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RESEARCH ARTICLE

Strategic Position of Bond Markets in ASEAN-5: Challenges and Directions for Development

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Abstract: This study compares and analyzes the strategic position of bond markets in ASEAN-5 countries using the Strategic Position and Action Evaluation matrix approach as a diagnostic tool. The results reveal that the bond markets in Malaysia, Singapore, and Thailand are in an aggressive posture, whereas the bond market in the Philippines is in the conservative position and the Indonesian bond market is the one in a defensive posture. The current strategic position of each bond market, together with scores in each dimension, helps identify key prospects and challenges that could considerably affect strategic development of bond markets in the region.

Keywords: ASEAN-5, Bond Market Development, Benchmarking, SPACE Matrix, Strategic Position

JEL Classifications: G10, O16

One of the ultimate goals for the ASEAN Economic Community (AEC) collaboration is to liberalize the financial sectors for establishing market base economies. The ASEAN expects that an integrated regional financial system with more liberalized financial services, capital account regimes, and interlinked capital markets will accelerate greater trade and investment flows among the countries. Bond markets play a significant role in the development of the financial system to promote economic growth. Bond markets bring lenders and borrowers together, by which borrowers fund their capital needs. Bond market can be viewed as an alternative to the traditional bank-based economies. Cross-border financing and bond market integration, therefore, can improve overall economic performance by ensuring that productive capital is channeled towards the right mechanism, thereby decreasing the risk of crises stemming from the collapse of the banking sector.

On one hand, ASEAN collaboration can provide comprehensive information to investors to attract global funds and institutions; on the other hand, bond markets among ASEAN members need to compete with each other to attract foreign investors. To have the right strategic direction of development is significant for bond markets since there are opportunities to expand the ASEAN bond markets over the next decade to help provide capital for the large infrastructural development that the region needs over the next decade.

For these reasons, it is of interest to assess the strategic competitiveness of bond markets in the ASEAN. The idea of competitiveness is essential for every organization, industry, or country except when one is operated in the monopoly market environment. Each organization has to select strategies to acquire a better position in that competitive environment. Despite the vigorous role of the bond markets,

the studies on the issue of strategic bond market development are extremely scarce. To the best of the researcher's knowledge, there has been no research conducted on the strategic position analysis of the bond markets. Therefore, the contribution of this study is twofold. First, this paper, at the outset, provides an extensive assessment of the strategic position and action evaluation of ASEAN bond markets. The effort to construct subindicators to assess the strategic bond markets development is limited. Second, this paper also utilizes the Strategic Position and Action Evaluation matrix or simply SPACE matrix approach to analyze bond markets for their strategic competitive position in ASEAN-5. The SPACE matrix is an appropriate method to analyze the competitive position of an organization using internal and external dimensions. It is a tool used to formulate the organization strategy and also used to find its competitive position in the competing environment.

The results from the study show that the bond markets in Malaysia, Singapore, and Thailand are in an aggressive posture, while the bond market in the Philippines is in the conservative position. The Indonesian bond market is the one in a defensive posture. The existing strategic position of each bond market, in conjunction with scores in each dimension, helps identify key prospects and challenges that might significantly move strategic development of bond markets in the region.

The remainder of the paper is structured as follows. The following section presents literature reviews of the previous studies related to the issue. The next section describes the data and proposes methodology. The last section reviews main findings and brings together conclusions and directions for development.

Literature Reviews

Financial sector development enhances economic growth through more efficient resource allocation and productivity growth rather than through the scale of investment or saving mobilization (Beck, Levine, & Loayza, 2000). Financial sector development brings up economic growth and arises to alleviate market imperfections that prevent the pooling of society's savings and investments. How well a capital market can perform their function is an empirical issue. Beck, Feyen, Ize, and Moizeszowicz (2008, 2010) asserted that cross-country comparisons for capital markets are an essential task by allowing policy makers to evaluate how sound one capital market is doing corresponding to other countries with comparable fundamental characteristics and at a similar phase of economic development. This can be done by benchmarking countries against their immediate peers that are located in the same region with the comparable environment.

There are some alternative benchmarking frameworks for comparing capital markets among countries. Čihák, Demirgüç-Kunt, Feyen, and Levine (2012) presented a seminal paper contributing to capital market benchmarking. The authors tried to benchmark the cross-country differences using four dimensions, including size of financial institutions and markets, degree to which individuals can and do use financial services, efficiency of financial intermediaries and markets, and stability of financial institutions and markets. Sukcharoensin and Sukcharoensin (2013) applied this framework to assess the development of the stock market in ASEAN-5. However, the application of a four-dimension structure following Demirgüç-Kunt, Feyen, and Levine (2012) cannot provide the assessment of strategic competitive position against forces that determine capital market competition within the region. The SPACE method can be used to overcome this limitation and can be employed to provide benchmarking strategic competitive postures rather than operational functions.

