transparency and disclosure practices. There have been several studies conducted by not only researchers and international standards-setting bodies, such as the International Accounting Standards Board and the Basel Committee, but also regulatory agencies in countries, to standardise the banks' financial statements and to compare their quality of disclosure, including but not limited to studies of Baumann & Nier (2003), Huang (2006), Douissa (2011).

Transparency and disclosure of information in finance and banking industry is an indispensable requirement in the process of international economic integration, which serve as a basis for promoting the sustainable development of the market in Vietnam. Since 2006, with Vietnam's accession to the World Trade Organization (WTO), the transparency and disclosure of information practices in the financial system has improved significantly in the country. However, several limitations still exist regarding the information transparency in Vietnamese commercial banks. In detail, violations of this matter are acted frequently, in which some has been handled by Government agencies but still failed to bring deterrent effects and improve the situation by not being strong and harsh enough. Therefore, to specifically identify weaknesses, it is extremely necessary to construct a comprehensive index to evaluate the disclosure and transparency of information of Vietnamese commercial banks.

Stemming from the above problems in the status quo, this study suggests a solution by developing a measure of bank transparency and to assess the transparency and disclosure of Vietnamese commercial banks using a composite index. The proposed index consists of four factors with 40 items. After developing the index, the researcher uses the data of 28 commercial banks in the Vietnamese commercial banking system to calculate the index of each bank in the period of 2006 to 2018. This study is structured as follows: section 1 will give an overview of the research objectives, and section 2 will review previous studies on the development of an index of banking transparency and disclosure. Then, section 3 will describe the methodology of developing the index; while its application in measuring banking transparency and disclosure will be presented in section 4. Section 5 will summarise and give conclusions for the study.

## 2. Theoretical background

Basel 2 (2004) with the Pillar 3 about market discipline stated five principles of disclosure of information for banks, namely: clear, comprehensive, meaningful to users, consistent and comparable. This requirement of Basel significantly increases the amount of information a bank must publish, allowing the market to have a more comprehensive picture of the bank's overall risk profiles. After these requirements were made, Kane (2004), Flannery & Thakor (2006) argued that the more transparent the banks were, the more sympathy the supervisors received. Tadesse (2006), with the belief that crises are less common in countries with high levels of information transparency, proposed that banks need to increase this level. Meanwhile, when studying the relationship between the volatility of long-term stock prices of banks and the degree of transparency in the annual reports, Baumann & Nier (2004) concluded that the more transparent the bank was, the more benefits investors could receive. Moreover, Baumann & Nier (2006) suggested that the more information a bank publishes, the more motivated it will be to manage risk, while Hirtle (2007) argued that the more transparent a bank was, the better it was for profit. At the same time, banks with a high level of information transparency are often less likely to be at risk than banks with less transparency.

Each business sector has different disclosure standards, thus it is impossible to apply one method of measuring the level of disclosure to all groups (Botasan, 1997). For the banking industry, due to the high-risk nature of the industry, commercial banks must also have their own measure of transparency that is different from other types of enterprises. This paper would like to introduce some widely acclaimed indexes of transparency and disclosure in the banking industry that have been proposed by experts worldwide.

The two experts from the Bank of England, Baumann & Nier (2003), were among the pioneers who developed the index of transparency and disclosure of information in the banking industry. In their study in 2003, they developed a composite index from three secondary indexes. The first two are indirect measures of the quantity of information available to investors. The third index is a direct measure of the quantity of information provided to the market. Specifically, the first index indicates that a bank which is publicly traded on stock exchange markets like NYSE, NASDAQ or AMEX, must align with the binding rules of disclosure required by these markets. The second one is based on bank ratings. It means that investors should have more information about the bank if it is rated by an internationally recognised rating agency (Standard & Poor, Moody or Fitch). The third index was built on the basis of the information contained in the financial statements. This index provides information on 17 categories of information provided in the bank's annual financial statements from the Bankscope database. All criteria are linked to one or several aspects of the bank's risk profile (interest rate risk, credit risk, liquidity risk and market risk).

Each category is represented by a sub-index which measures the details' level of the information that banks publish in their annual reports.

Baumann & Nier (2003) also pointed out that the disclosure measure can be improved by integrating updates, opportunities and accessibility of the information. On that basis, Douissa (2011) has developed the theory of Baumann & Nier's (2003) into a new composite index that compiles four dimensions of information, calculated using 4 intermediate indexes, including: (i) Index of information completeness; (ii) Index of information opportunity; (iii) Index of information credibility; (iv) Index of information accessibility. Each dimension will be represented by an intermediate index and the four indexes will form a composite index of transparency and disclosure.

The disclosure index proposed by Huang (2006) consists of 2 indexes: core set and encouraged set, both of which are created based on the measurement framework proposed by Baumann & Nier (2003). The disclosure index is aggregated from six categories of disclosures, including: (1) Loans: analysis of loans by maturity, type, counterparty, credit risk, problem loans, etc.; (2) Other earning assets: securities by type, and hold purpose; (3) Deposits: dividing deposits by term, types of customers; (4) Other financing: money market financing and other long-term financing; (5) Capital and reserves: publicise the ratio of capital, reserves, contingent liabilities, off-balance sheet, etc. (6) Income: non-interest income and loan risk provisions. Each disclosure category above is aggregated into a sub-index, which is implemented to assess the disclosure level based on seventeen core items. These items are related to the most fundamental activities of a traditional commercial bank in the world at all stages of economic development. Notably, the items in the core set, with a checkbox approach, are applicable to most commercial banks, which is necessary for investors to understand and evaluate the performance of banks. More complex disclosure items may depend on the development of the banking system.

