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Data Description

The information used in this report came from available primary and secondary data sources. Market interviews with key market participants were conducted in 2021. Secondary sources include publicly available information and data from Bloomberg. Data from Bloomberg are used primarily to compare Singapore with other ASEAN countries.

Disclaimer

This paper is part of the ASEAN corporate bond market research under the Finance Department of CGIF. Led by Dong Woo Rhee, Chief Financial Officer of CGIF, with assistance from Soleil Corpuz, Research Analyst of CGIF, this research effort aims to show the characteristics of corporate bond markets in the ASEAN region. For any questions or comments on the contents of this report, please contact research@cgif-abmi.org.

Abbreviations

ABS	Association of Banks in Singapore
ASEAN	Association of Southeast Asian Nations
ASEAN+3	ASEAN member states plus the People's Republic of China, Japan, and the Republic of Korea
ASEAN5	ASEAN member states Indonesia, Malaysia, Philippines, Singapore, and Thailand
ASEAN6	ASEAN member states Indonesia, Malaysia, Philippines, Singapore, Thailand, and Viet Nam
ATM	automated teller machine
AUM	assets under management
CGIF	Credit Guarantee and Investment Facility
CIS	collective investment scheme
CMS	capital market service
CPF	Central Provident Fund
CRA	credit rating agency
DBU	domestic banking unit
ECAI	external credit assessment institution
EFTPOS	electronic funds transfer at point of sale
FCY	foreign currency
GDP	gross domestic product
IRBA	internal ratings-based approach
LCY	local currency
MAS	Monetary Authority of Singapore
MDB	multilateral development bank
PSE	public sector entity
QFB	qualifying full bank
RBC	risk-based capital
REIT	real estate investment trust
S&P	Standard & Poor's
SFA	Securities and Futures Act
SGD	Singapore dollar
SGX	Singapore Exchange
YTM	yield to maturity

Currencies

BND	Brunei dollar
CNY	Chinese yuan
GBP	pound sterling
HKD	Hong Kong dollar
IDR	Indonesian rupiah
JPY	Japanese yen
KHR	Cambodian riel
KRW	South Korean won
LAK	Lao kip
MMK	Myanmar kyat
MYR	Malaysian ringgit
PHP	Philippine peso
SGD	Singapore dollar
THB	Thai baht
USD	United States dollar
VND	Viet Nam dong

Report Summary

1. Characteristics of Singapore's Corporate Bond Market

- In 2020, Singapore has the second biggest corporate bond market in ASEAN next to Malaysia. The developed corporate bond market in Singapore is seen to be highly correlated with the well-developed capital market of the country.
- Perpetual bonds occupy 19% of the corporate bonds in Singapore – the highest in ASEAN. This type of bonds appeal to issuers and investors in different ways. For issuers, perpetual bonds are useful as equity can be raised without diluting the share of their existing shareholders. For non-financial issuers, they issue perpetual bonds as part of the process of maintaining certain levels of gearing ratio. For investors, perpetual bonds are attractive as they pay higher yields compared to ordinary bonds.
- One of the unique characteristics of Singapore's corporate bond market is the low ratio of rated bonds, which is attributed to the excess demand situation for corporate bonds in Singapore as well as the absence of regulations for mandatory credit ratings of bonds in the country. While the supply of SGD corporate bonds is limited, the demand is high as they are invested in not only by local investors but also by foreign investors through private banks or fund management companies.

2. Investors

- In 2019, the Monetary Authority of Singapore (MAS) reported that investor groups in SGD-denominated corporate debt issuances consisted of financial institutions, fund managers, private banking, and insurance. Private banking has the highest share in SGD-denominated corporate bond issuances, taking 33.8% share. Fund managers took up 26% of SGD-denominated bonds, followed by financial institutions with 21.5% share. The financial institutions would generally refer to banks.
- Private banking prefers perpetual bonds and unrated bonds due to their attractive yields compared with ordinary rated bonds. They can invest in both SGD-denominated and USD-denominated corporate bonds. Both local banks and foreign banks are active in private banking business in Singapore.
- As Singapore is considered a global financial hub, asset management business in Singapore is more globalized compared to those of other ASEAN countries in terms of source of funds and investment destination. Funds managed by asset management companies in Singapore are invested in by both local investors and foreign investors. SGD bonds held by the funds include those that are issued by Singapore entities and non-Singapore entities.