For any organization, it is extremely trivial to investigate its competitive strategy before formulating its strategic objective. The process of calibrating competitiveness is extremely important for all organizations and markets in this modern era. Jarungkitkul and Sukcharoensin (2016) compared the competitiveness of the stock markets in ASEAN-5 using Porter's diamond model. They proposed indicators to assess the competitiveness of the stock markets in ASEAN 5 countries. Assessing the competitiveness of the ASEAN stock markets leads to better a understanding of the strengths and weaknesses of each stock market in the region. However, this framework does not provide strategic position and implication. Since the objective of this paper is to calibrate the strategic competitiveness of ASEAN bond markets, the SPACE method is an appropriate tool to be used accordingly. Another justification to use the SPACE matrix is that this matrix allows bond markets to locate their strategy over the matrix by using

both internal and external factors that affect strategic dimensions. Also, the dimensions are combined in such a way that two sets of factors are assessed as strengths (financial strength and industry strength) and the other two dimensions of indicators (competitive advantage and environmental stability) are assessed as potential weaknesses.

Comparing the SPACE matrix with the other calibrating tools like the General Electric portfolio and McKinsey approach, it is noticed that there are only two dimensions to be studied at a time for these methods. Usually, one axis in the matrix represents the overall attractiveness of the industry, and the other represents the organization ability to compete in the competitive market space. The SPACE matrix technique uses another two dimensions apart from the ones that have been discussed above, like the industry's stability and financial strength. All these four dimensions are assessed and evaluated simultaneously. Thus, a number of factors help the decision makers to better identify the correct alternative strategies from the options available.

The SPACE matrix was developed by Rowe, Mason, Dickel, Mann, and Mockler (1994). The matrix evaluates different variables and assigns them a score considering how important they are for the situation of the organization. It analyzes four different areas, two internal to the organization and two external, which represent four quadrants in a graphic. These dimensions can be specified as financial strength (FS), competitive advantage (CA), industry strength (IS), and environmental stability (ES). To apply this matrix, the value of IS and FS is a number from 0 to 6, and that of CA and ES is assigned a number from 0 to −6. Adding the number of IS to that of CA and adding the magnitude of FS to that of ES yield ordered couples (i.e., (IS+CA), (FS+ES)). Then, joining the origin of Cartesian coordinates derives a designate arrow that helps to decide the appropriate type of strategy in one of these four quadrants. The idea for calibrating the vertical axis is to trade off financial strength for environmental instability. The more difficult the future environment is thought to be, the more important that the bond market has strong financial attractiveness. Additionally, industry attractiveness and competitive advantage are seen as potentially alternative sources of superior position. If both factors are favorable, then the bond market in that country should be very promising, and vice versa.

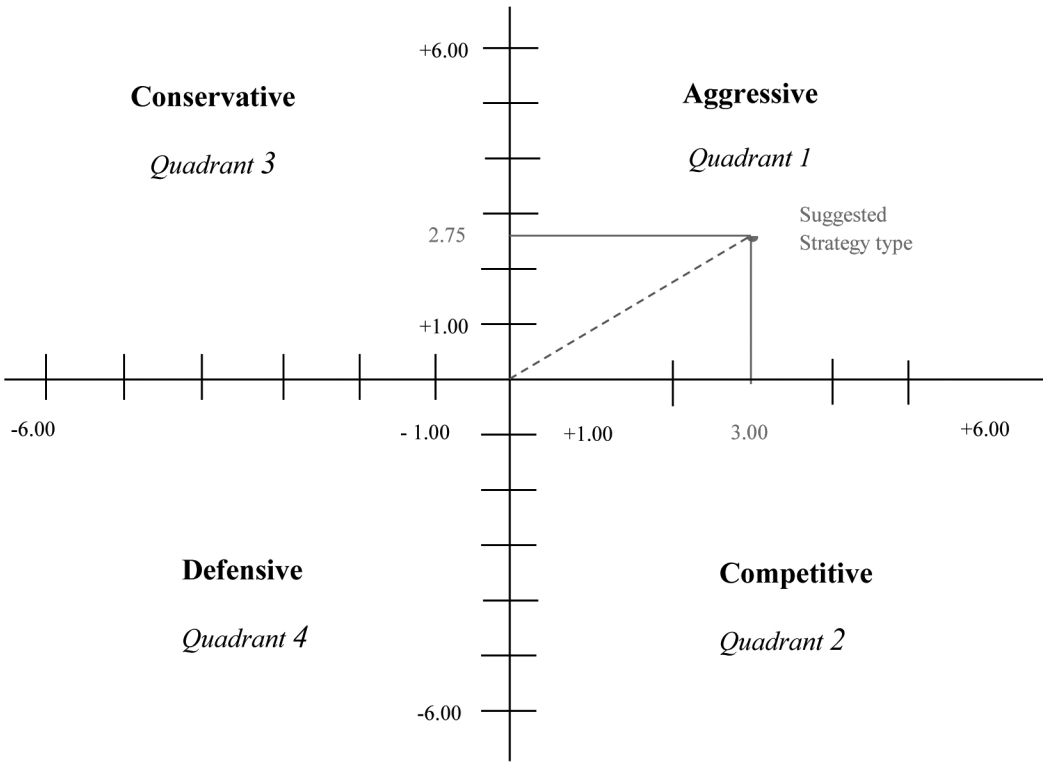


Figure 1. SPACE matrix.