Based on the core set of transparency and disclosure items, Huang (2006) has created a more detailed disclosure index. The encouraged set of more advanced items is important when assessing bank risks and that the authors encourage banks to provide extended information on these items. Additional encouraged disclosure items include: Credit risk (breakdowns of loans, breakdowns of impaired loans, loan classification, asset risk weight, real estate lending, loan concentration); market risk (duration, transaction status); and market discipline (reporting frequency, accounting policies, corporate governance). A similar checkbox approach will be taken to create a composite index, by measuring the details' level that banks provide on each disclosure dimension in the published accounts.

### **3. Construction of transparency and disclosure index for commercial banks in Vietnam**

#### **3.1. Overview of methodology**

The main objective of the third pillar of Basel II agreements is to increase transparency, hence stability of the banking system. As part of this research, the author tried to develop a measure of banking transparency and disclosure, which will be useful to investors in the market, commercial banks and regulatory agencies. With the index, investors or agencies can compare the transparency levels of banks, thereby detecting less transparent ones. Many studies have shown that the lack of transparency in bank information disclosure is related to their inefficient operation. Moreover, the transparency and disclosure index will give commercial banks the motivation to improve their information disclosure practices.

This study uses the bank disclosure in accordance with the recommendations of the third pillar of Basel II to analyse information transparency. On the one hand, previous studies simply used a composite index that is similar to the method proposed by Standard & Poor (Durnev & Kim, 2002; Patel et al., 2003; Khanna et al., 2004) where their research samples mainly consist of non-bank organisations. On the other hand, several studies focus on bank transparency without taking into consideration the recommendations of Pillar 3 of the Basel II agreements (Baumann & Nier, 2003).

Besides that, we realised that previous studies on this subject have simplified the measure by assessing the degree of transparency by the volume of provided information. However, according to Nelson (2001), an adequate measure to assess the degree of transparency should include the following four dimensions: (i) The completeness of information; (ii) The accessibility of information; (iii) The opportunity of information; (iv) The investors' right of appeal. In this study, a measure of bank transparency and disclosure is developed, including the four dimensions above combined with several adjustments to the item (iv) The investors' right of appeal. We will develop a composite index of banking transparency that represents four intermediate indices, each of which represents one of the four dimensions that reflect the degree of information transparency. The index is built according to the following steps:

*First*, referring to the regulations on banking disclosure and transparency of information. These documents include previously developed indexes, the Law on Credit Institutions, the Law on Securities, the legal documents on disclosure in banks and listed companies, and OECD principles of corporate governance, pillar 3 of the Basel 2 agreements, IMF's Financial Soundness Indicators (FSI) framework.

*Second*, identifying components of the composite index, including: (i) Index of information completeness; (ii) Index of information update; (iii) Index of information credibility; (iv) Index of information accessibility.

*Third*, identifying the sources of information collected to estimate the composite index: based on publicly available information in the media that are related to the research. The scoring will also be based on the perspective that the better the disclosure practices, the higher the score. Here, the author uses information collected from financial statements, annual reports, corporate governance reports published by the bank in the period 2006-2018. This information is reconciled and checked against the information provided by the Stock Exchange and the Bankscope database to ensure the information accuracy.

*Fourth*, calculating the intermediate indexes, thus aggregating them. After the intermediate indexes have been scored accordingly, the scores of all the answers will be added up to get the total score.

### **3.2. Construction of intermediate indexes**

The research team intends to build a multidimensional index of transparency and disclosure. The first dimension (completeness of information) is based on the disclosure index (DISC) of Baumann & Nier (2003). Moreover, the study enhances the index by adding two other dimensions: update and accessibility of information. Due to the complexity of measuring the investors' right of appeal (Nelson, 2001), this dimension will be excluded from the index. The team replaced it with the credibility of the information. Each dimension of transparency and disclosure will be represented by an intermediate index. Afterwards the four indexes will form a composite index of banking transparency and disclosure.

#### *3.2.1. Index of information completeness*

The study expands the DISC index proposed by Baumann & Nier (2003) by adding other factors to carefully consider the entire information published by banks. Information contained in financial statements is insufficient to accurately reflect the performance of the bank. Therefore, when calculating the index of information completeness, non-financial factors would be taken into account. It includes the quality of risk management, banking governance, business strategies, social and environmental performance (Perrini & Tencati, 2006). Based on the third index of Baumann & Nier (2003) with 17 sub-indexes, the team has added 14 new sub-indexes in the intermediate index, bringing the total number of sub-indexes to 31. For all sub-indexes, 1 is assigned if the corresponding element exists in the bank's annual report and 0 - in other cases. By aggregating 31 sub-indexes, we build the intermediate index of information completeness (DISC). The intermediate index is calculated as follows:

$$DISC_{it} = \frac{1}{31} (FRE_{it} + NFRE_{it}) \quad (1)$$

Where  $FRE_{it}$  is the financial items revealed by the bank  $i$  over the period  $t$ .  $NFRE_{it}$  is the non-financial items revealed by the bank  $i$  over the period  $t$ :

$$DISC_{it} = \frac{1}{31} (\sum_{i=1}^{20} s_i + \sum_{i=21}^{31} s_i) \quad (2)$$

$$DISC_{it} = \frac{1}{31} \sum_{k=1}^{31} s_{kit} \quad (3)$$

Where  $DISC_{it}$  is the intermediate index of information completeness of the bank  $i$  during the period  $t$ . All 31 sub-indexes of the Index of information completeness are presented in detail in the following table:

**Table 1:** Index of information completeness

Information	Sub-indexes	Content references
<b>Financial</b>	S <sub>1</sub> : Loans by maturity	Baumann & Nier (2003);
	S <sub>2</sub> : Loans by industry	Poshakwale & Courtis (2005);
	S <sub>3</sub> : Loans by type	Huang (2006);
	S <sub>4</sub> : Loans by counterparty	Circular 155/2015 / TT-BTC;
	S <sub>5</sub> : Problem loans by type	Circular No. 41/2016 / TT-
	S <sub>6</sub> : Securities by type	NHNN;
	S <sub>7</sub> : Other derivative financial instruments and financial assets	Pillar 3 of Basel II; IMF's FSI Index
	S <sub>8</sub> : Securities by holding purpose	
	S <sub>9</sub> : Deposits by maturity	
	S <sub>10</sub> : Deposits by type of customer	
	S <sub>11</sub> : Money market funding	
	S <sub>12</sub> : Long-term funding: bonds	
	S <sub>13</sub> : Reserves	
	S <sub>14</sub> : Capital	
	S <sub>15</sub> : Contingent liabilities	
	S <sub>16</sub> : Off-balance-sheet items	
	S <sub>17</sub> : Noninterest income	
	S <sub>18</sub> : Loan loss provisions	
	S <sub>19</sub> : Value of collateral assets	
	S <sub>20</sub> : Value of collateral real estates	
<b>Non-financial</b>	S <sub>21</sub> : Corporate governance report	Douissa (2011);
	S <sub>22</sub> : Ownership structure	S&P's Index;
	S <sub>23</sub> : Major shareholders	Pillar 3 of Basel II;
	S <sub>24</sub> : Executive Board	Circular 155/2015/TT-BTC;
	S <sub>25</sub> : Supervisory Board	Circular No. 121/2012/TT-
	S <sub>26</sub> : Subsidiaries and affiliates	BTC.
	S <sub>27</sub> : Number of employees	
	S <sub>28</sub> : Number of branches	
	S <sub>29</sub> : Total salary and allowance fund	
	S <sub>30</sub> : Development orientation and perspectives	
	S <sub>31</sub> : Environmental and social impacts report	

### 3.2.2. Index of information update

Public access to information is strongly correlated with the frequency of bank disclosure, which is why the author introduced sub-indexes of information disclosure update. The intermediate index of information update is formulated as follows:

**Table 2:** Index of information update

Information	Sub-indexes	Content references
Information update	S <sub>32</sub> : Frequency of information update	Douissa (2011), Circular 155/2015/TT-BTC
	S <sub>33</sub> : Time of disclosure	Circular 155/2015/TT-BTC

The intermediate index of information update is referred to as UPDATE<sub>it</sub>, and calculated as follows:

$$UPDATE_{it} = \frac{1}{2} \sum_{k=32}^{33} s_{kit} \quad (4)$$

Where UPDATE<sub>it</sub> is the intermediate index of the update of information of the bank *i* during the period *t*. 2 is assigned to S<sub>32</sub> if the bank publishes quarterly reports, 1 is assigned if it publishes only biannual reports and 0 – in other cases. S<sub>33</sub> measures annual disclosure of the bank, in which 1 is assigned if the bank publishes its annual financial reports within 90 days after the fiscal year, 0 is assigned if it publishes later than 90 days.

### 3.2.3. Index of information credibility

The research introduces four sub-indexes: audit, accounting standards, listing on stock markets and accounts adjusted by inflation.

Bushman et al. (2004) suggested that audit quality is a measure of the reliability of financial disclosures. The research team classified the four most prestigious auditing firms in the world as the Big 4, including: Deloitte; Ernst and Young; KPMG; Pricewaterhouse Coopers. Therefore, we distinguish banks audited by a Big 4 auditing firm, with banks audited by others. The introduction of the Audit sub-index is supported by the importance of the audit function as a guarantee of the credibility of the publications made by the bank; and a bank audited by a Big 4 company will be more transparent than a bank audited by another.

For accounting practices in use, we distinguish two types of accounting standards that are applied by a bank: Vietnamese Accounting Standards (VAS) and international standards (IFRS). According to Patel et al. (2003), a bank that applies IFRS standards can be considered as more transparent than a bank that adopts local standards.

Furthermore, a bank listed on the stock market will have to strictly follow the disclosure requirements of State Securities Commission of Vietnam (SSC). This information will be checked more strictly by regulatory agencies and investors. Thus, the research team introduces the sub-index of listing on stock markets into the group of information credibility.