3. Issuers

- In 2019, corporate issuers of SGD-denominated issuances include property companies, non-property companies, financial institutions, special purpose vehicles, and government agencies or statutory boards. Financial institutions take up most of the share, followed by the statutory boards.

4. Other Market Participants

- Other significant market participants include the MAS and Singapore Exchange (SGX). MAS is also the sole government authority for the financial and capital markets of the country. MAS works with existing industry players to promote Singapore as a "dynamic international financial center".
- SGX is known as the region's international and multi-asset exchange. SGX can provide a wide range of securities exchange services from listing, trading, clearing, settlement, depository to data services. Over 80% of the listed bonds originate outside of Singapore.

5. Credit Spreads

- An observation in Singapore's corporate bond market is that maximum tenors of corporate bonds become shorter as the credit rating goes down. This implies that the maximum tenor that is considered liquid enough to be traded or issued becomes shorter as credit ratings go down.
- Based on the available data, credit spreads from A-rated bonds are relatively competitive in view of their credit rating. These A-rated bonds are required to pay only additional 10 to 20 basis points on top of the AA to AAA rated bonds, which are rated 4 to 6 notches higher than A-rated bonds.
- Credit spreads of unrated bonds are widely ranged, which implies that some of these bonds are unrated because they are expected to be speculative grades if rated. Other bonds are unrated because they do not need to be rated due to their well-known names. Singapore government owned entities belong to the latter.

6. Guaranteed Corporate Bonds

- Approximately 37% of outstanding corporate bonds in Singapore are guaranteed. Most of the guarantors in Singapore's corporate bond market are the parent companies of the issuers. Some of the guarantees are intended for the issuances of financial and treasury centers, which are considered as financial vehicles of issuers, and not an operating subsidiary which is a more familiar case in other countries. In this case, guarantees for the bonds that are issued by treasury centers are different from ordinary parent guarantees which are intended to support financing of less creditworthy subsidiaries.
- By end of 2020, there are only four bonds that are guaranteed by third-party guarantors in Singapore's corporate bond market. Out of these four bonds, three are guaranteed by Credit Guarantee and Investment Facility (CGIF). The CGIF-guaranteed bonds are perceived to be "scarce" in the market, and thus welcomed by local investors. These bonds are priced at a slightly wider spread compared to ordinary AA-rated bonds. This is because guaranteed corporate bonds are less liquid than ordinary corporate bonds.

7. Cross Border Bonds

- Among the ASEAN countries, Singapore is the only country where foreign entities are actively participating in the local currency bond market. The ratio of local currency bonds issued by foreign entities to total local currency bonds in Singapore is 26%, which is the highest. This ratio does not include the major currency settled bonds. Singapore is then followed by 1% for both Malaysia and Thailand.
- The ratio of foreign currency bonds issued by local entities to total bonds issued by local entities in Singapore is also considered the highest in the ASEAN region. In addition, the number of foreign currencies that are used by Singapore entities for their bond issuances is 22, which is, the highest in ASEAN as well. This is followed by Malaysia, with 8 as the number of foreign currencies preferred by Malaysian entities.

8. Outlook for Singapore's Corporate Bond Market

- Although the country has an internationally recognized debt market, Singapore continues to develop measures to advance its corporate bond market. A more popular initiative is the implementation of bond grant schemes to encourage the issuance and listing of bonds in Singapore. These schemes further position Singapore as a reputable location for both local and international firms to list their bonds in the country.