Figure 1 illustrates strategic postures represented by the system of four quadrants. Quadrant 1 is the aggressive position. This posture is the best position among all postures. Bond markets located in this posture are rated excellent in all aspects. This position implies the bond markets have a strong capacity to compete aggressively or are growing aggressively. Quadrant 2 is the competitive position. It is the posture of bond markets of those countries having strong competitive advantage but with uncertainty in the environment. Quadrant 3 represents the conservative position. The bond markets in this posture have low or constant growth rates with limited differentiated debt market structures or products. Quadrant 4 is the defensive position; the bond markets in this posture are rated poorly in all aspects. The bond markets are weak and unstable, with less variety of debt securities, and normally have less potential to have policies for domestic bond markets› development. Sukcharoensin and Sukcharoensin (2013) have benchmarked equity markets in ASEAN-5 and found that the stock market in Singapore was in the first rank followed by Malaysia, Thailand, Indonesia, and the Philippines. Therefore, we hypothesize the same ranking persists in bond markets benchmarking.

Data and Methodology

To construct the indicators, most data related to bond markets in the five ASEAN countries are obtained primarily from the AsianBondsOnline website, which records bond issues and their characteristics for bond markets in Asia (Asian Development Bank, 2014). Then, the data on bond markets are collected on December 31, 2013. All financial information for each indicator is denominated in US dollars. Macroeconomic variables are collected from the International Monetary Fund (2014). Information for market structures and regulation issues on bond markets is gathered from the ASEAN+3 bond market guide (Asian Development Bank, 2013). The financial literacy variable is assembled from the IMD world competitiveness yearbook (International Institute for Management Development, 2013).

As mentioned in the earlier section, the SPACE matrix helps to decide the appropriate type of strategy analysis the company should undertake based on four dimensions, two internal and two external, in order to define an appropriate strategy for that organization. This paper empirically tests the benchmarking framework of Sukcharoensin (2017), who conducted in-depth interviews with the experts in bond markets to identify indicators in each dimension under the SPACE matrix model. The key indicators under each aspect were identified and evaluated by bond market experts.[1]

To benchmark bond markets using these indicators, raw data for each indicator are collected from various sources as mentioned in the previous section and are normalized into scores, ranging between 0 and 6 for each one of them belonging to the FS and IS dimensions. Likewise, a score between 0 and −6 is assigned to each indicator belonging to the CA and ES dimensions. By construction, CA and IS values are plotted on the *x* axis, and FS and ES, on the *y* axis. The sum of CA and IS values gives the final value for *x*, and the sum of FS and ES values gives the final value for the *y* coordinate.

The next step is to calculate the relative value for benchmarking bond markets using these indicators. The calculation of the relative value for benchmarking is extensively employed by several studies such as Stone and Ranchhod (2006) and Jarungkitkul and Sukcharoensin (2016). The relative value approach is a method of determining an indicator's value that takes into account the value of other countries' data for comparison, while the absolute value investigates only a country's indicators and does not relate them to other bond markets. The relative value of each indicator for assessment of bond market development among the five nations can be calculated by using equation (1).

$$C_{Aj} = \frac{\text{Value}_{Ai} - \text{Min}_{A}}{(\text{Max}_{A} - \text{Min}_{A})/6} \quad (1)$$

where

$C_{A,i}$ = Relative value of factor A for Bond Market i.

$\text{Value}_{A,i}$ = Numeric value of factor A for bond market i.

Min_{A} = Minimum value of factor A in all bond markets.

Max_{A} = Maximum value of factor A in all bond markets.

6 = Graph scale full points to compare among bond markets.

i = Bond market of the ASEAN-5 countries.

A = Four strategic postures for bond market development: FS, CA, IS, ES.

The computed scores range from 0 to 6 and show relative positions on selected criteria. This process is converting published indices to numbers between 0 and 6 inclusively. This process is similar to normalizing data using a simple formula. Technically, a more developed and competitive bond market should have higher relative value than a less developed and competitive counterpart for one or all dimensions. Unlike the absolute value, the relative value adjusts the most preferable aspect to the maximum score and the least preferable one to the minimum score. For instance, among all bond markets, a market with a relative value of 6 in the scale indicates the most competitive condition for the FS and IS dimensions compared to other bond markets. For the CA and ES dimensions, on the other hand, a market with a relative value of 0 in the scale indicates a more developed market compared to other bond markets.