Finally, the author introduces the sub-index "Accounts adjusted by inflation" to distinguish banks that have published their financial statements adjusted for inflation. This information reflects the real image of the bank. Consequently, a bank that publishes its annual financial accounts adjusted by inflation will be more transparent than a bank that does not. This proposal, consistent with the study of Patel et al. (2003), suggests that the adjustment by inflation is a criterion of firm transparency. The intermediate index of information credibility is given in detail below:

**Table 3:** Index of information credibility

Information	Sub-indexes	Content references
Index of information credibility	S <sub>34</sub> : Audit	Douissa (2011), S&P's Index
	S <sub>35</sub> : Accounting standards	Douissa (2011)
	S <sub>36</sub> : Listing on stock markets	The research team's proposal
	S <sub>37</sub> : Accounts adjusted by inflation	Douissa (2011)

The above-mentioned intermediate index is built by aggregating the information of four sub-indexes, namely: Audit, Accounting standards, Listing on stock markets and Accounts adjusted by inflation. It is calculated as follows:

$$CRED_{it} = \frac{1}{4} \sum_{k=34}^{37} s_{kit} \quad (5)$$

where  $CRED_{it}$  is the intermediate index of information credibility of the bank  $i$  during the period  $t$ . First, we assign 0 to  $S_{34}$  if the bank does not communicate the identity of the auditing firm, 1 - if the bank is audited by a company which is not a member of the Big 4, and 2 is assigned if the bank is audited by the Big Four. Second, we assign 1 to  $S_{35}$  if the bank applies the IFRS standards and 0 in other cases.  $S_{36}$  is assigned as 1 if the bank is listed on the stock market, and 0 if they are not. Finally, we assign 1 to  $S_{37}$  if the bank publishes its annual accounts adjusted by inflation and 0 in other cases.

### 3.2.4. Index of information accessibility

To measure the accessibility of information, we categorise disclosed information, including public and private information. The first type of information is contained in bank reports. Private information is other information that is not revealed to the public. Access to this type of information is reserved for a limited group of information users, such as major

shareholders, financial analysts or rating agencies. Major shareholders obtain private information according to their positions in the board of directors. Meanwhile, rating agencies possess private information about the banks that they rate. These banks, which are rated by rating agencies, have higher chances of reaching international financial markets than others. On that basis, we consider two sub-indexes that measure information accessibility to both channels selected. Firstly, it is the information on the website that measures the disclosure based on the information published on the website. The second sub-index is the information of rating agencies, which can be divided into three categories as national rating agencies, regional rating agency and international rating agency. Finally, it is notable that foreign investors now also have a high need for access to information of Vietnamese banks. Therefore, when measuring the accessibility of information, there exists an indispensable factor that banks provide complete annual financial statements in English.

**Table 4:** Index of information accessibility

Information	Sub-indexes	Content references
Information accessibility (ACCESS)	S <sub>38</sub> : Information published on Websites	Douissa (2011), S&P's Index
	S <sub>39</sub> : Ratings	Douissa (2011)
	S <sub>40</sub> : Disclosure in English	Circular 155/2015/TT-BTC

Index of information accessibility ACCESS is calculated as follows:

$$ACCESS_{it} = \frac{1}{3} \sum_{k=38}^{40} s_{kit} \quad (6)$$

where  $ACCESS_{it}$  is the intermediate index of information accessibility of the bank  $i$  during the period  $t$ . We assign 1 if the bank publishes the annual reports on its website and 0 in all other cases. We assign 2 if the bank is rated by an international agency; 1 is assigned if the bank is rated by a regional agency and 0 in all other cases. A bank will receive 1 score if the information is disclosed in English, and 0 if it is not.

### 3.3. Construction of the composite index

The composite index of bank transparency and disclosure is called 'TRANS' and calculated as follows:

$$TRANS_{it} = \frac{\sum_{j=1}^4 S_{jit}}{N} \quad (7)$$

where  $TRANS_{it}$  is the composite index of bank transparency of the bank  $i$  during the period  $t$ ,  $N$  is the number of the dimensions of information, which is equal to 4,  $S_{jit}$  is the intermediate index of the dimension  $j$  of the bank  $i$  during the period  $t$ ,

$$TRANS_{it} = \frac{DISC_{it} + UPDATE_{it} + CRED_{it} + ACCESS_{it}}{N} \quad (8)$$

$$TRANS_{it} = \frac{\frac{1}{81} \sum_{k=1}^{81} Skit + \frac{1}{8} \sum_{k=82}^{88} Skit + \frac{1}{4} \sum_{k=89}^{92} Skit + \frac{1}{8} \sum_{k=93}^{100} Skit}{N} \quad (9)$$

When developing the composite index, we considered that the four dimensions possess the same degree of importance to explain transparency. We have introduced intermediate indexes without weights in the construction of the composite index to eliminate the subjectivity problem where each item has equal contribution (Hodgdon et al., 2008). Based on the information published in the annual reports, financial statements, corporate governance reports of 28 Vietnamese commercial banks from 2006 to 2018\*, the research team calculated the component indexes, hence the composite index (TRANS) of transparency and disclosure for Vietnamese commercial banks.