1. Overview of Singapore's Corporate Bond Market

1.1. Overall Characteristics

Singapore is known to have a strong financial industry cluster in Asia. The country can support infrastructure funding, structured trade finance, and wealth management services. In terms of the bond market, Singapore is considered as one of the most sophisticated markets recognized globally. It is recognized to be advanced in both capital and debt markets in Southeast Asia. The Monetary Authority of Singapore (MAS) reported that the country's corporate bond market caters to both Singapore dollar (SGD) denominated bonds and non-SGD denominated bonds. In fact, Singapore is regarded as a "multicurrency corporate bond market", as the issuance currencies include, among others, the US dollar, Euro, Japanese Yen, and Philippine Peso.

1.2. Corporate Bond Market Size

In 2020, Singapore has the second biggest corporate bond market in ASEAN[1] next to Malaysia, not only in terms of the absolute size of the bond market but also in terms of the relative size, which considers the economy size of each country. In Table 1.1, total outstanding local currency (LCY) corporate bonds in Singapore amount to USD131 billion equivalent, which reaches 37% of the GDP of the country. With the corporate bond market being part of the capital market, it is observed that Singapore, which has an active stock market, tends to have an active corporate bond market as well. As shown in Table 1.1 and Figure 1.1, the developed corporate bond market in Singapore is seen to be highly correlated with the well-developed capital market of the country.

Table 1.1: Corporate Bond Market, Market Capitalization, and Gross Domestic Product of ASEAN6, 2020

Country	GDP (A)	Market Capitalization (B)	LCY Corporate Bond Market (C)	B/A	C/A
Brunei	12.02	-	-	0%	0%
Cambodia	25.29	2.42	0.14	9.6%	0.6%
Indonesia	1,098.52	492.64	30.30	45%	3%
Lao PDR	19.14	0.89	-	4.6%	0%
Malaysia	333.81	432.85	187.01	130%	56%
Myanmar	76.19	0.49	-	0.6%	0%
Philippines	374.27	267.18	33.57	71%	9%
Singapore	**354.81**	**445.64**	**131.19**	**126%**	**37%**
Thailand	524.15	522.40	123.23	100%	24%
Viet Nam	272.45	229.46	12.23	84%	4%

ASEAN6 = Association of Southeast Asian Nations member states Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Viet Nam, GDP = gross domestic product, LCY = local currency

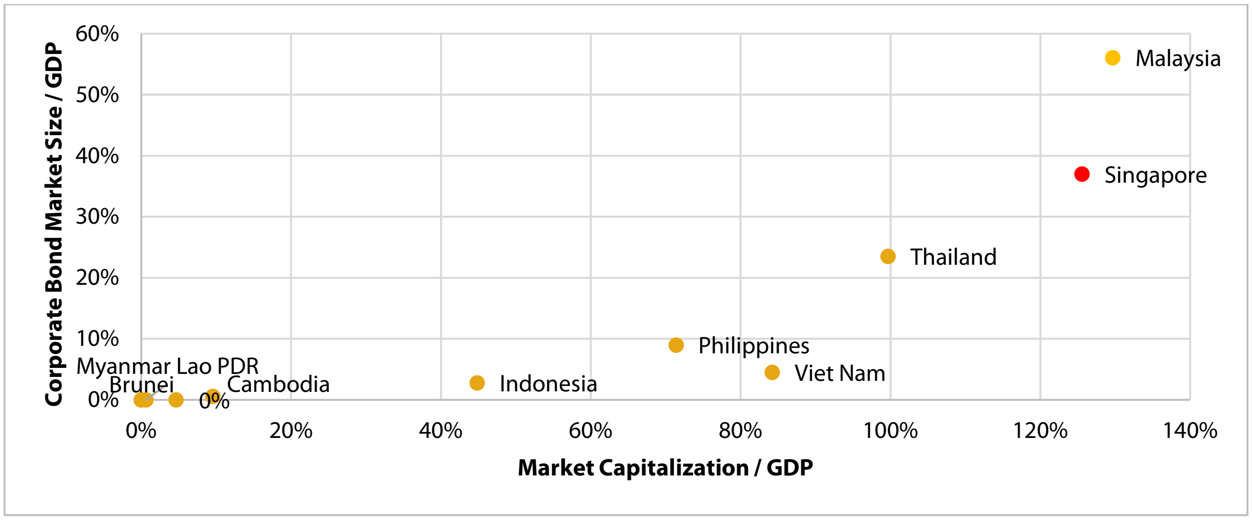
Notes:

1. GDP and market capitalization figures are reported in USD current values. GDP figures for Cambodia, Lao PDR, and Myanmar are sourced from World Bank. GDP figures for the rest of the countries in the table are sourced from Asian Bonds Online.
2. Brunei, Lao PDR and Myanmar do not have LCY corporate bond markets yet.
3. Market capitalization figures are retrieved in local exchanges in each country. These are reported in local currencies. Exchange rates used are as follows: USD1 = KHR4,062; USD1 = LAK8,885; and USD1 = MMK1,493. Market capitalization for the rest of the countries in the table are sourced from Bloomberg.
4. LCY corporate bond market figure from Cambodia is sourced from Cambodia Stock Exchange. There is no LCY corporate bond market yet in Lao PDR and Myanmar. LCY corporate bond market figures for the rest of the countries in the table are sourced from Asian Bonds Online.
5. Figures are rounded off. Values are in USD billions.

[1] ASEAN = Association of Southeast Asian Nations, which is comprised of Singapore, Malaysia, Thailand, the Philippines, Viet Nam, Indonesia, Cambodia, Lao PDR, Myanmar, and Brunei Darussalam.

Source: World Bank for GDP, GDP growth, and market capitalization of Viet Nam and Thailand; Local exchanges of Cambodia, Lao People's Democratic Republic, and Myanmar for market capitalization.

Figure 1.1: Relationship Between Market Capitalization to GDP and Corporate Bond Market Size to GDP in ASEAN, 2020



ASEAN = Association of Southeast Asian Nations, GDP = gross domestic product
Source: Author's Illustration using data in Table 1.1.

The comparison of the corporate bond market size with government bond market size of a country shows how corporate bonds are significantly treated as fixed income assets by investors. The total outstanding corporate bonds in Singapore occupy 88% of the total outstanding government bonds of the country. This the highest ratio in ASEAN together with Malaysia, which implies that corporate bonds play a significant role as fixed income assets in Singapore. On the other hand, the comparison of the corporate bond market size with the corporate loan market size of a country shows how much local companies rely on bond issuances for their funding compared with bank loans. The fact that the ratio of the corporate bond market size to the corporate loan market size in Singapore is the second highest (41%) in ASEAN implies that Singapore companies significantly consider bond issuances when they require funding.

Table 1.2: Corporate Bond Market, Government Bond Market, and Corporate Loan Market of ASEAN, 2020

Country	LCY Corporate Bond Market (A)	LCY Government Bond Market (B)	Corporate Loan Market (C)	A/B	A/C
Brunei	n/a	n/a	1,808.40	n/a	n/a
Cambodia	0.14	n/a	n/a	n/a	n/a
Indonesia	30.3	287.87	229.63	11%	13%
Lao PDR	n/a	0.27	n/a	n/a	n/a
Malaysia	187.01	211.58	186.24	88%	100%
Myanmar	n/a	n/a	n/a	n/a	n/a
Philippines	33.57	140.24	179.47	24%	19%
Singapore	**131.19**	**148.48**	**317.03**	**88%**	**41%**
Thailand	123.23	229.18	359.75	54%	34%
Viet Nam	12.23	58.81	n/a	21%	n/a

ASEAN = Association of Southeast Asian Nations, Lao PDR = Lao People's Democratic Republic, LCY = local currency
Notes:
1. Brunei, Lao PDR, and Myanmar do not have LCY corporate bond markets yet.