The standard procedure under the SPACE matrix calculates the arithmetic mean for each dimension then plots values from this procedure for each dimension on the SPACE matrix on the appropriate axis. The next step is to add the average score for the CA and IS dimensions to get the final point on *x* axis. We add the average score for the SPACE matrix environmental stability ES and FS dimensions to derive the final point on the *y* axis. The final process is to find the intersection of the values on the *x* and *y* points, by drawing a link from the center of the SPACE matrix to the resultant point. This line discloses the strategy in which the bond market in each country is located. Consequently, the appropriate strategy can be found in either one of the following four strategic postures: aggressive, competitive, defensive, and conservative.

An alternative weighting scheme is to apply the AHP for assessing the importance of bond market development indicators as proposed by Saaty (2008). Chen, Wu, and Yang (2014) described the process in transforming the comparison into a matrix. Users of the AHP first decompose their decision problem into a hierarchy of more easily comprehended problems, each of which can be analyzed independently. The elements of the hierarchy can be related to any aspect of the decision problem. Once the hierarchy is constructed, the decision makers systematically calculate its different elements by linking them to each other, two at a time, with respect to their effect on an element above them in the hierarchy. In making the comparisons, the decision makers typically use their judgments about the elements' relative meaning and importance. It is the spirit of the AHP that human judgments—and not just the underlying information—can be used in performing the evaluations. Therefore, we apply the results of the AHP weight coefficients from Sukcharoensin (2017) to benchmark bond markets in the ASEAN-5 in the next section. The AHP converts these assessments to numerical values that can be handled and compared over the entire range of the problem. A numerical weight or priority is derived for each element of the hierarchy, allowing elements to be compared to one another in a rational and reliable way. This capability distinguishes the AHP from other decision-making methods. In the final stage of the process, numerical priorities are calculated for each of the decision alternatives. These numbers denote the alternatives' relative ability to achieve the decision goal, so they allow a straightforward consideration of the various courses of action.

Empirical Results

To measure and benchmark the strategic position of the bond markets in the ASEAN-5, there are four indicators under each of the CA, FS, and IS dimensions, while there are five indicators under the ES aspect. The detailed results of each dimension and relative scores in 2013 are presented in Table 1.

The Table 1 shows relative scores in each dimension under the SPACE matrix framework for ASEAN-5 bond markets in 2013. The intuitive interpretation of the results in Table 2 is that a more developed and competitive bond market should have a higher relative value than a less developed and competitive bond market. The score is interpreted as the relative location of the observation in a data set from the highest number in each dimension. This means the higher the score, the better the performance under each particular dimension. For comparison, the scale of the score ranges from 0 to 6. If one market gets a full score of 6 for each particular dimension, that means this market outperforms others in all subdimensions. However, this rarely happens since it is difficult to find such a market, which has a perfect picture in every angle for a particular dimension. Thus, if the bond market in country A gets the highest relative value of 5 in the FS dimension, for example, it can be interpreted that the bond market in country A has on average the best

Table 1. *The Relative Scores under SPACE Matrix Framework for ASEAN-5 Bond Markets*

	Relative Mean Score					AHP-weighted Score				
Dimension	ID	MY	PH	SG	TH	ID	MY	PH	SG	TH
Internal										
FS	1.94	4.17	2.92	**4.56**	4.37	1.54	4.09	3.67	**4.85**	4.24
CA	−3.73	**−1.55**	−4.44	−3.33	−2.16	−4.17	**−1.40**	−4.74	−3.11	−2.05
External										
ES	−5.13	−2.37	−2.04	**−1.70**	−3.78	−4.01	−1.70	**−0.96**	−1.62	−3.14
IS	1.96	3.81	2.94	3.69	**4.46**	2.53	3.51	2.49	3.97	**4.56**

Note. Bold numbers denote best-in-class bond markets in each dimension.

performance in the FS dimension relative to others in the region. However, the performance attained for country A is relatively on average at scale 5 compared to the best figure represented by 6 in the scale. From the result in Table 2, there is no single country that can completely dominate the bond market in all dimensions within the region. The details can be described for each dimension as follows:

FS Posture

The bond market in Singapore has the strongest position in the FS dimension among the ASEAN-5 countries, although the Singapore bond market does not get a full score in all subdimensions for the FS dimension. The market performs relatively well with a relative score of 4.56 and 4.85 points for arithmetic and AHP-weighted score, respectively. The runner-ups are Thailand, Malaysia, and the Philippines, while the bond market in Indonesia has the lowest financial strength among the ASEAN-5 countries, with a relative score of 1.94 and 1.54 points, respectively. The score indicates that the Indonesian bond market has a weak FS dimension relative to its peers in the region. The scores of less than 2 indicate that the Indonesian bond market has the lowest score on the FS dimension with the full scale of 6. These scores represent a relatively weak financial performance of its bond market.