#### 4. Measuring transparency and disclosure at commercial banks in Vietnam using the index

##### 4.1. Transparency and disclosure at commercial banks in Vietnam

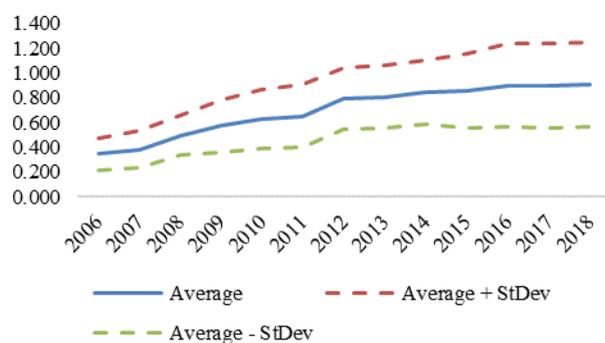
The banking system has its level of information disclosure changed significantly in the period of 2006 - 2018, increasing from 0.350 in 2006 to 0.894 in 2018. After calculation using the index, the results indicate that the transparency and disclosure index of the entire Vietnamese banking industry have nearly tripled over 12 years. However, the standard deviation between the disclosure degree of banks in the system has increased, suggesting that the gap between banks is expanding, where several commercial banks have a relatively lower score of disclosure compared to industry averages.

The period where the transparency and disclosure index significantly increased was the period of 2008 to 2012 since this was the period that many banks began to be listed on the stock market of Vietnam, with the growth of the TRANS index amounted to nearly 60% in 4 years. Since 2014, the average disclosure index of commercial banks has the tendency to remain stable, with extremely low increase over years, accompanied by increased standard deviations between banks.

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\* From 2015 to 2018: 27 banks

**Figure 1:** Bank disclosure index in the period of 2006 – 2018



**Figure 2:** 13-year average of bank disclosure index

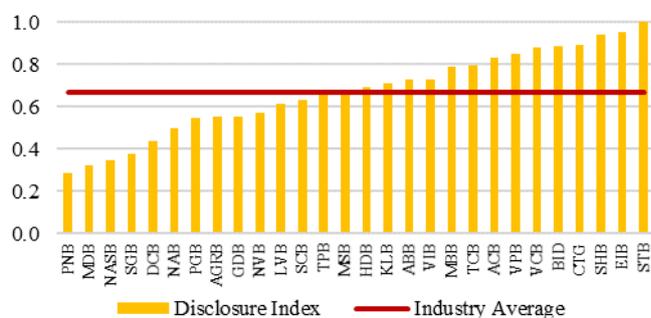


Figure 2 illustrates data on the 13-year average of bank disclosure in the period of 2006-2018 for all banks in the sample. The average index of transparency and disclosure throughout the period reaches a 0.671 score. Particularly, during the research period, Saigon Thuong Tin Bank had the highest average disclosure index among Vietnamese banks, reaching 1.018. This can be explained by the fact that Saigon Thuong Tin Bank was the first bank to be listed on the stock exchange (July 2006), meaning that it has soon complied with the disclosure requirements for a listed company according to the requirement of the SSC. In addition, Saigon Thuong Tin Bank also has its strategic investors who are international organisations such as ANZ, IFC or Temasek. Furthermore, positive impacts from foreign institutional shareholders also contributed significantly to the improvement of disclosure practices of a Vietnamese bank such as Sacombank. In contrast, Phuong Nam Bank had the lowest disclosure index with a score of 0.285 - a weak bank that has merged with Saigon Thuong Tin Commercial Joint Stock Bank in 2015. Before the merger, Phuong Nam Bank did not disclose the information on the Website, moreover, only provided its financial statements in 3 years.

After excluding the banks that have made mergers and acquisitions, Ocean Bank is the only bank whose transparency and disclosure index in 2018 have dropped to what it was in 2006 (0.13 in 2018 compared to 0.21 in 2006). This can be explained by (i) the instability due to the criminal prosecution process for senior executives of this bank; and (ii) the impact of the

restructuring process after being bought 0 VND from the State Bank of Vietnam (SBV), which resulted in the bank's operational information not being publicised.

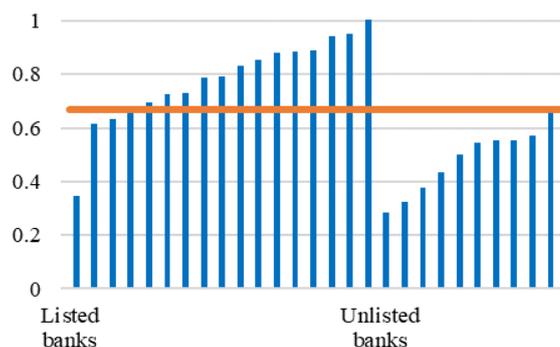
We can recognise that the group of banks with transparency and disclosure index above the industry average are usually listed banks, which have large-scale capital and assets with participation of foreign investors in shareholder structure such as VCB, CTG, BID, VPB, TCB, ACB or EIB. In contrast, banks with low disclosure and transparency index in the period are unlisted banks (Agribank) or small-scale capital (such as PG Bank, Navibank or Southern Bank).