2. Corporate loan market data are calculated from the loan data that is disclosed by the central banks of each country. For Myanmar and Cambodia, data on corporate loan markets for end of 2020 are not yet available as of time of writing. For Brunei, the data reflects loans and advances to the non-household sector in the domestic market and reported in Brunei Dollar. For Lao PDR, although credit per sector is identified, household credit is not segmented.
3. LCY Government bond market data for Malaysia, Singapore, Philippines, Thailand, Indonesia, and Viet Nam are sourced from Asian Bonds Online. LCY government bond market data for Myanmar as of December 2020 is not available. LCY government bond market data for Lao PDR is from the LAK government bonds that are listed in Lao Stock Exchange. Exchange rate to USD1: LAK9,289. Brunei and Cambodia do not have government bond markets yet.
4. Exchange rates to USD1: BND = 1.33.
5. Figures for the LCY corporate bond market and government bond market for the rest of the countries in the table are sourced from Asian Bonds Online.
6. Figures are rounded off. Values in USD billions.
Source: Asian Bonds Online; Central Banks of each country.

2. Specific Characteristics of Singapore's Corporate Bond Market

2.1. Issuance Size

In 2020, Singapore had the highest average issuance size across ASEAN6 countries[2]. Compared to other ASEAN6 countries, Singapore is recorded as second to the highest amount in terms of maximum issue size. This may indicate the country's capacity to accommodate a larger amount for funding required by corporates and highlights the maturity of Singapore for corporate bond market compared to other ASEAN countries.

Table 2.1: Issuance Size of Outstanding Corporate Bonds in ASEAN6, 2020

Country	Average	Minimum	Maximum
Indonesia	32.90	0.03	597.47
Malaysia	54.35	>0.01	3,542.61
Philippines	139.53	2.08	834.55
Singapore	**161.86**	**0.08**	**2,628.67**
Thailand	72.44	0.17	1,454.92
Viet Nam	51.30	0.05	172.96

ASEAN6 = Association of Southeast Asian Nations member states Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Viet Nam, USD = United States dollar
Note: Exchange Rates to USD1: MYR4.05, SGD=1.33, THB=30.17, PHP=48.05, IDR=14,155, VND=23,127 (as of 31 December 2020). Values in USD millions.
Source: Bloomberg; Author's calculations.

2.2. Maturity Distribution

Among the ASEAN6 countries, Singapore's corporate bond market has relatively long tenor bonds. This is because 78% of the outstanding SGD-denominated bonds in the country has a maturity of more than 5 years. It is interesting to note that perpetual bonds occupy 19% of the corporate bonds in Singapore, which is considered the highest in ASEAN. This high perpetual ratio is associated with high variable bonds ratio in terms of coupon type and high subordinated bonds ratios in terms of payment rank in the country.

[2] ASEAN6 = Indonesia, Malaysia, Philippines, Singapore, Thailand, and Viet Nam.
In this chapter, ASEAN6 countries were selected in the analysis since these countries have relatively developed corporate bond markets in ASEAN.

Table 2.2: Comparison of Maturity Distribution of Corporate Bonds in ASEAN6, 2020

Country	Up to 3 years	> 3 to 5 years	> 5 to 10 years	Over 10 years	Perpetual
Indonesia	37%	34%	24%	5%	0%
Malaysia	8%	10%	40%	38%	4%
Philippines	30%	11%	51%	8%	0%
Singapore	**4%**	**18%**	**44%**	**15%**	**19%**
Thailand	26%	26%	34%	10%	3%
Viet Nam	33%	23%	38%	6%	0%

ASEAN6 = Association of Southeast Asian Nations member states Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Viet Nam
Source: Bloomberg; Author's calculations.

Perpetual bonds appeal to both issuers and investors of corporate bonds. For issuers in general, perpetual bonds are attractive if they want to raise capitals without dilution for their shareholders because perpetual bonds are treated as equity, not as debt. Specifically, for non-financial institutions, they issue perpetual bonds as part of the process of maintaining certain levels of gearing ratio. For investors, perpetual bonds are attractive as they pay higher yields compared to conventional bonds.

2.3. Maturity Type

Table 2.3 shows that straight bonds are 62% of outstanding SGD-denominated bonds issued by Singaporean entities. A huge part of the outstanding bonds are perpetual callable bonds, which are captured in the Others category. Other maturity types that are categorized under Others include those with callable and sinkable features, convertible and callable, convertible and perpetual, and putable.