CA Posture

The bond market in Malaysia has the greatest competitive edge in terms of competitive advantage in the ASEAN-5 with an average score of −1.55 and −1.4 points, measured by arithmetic and AHP-weighted score, respectively. The scores indicate that the Malaysian bond market has the strongest CA dimension relative to its peers in the region. The scores around −1.5 indicate the highest location on the CA dimension with the full scale of 0. A less negative number represents a slight penalty when trading off with its IS dimension. These scores represent a relatively strong competitiveness of the Malaysian bond market supported by successful experiences in developing the sukuk market.[2] The Malaysian sukuk market has currently progressed into one of the world's largest Islamic bond market, whereas the bond market in the Philippines has the lowest potential to compete in the ASEAN countries, with an average score of −4.44 and −4.74 points due mainly due to a relatively small bond market share and unease in accessing the market.

ES Posture

The bond market in Singapore has the potential to compete in the stability of the environment in ES in most ASEAN-5 countries with an average score of −1.70 points when using the simple relative score. The score of −1.7 indicates the relatively highest location on the ES dimension with the full scale of −6. A less negative number represents a slight penalty when trading off with its FS dimension. This shows that Singapore has the highest economic environment compared to other countries in the region. However, the bond market in the Philippines has the highest score on stability of the ES, considering the AHP-

weighted score, followed by Singapore and Malaysia. This contradiction may be the result from the AHP-weight scheme, which puts more weight on financial literacy and GDP growth dimensions. Apparently, the Philippines has improved the country's economic growth and financial literacy during the period of study. However, the simple weight seems to be more reliable without particular shocks in a particular year. On the other hand, Indonesia has the lowest relative score in the ES dimension because all dimensions except GDP growth are in an unfavorable condition.

IS Posture

The bond market in Thailand has the highest score on the IS aspect of the SPACE matrix, implying the strongest supports for bond markets in the ASEAN-5, measured by both simple and AHP-weighted scores of 4.46 and 4.56 points, respectively. The scores around 4.5 indicate that the Thai bond market has the relatively top performance for the IS dimension. These scores represent a relatively strong supporting industry for the Thai bond market, while the bond market in Indonesia has the fifth lowest relative score among the ASEAN-5 countries, having an average score of 1.96 and 2.53 points.

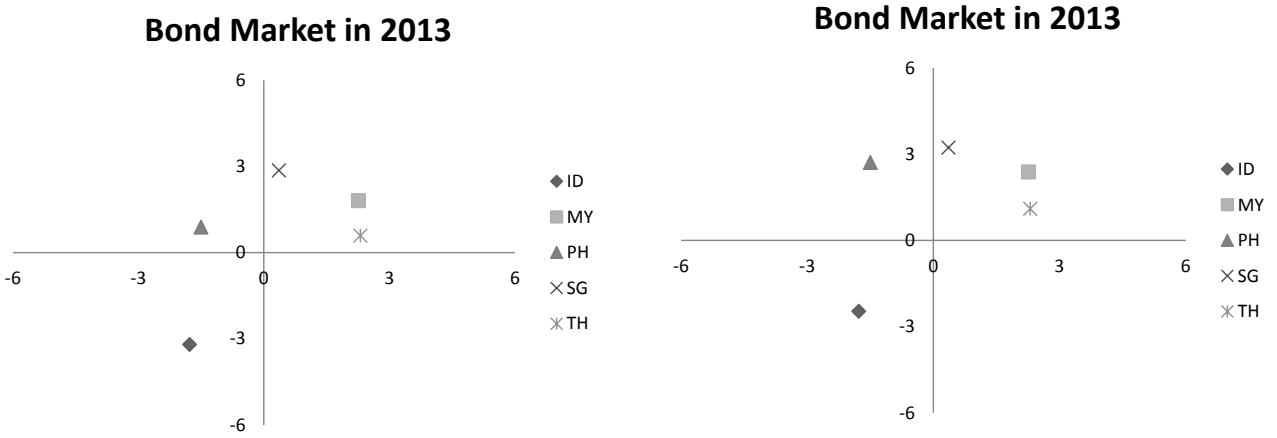
The Strategic Position of ASEAN-5 Bond Markets

This section shows the strategic position of ASEAN-5 bond markets. The presentation starts with adding the average score for the CA and IS dimensions to acquire the final position on the *x* axis on the SPACE matrix; we add the average score for the ES and FS dimensions to find the final point on the *y* axis, as depicted in Table 2.

The *x* and *y* points disclose the position of each bond market on one of the four quadrants as depicted in Figure 2. This figure shows that bond markets in ASEAN-5 have three strategic clusters. Specifically, they are located in three different postures. The first group is in an aggressive posture, including bond markets in Malaysia, Singapore, and Thailand. The markets are in an extremely promising location relative to the other two members in ASEAN-5. These markets are able to take an aggressive growth strategy. The second group is the bond market in the Philippines, which is located in the conservative posture. Finally, the Indonesian bond market is located in the defensive posture.