## 4.2. Transparency and disclosure by bank classification

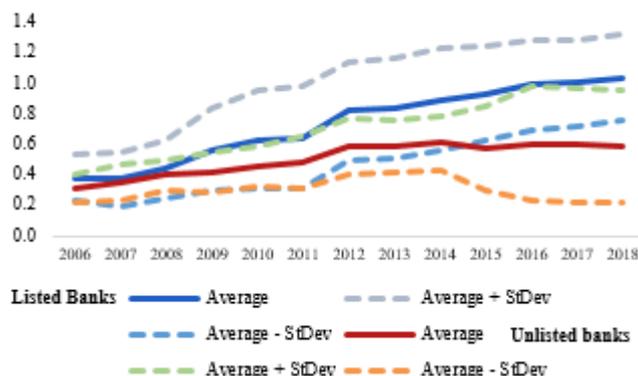
### 4.2.1. By being listed and unlisted on stock exchanges

The group of listed banks has a higher disclosure index than the group of unlisted ones. During the research period, the former group also has a greater increase of disclosure index over the years. Additionally, the standard deviation among banks in the listed group is much lower than the unlisted one. This shows that post-listed banks have a higher level of transparency and a relatively consistent level of disclosure. Moreover, there is a significant difference between the two groups in terms of information update, rating, disclosure index on the Website and disclosure in English.

**Figure 3:** 13-year average disclosure of commercial banks being listed and unlisted on stock exchanges



**Figure 4:** Disclosure of banks being listed and unlisted on stock exchange in the period 2006 - 2018



Source: Authors' calculations.

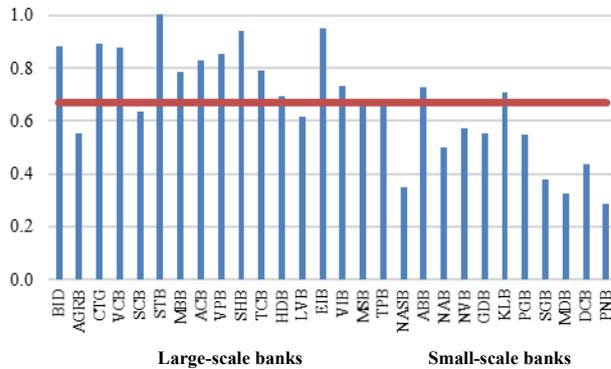
Looking at Figure 4, we can see that not only did the index of transparency and disclosure of unlisted banks not improve in the period from 2014 to the present, but also has a tendency to decline. This shows that when not being listed on the stock exchange, banks seem to lack the motivation to improve disclosure and transparency practices.

#### 4.2.2. By capital size

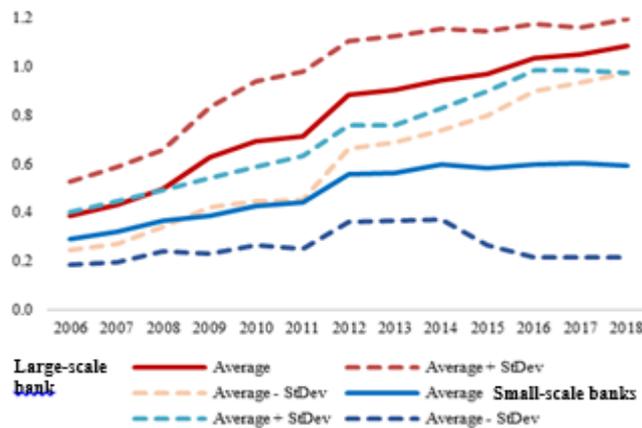
Circular No. 52/2018/TT-NHNN regulates the rankings of credit institutions, foreign bank branches; commercial banks are divided into 02 groups: Group 1 - large-scale commercial banks (total average assets value by quarter in the year ranking above 100,000 billion VND); Group 2 - small-scale commercial banks (the total average asset value by quarter in the year is equal to or lower than 100,000 billion VND). Accordingly, by the end of 2018, in the sample, there were 17 banks belonging to large-scale group, lead by 4 state-owned commercial banks holding dominant shares.

The large-scale banking group has a much higher disclosure index than small-scale ones. Gaps in information transparency among banks in the large group are also gradually being narrowed down, contrary to the uneven situation in the other group. Especially between the two groups of banks, there are significant differences in the indexes on the quality and credibility of financial statements, rating, disclosure index on the Website and disclosure in English.

**Figure 5:** 13-year average disclosure of commercial banks by capital size



**Figure 6:** Disclosure of large and small-scale banks in the period 2006 – 2018

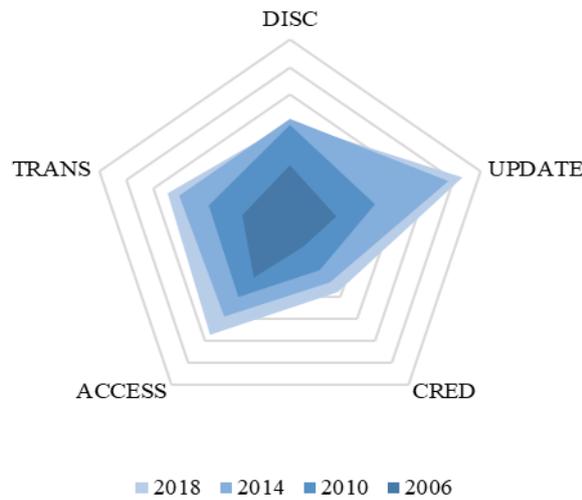


Source: Authors' calculations.