Table 2.3: Comparison of Maturity Type of Corporate Bonds in ASEAN6, 2020

Country	Straight	Callable	Sinkable	Convertible	Others
Indonesia	97%	0%	0%	3%	0%
Malaysia	84%	9%	0%	1%	5%
Philippines	50%	48%	0%	0%	1%
Singapore	**62%**	**8%**	**0%**	**2%**	**28%**
Thailand	80%	15%	1%	0%	4%
Vietnam	85%	10%	2%	3%	0%

ASEAN6 = Association of Southeast Asian Nations member states Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Viet Nam
Source: Bloomberg; Author's calculations.

2.4. Coupon Type

In Singapore, the coupon type of bonds is predominantly fixed coupon type, which is approximately 70% of the total outstanding corporate bonds, as shown in Table 2.4. However, 70% is the second lowest fixed coupon bond ratio in ASEAN next to Viet Nam. Singapore has a significant number of variable coupon bonds, which is 24% of the total outstanding corporate bonds in the country. These variable coupon bonds are mostly observed from callable or perpetual callable bonds whose coupons are fixed until call dates and coupons after call dates are also fixed with the benchmark rates at call dates plus spreads. As such, the bonds that are classified as variable coupon bonds in Singapore are closer to fixed coupon bonds than variable coupon bonds.

Table 2.4: Comparison of Coupon Type of Corporate Bonds in ASEAN6, 2020

Country	Fixed	Floating	Step	Variable	Zero	Others
Indonesia	98%	0%	0%	0%	1%	0%
Malaysia	81%	4%	1%	3%	10%	1%
Philippines	97%	1%	0%	2%	0%	0%
Singapore	**70%**	**0%**	**2%**	**24%**	**5%**	**0%**
Thailand	94%	0%	1%	3%	1%	0%
Vietnam	46%	51%	1%	3%	0%	0%

ASEAN6 = Association of Southeast Asian Nations member states Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Viet Nam
Source: Bloomberg; Author's calculations.

2.5. Payment Rank

Similar to other ASEAN markets, unsecured corporate bonds dominate the Singapore market in terms of payment rank. One interesting characteristic of Singapore's corporate bond market is the share of subordinated bonds, which is 23% of the total outstanding LCY bonds in the country – the highest in ASEAN.

Table 2.5: Comparison of Payment Rank of Corporate Bonds in ASEAN6, 2020

Country	Secured	Unsecured	Subordinated
Indonesia	12%	83%	5%
Malaysia	25%	63%	12%
Philippines	2%	93%	5%
Singapore	**3%**	**74%**	**23%**
Thailand	2%	89%	8%
Vietnam	11%	88%	1%

ASEAN6 = Association of Southeast Asian Nations member states Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Viet Nam
Source: Bloomberg; Author's calculations.

In fact, high subordinated bond ratio is associated with high callable or perpetual callable bond ratio and high variable coupon bond ratio in Singapore. This is because banks or companies issue subordinated bonds for their Tier 2 capital with callable or perpetual callable and variable coupon structures. As mentioned earlier, variable coupon bonds in Singapore are mostly fixed coupon bonds because they pay fixed coupons until call dates and pay adjusted fixed coupons after the call dates unless the call options are exercised. This structure is in line with the one easily observed from subordinated bonds in a global bond market. Table 2.6 is an example of the structure of a subordinated bond as an illustration.