Table 2. *The Relative Scores Under the SPACE Matrix Framework for ASEAN-5 Bond Markets*

	Mean Score					AHP-weighted Score				
Axis	**ID**	**MY**	**PH**	**SG**	**TH**	**ID**	**MY**	**PH**	**SG**	**TH**
x	−1.78	2.26	−1.50	0.36	2.30	−1.64	2.12	−2.24	0.86	2.51
y	−3.20	1.80	0.89	2.86	0.59	−2.47	2.39	2.71	3.23	1.10



Panel A: Relative mean scores

Panel B: AHP-weighted score

Figure 2. *Strategic position of bond markets in ASEAN-5.*

From Figure 2, the Malaysian bond market is obviously operating in an attractive and stable industry. What puts the Malaysian bond market in a strong aggressive posture is that the Malaysian bond market has strong financial strength, with the economy under very stable conditions. The Malaysian bond market also has strong industry strength and competitive aspect. The Islamic bond market has made substantial advancement ever since the first sukuk issue in the 1990s. This makes the Malaysian bond market a vital source of financing for large-scale investment projects to facilitate the economic development of the nation and provides greater potential for diversification into new asset classes. The Malaysian sukuk market has currently progressed into one of the world's largest Islamic bond market. For these reasons, the strategic position of the Malaysian bond market is unbeaten among its counterparts in ASEAN-5.

The bond market in Singapore owes its rank to an impressive financial strength and distinctive stable economy. However, the bond market is trapped in a middle position for its CA and IS dimension. The market also has moderate growth, market share, fair product access, and most private debt securities are concentrated in a few industry such as financial services and telecommunication industry.

The Thai bond market is in a modest CA posture and IS aspect. However, the market has reasonably good financial strength but not enough to compensate for unstable conditions of the economy. Therefore, the Thai bond market has diminutive benefits from its competitive advantage with decent financial infrastructure and diversity of participants because it operates in the unfavorable economy and financial market condition.

The conservative posture includes the bond market of the Philippines. This position arises when the bond market is financially strong with a fairly stable economic condition but is unlikely to make significant benefits from the market condition, usually lacking of industry strength and attractive competitive situations. In view of the bond market in the Philippines, the market has weak market share and market accessibility with unfavorable supporting industry.

The Indonesian bond market is the one in a defensive posture. The distinctive feature of this posture is that the Indonesian bond market is in an unattractive industry with an unstable economic condition. The market also lacks in financial strength and competitive products. The market has not expanded at a speed rapid enough to follow other bond markets in the ASEAN-5. The Indonesian bond market confronts all areas of the problems relating to bond market structure, competitiveness, industry strength, and environment stability.

Challenges and Directions for Development

While considerable development has indicated promise, many things have to be set for future direction to improve the strategic posture of the market. As shown in Table 3, there are some issues that need to be addressed for guiding future development. For Malaysia, the priorities would be to improve liquidity of the market and enhance more hedging instruments. Some of the initiatives have to be improved, for example, the formation of secondary trading platforms and the commencement of greater depth to debt instruments. This will provide investors with the flexibility in managing their liquidity requirements. Also, larger diversity in the type and maturity of the sukuks are needed for Islamic financial institutions and portfolio managers to manage their resources effectively. On top of that, Malaysia should find ways to increase country ratings that will benefit debt security issuances in the future.

However, there are many challenges in developing the Malaysian bond market. One major challenge is how to develop a comprehensive Islamic financial system that operates in parallel with the conventional financial system. Obviously, these must be challenged by having a well-designed financial infrastructure, legal and regulatory framework, and the expertise to contribute to the growth of Islamic finance. Of further importance is the harmonization of standards and practices globally. To achieve this, there need to be continuous investments in intellectual capital and greater engagement among Sharia scholars.

Directions for improving the strategic position of the bond market in Singapore include initiatives for new product development schemes and creation of access to fresh and attractive markets. While extensive progress has been recognized, many packages have to be done. The challenge for Singapore is that there is little necessity for the country to issue additional public debt since it has low budget deficits for most of the past decade. Although the needs for local currency corporate bonds have been driven by the demand side