### 4.3 Transparency and disclosure by intermediate indexes

The degree of transparency and disclosure of banks is studied based on four main dimensions: completeness, update level, credibility and access to information. In the period of 2006-2018, there was an increase in indexes to measure the degree of transparency and disclosure of commercial banks. Demonstrated in Figure 7, it is notable that the index of information update and accessibility has increased the most, especially for the index of information update. These are 2 intermediate indexes that commercial banks are most likely to satisfy. In contrast, the other two of the completeness and credibility of information make it more difficult for commercial banks.

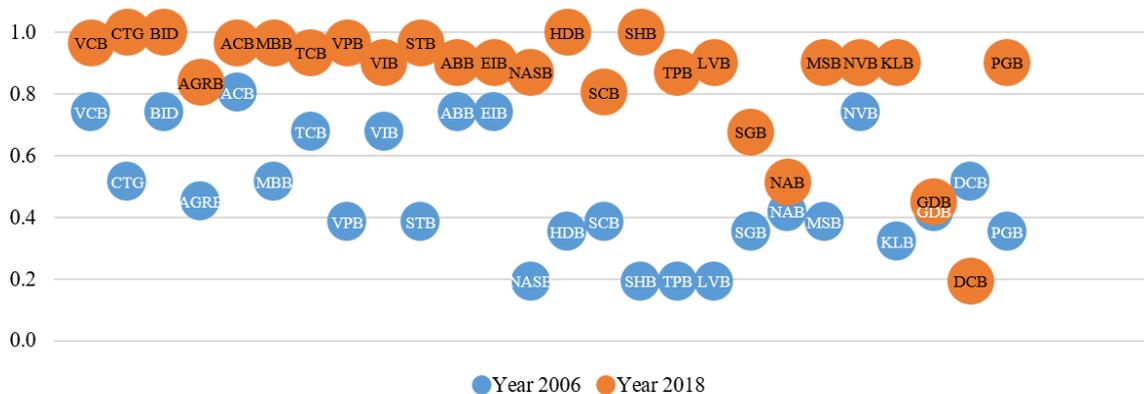
**Figure 7:** Industry-average disclosure index



Source: Authors' calculations.

For the index of completeness of disclosed information (DISC), this is the group with the largest divergence in the sample of 28 studied banks (Figure 8). Some banks have achieved absolute scores for this index in recent years, such as CTG, BID, HDB or SHB, showing great efforts in improving the amount of information published. Having low scores in this dimension in 2018 are small banks, such as Ocean Bank, South Asia Bank, and Ban Viet Bank, in which it was due to the fact that some basic financial information such as loans structure, problem loans by type, deposit and reserve structure were not published by these banks.

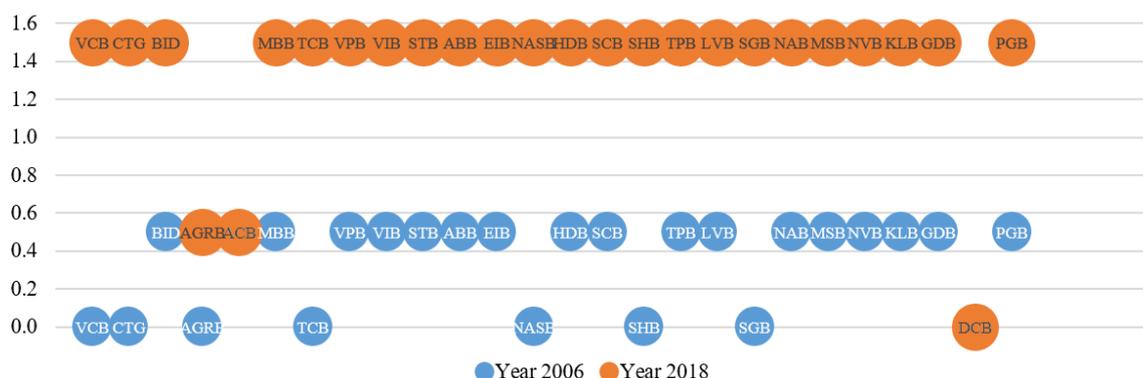
**Figure 8:** Index of information completeness (DISC)



Source: Authors' calculations.

For the Index of information update (UPDATE), most banks have made great improvement and achieved the maximum score. In 2006, all banks published their annual financial statements but now almost all banks have published their quarter financial statements.

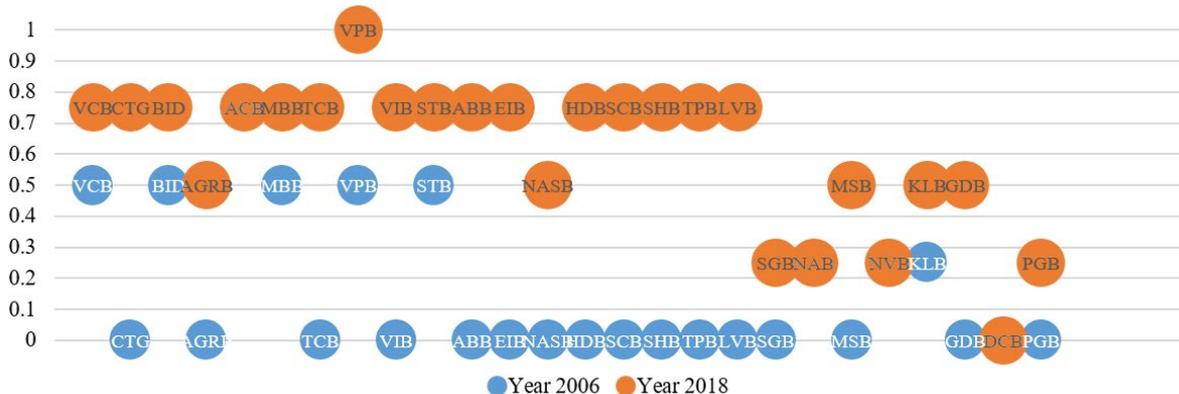
**Figure 9:** Index of information update (UPDATE)



Source: Authors' calculations.