Table 3. *The Indicators Under SPACE Matrix Framework for ASEAN-5 Bond Markets*

Dimension	Mean Score					AHP-weighted mean Score					AHP Relative Weights
	ID	MY	PH	SG	TH	ID	MY	PH	SG	TH	
Internal Factor (Company)											
FS	1.94	4.17	2.92	4.56	4.37	1.54	4.09	3.67	4.85	4.24	1.00
F1: Returns Index	6.00	3.24	0.00	2.87	4.50	0.88	0.47	0.00	0.42	0.66	0.15
F2: Turnover Ratio	0.00	1.53	6.00	4.51	4.36	0.00	0.51	1.98	1.49	1.44	0.33
F3: Transaction Cost	1.76	5.91	3.71	5.86	3.81	0.66	2.23	1.40	2.21	1.44	0.38
F4: Volatility	0.00	6.00	1.98	4.98	4.82	0.00	0.88	0.29	0.73	0.70	0.15
CA	−3.73	−1.55	−4.44	−3.33	−2.16	−4.17	−1.40	−4.74	−3.11	−2.05	1.00
C1: Relative Bond Market Share	−5.80	0.00	−6.00	−1.99	−1.05	−2.26	0.00	−2.34	−0.78	−0.41	0.39
C2: Market Access	−2.18	−2.73	−6.00	−2.18	0.00	−0.44	−0.55	−1.20	−0.44	0.00	0.20
C3: Products Variety	−3.88	−3.00	−3.00	−4.76	−4.59	−1.01	−0.78	−0.78	−1.24	−1.19	0.26
C4: Concentration	−3.07	−0.48	−2.77	−4.37	−3.00	−0.46	−0.07	−0.42	−0.66	−0.45	0.15
External factor (Environment)											
ES	−5.13	−2.37	−2.04	−1.70	−3.78	−4.01	−1.70	−0.96	−1.62	−3.14	1.00
E1: GDP Growth	−1.93	−3.46	0.00	−4.32	−6.00	−0.41	−0.73	0.00	−0.91	−1.26	0.21
E2: Volatility of Inflation Rate	−6.00	−0.78	0.00	−2.72	−0.93	−0.78	−0.10	0.00	−0.35	−0.12	0.13
E3: Barrier to Entry	−5.74	−1.30	−4.19	−0.50	−3.50	−1.32	−0.30	−0.96	−0.12	−0.80	0.23
E4: Country Rating	−6.00	−4.00	−6.00	0.00	−4.67	−1.08	−0.72	−1.08	0.00	−0.84	0.18
E5: Financial Literacy	−6.00	−2.30	0.00	−0.96	−3.81	−1.50	−0.57	0.00	−0.24	−0.95	0.25
IS	1.96	3.81	2.94	3.69	4.46	2.53	3.51	2.49	3.97	4.56	1.00
I1: Bond Market Growth	0.51	3.10	4.64	3.00	3.01	0.10	0.62	0.93	0.60	0.60	0.20
I2: Domestic Bond Financing to Capital	0.00	6.00	4.12	2.76	5.27	0.00	1.01	0.69	0.46	0.89	0.17
I3: Infrastructure (Settlement and Custody)	6.00	2.00	0.00	6.00	6.00	2.04	0.68	0.00	2.04	2.04	0.34
I4: Participants	1.33	4.15	3.00	3.00	3.57	0.38	1.20	0.87	0.87	1.03	0.29

such as pension funds and the mutual fund industry, the corporate bond market has been kept stable due to a narrow domestic issuer base. To overcome this problem, Singapore's challenge can be alleviated by encouraging foreign-based firms to issue locally and boost greater foreign participation. In doing so, there is another challenge, which is to balance the larger foreign transactions with greater complication on the conduct of monetary policy and higher volatility of the short-term fund flows. Given the historical and current tendency, it is expected that the low yield environment is likely to continue. A serious implication of negative yield auctions for short-dated government securities is a particular cause of concern, in terms of both its implications and its potential impact on institutional as well as retail investors.

The extreme challenge is how to place Singapore as the international bond market center in the region (Brouwer, 2002). There have already been US dollar bond issuances by foreign entities in Singapore due to the market having the advantage in terms of location, infrastructure of the bond market, and regulatory framework to grow into the regional hub for bond markets in ASEAN-5.

To enhance its competitiveness for Thailand over the short run, the policy makers should primarily improve its weakness on the product variety and concentration of sovereign debt market and increase the hedging mechanisms for investors to protect their risk toward interest rate and exchange rate variability. Another proposal is to increase the growing of the corporate bond market since the issue size is still underdeveloped compared to public debt securities.

However, the challenge for Thailand would be how to remove or lessen barriers to entry, including the relaxation of laws and amendments to improve financial environment. Also, a conformation and convergence of internationally recognized accounting standards have to be improved for promoting the development of private debt markets. The bigger challenge is the role of the Thai bond market in exercising its strengths on geographic location in the Greater Mekong Subregion (GMS). The Thai bond market should collaborate with other newly established emerging bond markets in GMS to strengthen its competitiveness. By having a deep understanding of the GMS financial needs, market structures, and the unique needs of these countries, the Thai bond market can be the financial hub for GMS markets in raising funds or encouraging cross-border issuances within the region. In this way, Thailand can build up the competitive advantage over the long run by serving a market segment that other markets can access with more geographic difficulties. The main challenge for bond market development in the country will be the initiatives of the baht currency debt market for the GMS subregion.

For the Philippines, there are directions for enhancing the development of bond markets, for instance, improving bond market liquidity, increasing private debt issue market, institutionalizing hedging market and mechanism, and improving clearing and settlement of securities. Also, an unfavorable taxation environment has dampened corporate bond issuances in the Philippines. There is an immediate requisite for the passage of key legislation, for example, to bring the bankruptcy laws up to date, amend the new central bank act, or create a credit bureau, which will outgrow the expansion of the local bond market. Another challenge would be how to standardize the back office operations and the improvement toward a scripless format of traded securities. Currently, many of them are still issued in certificate form.