For the index of information credibility (CRED), VPB has the highest score when it was one of the first banks to apply IFRS accounting standards in preparing financial statements of banks. Most other banks have not yet met this requirement, resulting in lower scores. This group with lower scores mainly stemmed from their being audited by firms outside the Big 4, hence, lower credibility of information.

**Figure 10:** Index of information credibility (CRED)

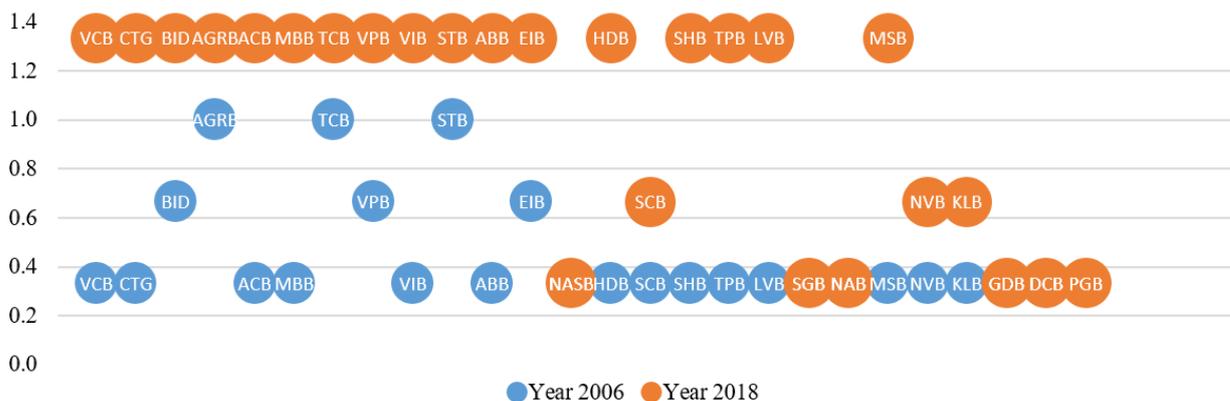


Source: Authors' calculations.

In terms of access to information (ACCESS), several banks have reached the maximum scores in recent years, representing a great improvement in the transmission of information to the majority of investors and the public. However, there remains some limitations affecting

banks' ACCESS index, namely: (i) not yet published information in English; (ii) there is no foreign rating organisation yet.

**Figure 11:** Index of information accessibility (ACCESS)



Source: Authors' calculations.

## Conclusion

Transparency and disclosure are vital for the development of Vietnamese banks. The degree of bank transparency and disclosure is a theoretical concept, which in practice is difficult to measure directly. Therefore, recently, to measure the degree of transparency and disclosure of banks, several indexes have been proposed. The main objective of this study is to propose a composite index to measure transparency index and disclose information to Vietnamese banks, based on reference to the set of several previous scholars and regulations of disclosure applied to stock markets in Vietnam. The proposed set consists of four intermediate indexes with 40 sub-indexes. In addition, the authors also applied this set to measure the index of 28 banks operating in Vietnam. The transparency and disclosure practices of Vietnamese commercial banks has improved significantly in the period of 2006-2018, where the average TRANS index nearly tripled. More specifically, the period that witnessed significant improvement of transparency and improvement index was from 2008 to 2012, when many banks started to be listed on the stock market of Vietnam. Since 2014, the average disclosure index of commercial banks has the tendency to remain quite stable, where the increase rate is only marginal. Additionally, those that have above-industry-average indexes of transparency and disclosure are usually listed banks with substantial capital and assets, with the participation of foreign investors in shareholder structure. Moreover, all sub-indexes measuring the degree of transparency and disclosure of commercial banks increased in the period of 2006 - 2018. In particular, the index of information update and the index of information accessibility accelerated the most dramatically. In contrast, the two remainders about the completeness and credibility of information make it more difficult for commercial banks to satisfy.



In addition to the applications for assessing transparency and disclosure of the banking industry, the set also brought exclusive academic contributions (i) proposing a fairly detailed set of indexes on the information disclosure of Vietnam's banking industry; (ii): adding a variable in econometric models when it is required to evaluate the operational factors of the Vietnamese commercial banking system. Despite great efforts in constructing the set that can be applied to banks in Vietnam, the index proposed by the authors may contain limitations as some items have not been included due to poor and incomplete disclosed information. Therefore, further studies can supplement and develop this set of indexes so that soon there will be an official set to be used in the commercial banking system in Vietnam.



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### Appendix 1: Disclosure index of commercial banks in Vietnam