Challenges for the bond market in the Philippines are, first, the corporate bond market in the Philippines is done bilaterally and conducted over the counter (OTC).[3] It is necessary to establish a true picture of secondary market liquidity, of both repo and derivatives markets. Also, the establishment of a more efficient benchmark using government debt prices is pressed for time. The existence of pricing and distribution information will enhance the development of corporate bond markets.

Initiatives to develop bond markets in Indonesia should concentrate on sustaining a stable macroeconomic environment with low inflation and stable interest rates, developing a healthy government bond market that would serve as a benchmark for the corporate bond market, improving the regulatory framework for the bond market, rationalizing tax treatment of bonds, and broadening the investor base.

The Indonesian bond market currently confronts the challenge of improving its technical, institutional, and human capital development. Therefore, the trading systems, general infrastructure quality, and the skills of human resource in the financial industry are needed to be enhanced. The issue of labor quality is the most important aspect since the level of financial literacy is far below workforces in other bond markets. Although there is the establishment of the Indonesian Capital Market Institute (ICMI), however, the emphasis is placed on equity market development.

The challenge for the market is to relax the taxes on interest income or capital gains on local bond holdings by foreign investors. In fact, nonresident investors can take advantage of escaping these taxes by holding assets via Singapore due to the bilateral withholding tax treaty with Indonesia (Gray, Felman, Carvajal, & Jobst, 2011). The market should also highlight its financial infrastructures and supporting systems.

For the whole region, the bond markets in ASEAN-5 economies should provoke the challenge of integration. For example, a strategic collaboration between bond markets in ASEAN-5 should be strengthened to establish mutual benefits among markets. In doing so, less developed markets can learn from their cream of the crop to improve their strategic position and can move toward sustainable bond market developments based on long-term partnership. Nonetheless, preconditions for a successful regional cooperation include the harmonization of legislations and laws related to international credit markets, synchronized information technology and trading

platform, and massive involvements from the government. Most importantly, human capital and financial literacy programs must be enhanced to support the long-term sustainable growth of the bond markets in the region. Specifically, knowledge on bond markets and fixed income securities should be expanded to educate participants with an in-depth understanding of products, debt markets, mechanisms, pricing methodologies, and related regulations.

Conclusion

One important element devoted to the acceleration of the financial sector growth in ASEAN-5 is the development of bond markets. As an alternative to the conventional financing, which is exceptionally bank centric, bond markets will serve as an alternative channel of intermediation that could be used in the case of banks being vulnerable to financial difficulties. It is anticipated that the effort toward bond market development not only creates benefits to financial sectors in each country but also creates more cross-border financing flows among the region. However, developing one market also intensifies competition among the group. Therefore, benchmarking provides the reference point by which a bond market can measure their strategy against others.

The objective of this paper is to benchmark the strategic position of bond markets in the ASEAN-5 countries. To the best of the researcher's knowledge, this study is the first to achieve benchmarking strategic positions of bond markets, specifically in ASEAN-5 countries. Overall, the results from the analysis using the SPACE matrix framework show that bond markets in the ASEAN-5 are disseminated on several strategic postures. In general, bond markets in the ASEAN-5 currently encounter several challenges such as economic and financial integration and the need for better technical and institutional development to address the problem of low liquidity. Preconditions for successful regional approaches include the harmonization of legislations such as bankruptcy and accounting laws and a liberalized trade regime.

There is one limitation of this study worth mentioning. In the Methodology section, the data for the year 2013 are used to find relative scores. In doing so, it only measured the strategic posture of each bond market at a point in time. Though this limitation exists, the impact is insignificant. This is due to the nature of macro-level data that usually establish trends and are inclined to persist for a period of time. Therefore, we do not expect significant changes in our results from year to year.

Notes

[1] The process starts with listing organizations involving with bond market development, identifying candidates for an interview, and making arrangements to interview them. Finally, a group of 10 experts in bond markets is identified to generate indicators. During an interview, participants do not encounter or recognize who else is involved, so the facilitator controls the process and manages the flow and consolidation of information. In this way, the anonymity and remoteness of the process helps to avoid issues of group thinking and conflicts among participants. Besides, the procedure gives participants time to consider issues thoroughly and critique each indicator rigorously.

[2] A sukuk is an Islamic financial certificate, similar to a bond, that complies with Sharia-Islamic religious law. Since the traditional Western interest-paying bond structure is not permissible, the issuer of a sukuk sells an investor group a certificate and then uses the proceeds to purchase an asset, of which the investor group has partial ownership. The issuer must also make a contractual promise to buy back the bond at a future date at par value.

[3] Over-the-counter (OTC) or off-exchange trading is done directly between two parties, without any supervision of an exchange. In an OTC market, dealers act as market makers by quoting prices at which they will buy and sell bonds. A trade can be executed between two participants in an OTC market without others being aware of the price at which the transaction was effected. In general, OTC markets are therefore less transparent than exchanges and are also subject to fewer regulations.

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