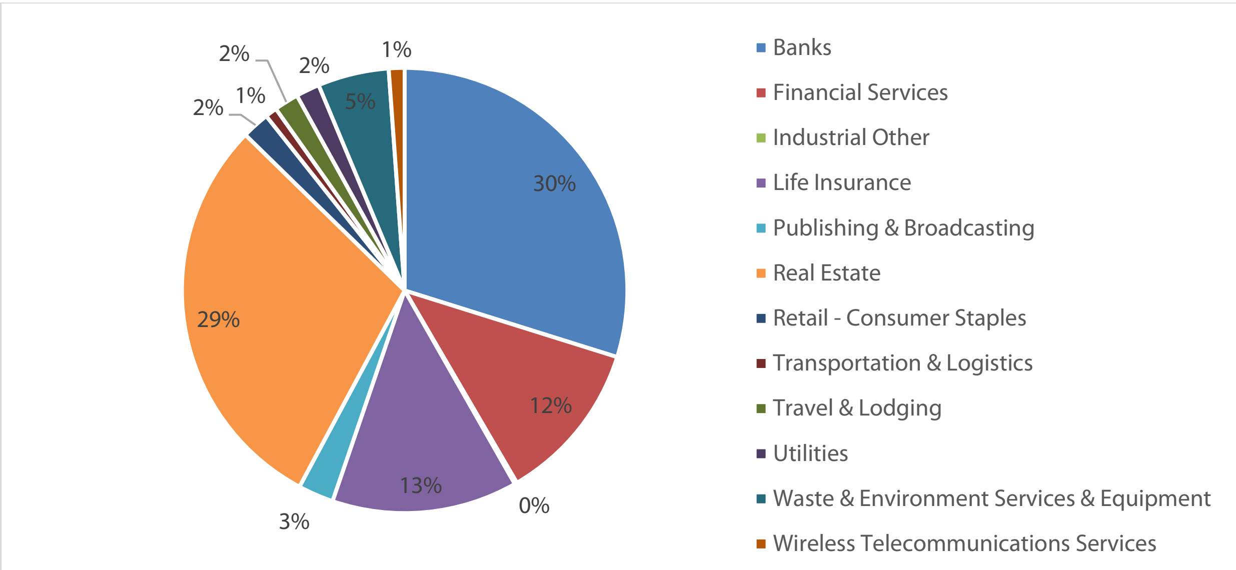
Table 2.6: Example of Perpetual Callable Bond

Issuer	XXX Company
Issue Date	13 August 2021
Maturity	Perpetual, Callable at 13 August 2026 with Par value
Coupon Rate	3% until 13 August 2026
	After 13 August 2026, SGD Sovereign 5Y rate at 13 August 2026 + 2%

SGD = Singapore dollar, Y = year
Source: Bloomberg.

Subordinated bonds are issued by banks as they are accepted as supplementary capitals that help banks comply with the capital requirements under regulation. Hence, it is common in many countries for banks to issue subordinated bonds. While banks are the most active issuers of subordinated bonds, issuing 30% of subordinated bonds in Singapore, the companies from other sectors also participate in subordinated bond issuances.

Figure 2.1: Sector Breakdown of Subordinated Bonds in Singapore



Source: Bloomberg.

Figure 2.1 also shows that approximately 29% of the subordinated bonds are issued by entities from the real estate sector, some of which are real estate investment trusts (REITs). To comply with the MAS Property Funds Appendix, all perpetual bonds from REITs are structured as subordinated bonds which also reflect the characteristic of "equity".

2.6. Credit Ratings

Among the outstanding corporate bonds in Singapore, 28% are rated. The rated bond ratio of Singapore is the second lowest next to the Philippines in ASEAN5[3]. The ratio of rated bonds is calculated based on the bonds that are rated by local credit rating agencies in each country, except Singapore in which the international ratings provided by S&P, Moody's and Fitch are used.

Table 2.7: Comparison of Ratios of Rated Bonds to Total Outstanding Corporate Bonds in ASEAN5, 2020

Indonesia	Malaysia	Philippines	Singapore	Thailand
73%	56%	20%	28%	45%

ASEAN5 = Association of Southeast Asian Nations member states Indonesia, Malaysia, the Philippines, Singapore, and Thailand
Source: Bloomberg; Author's calculations.

One of the unique characteristics of Singapore's corporate bond market is the low ratio of rated bonds. Generally, the supply of SGD corporate bonds is limited but the demand is high. Similar with other countries, financing requirements of corporates in Singapore are well serviced by banks. This resulted in the limited supply of corporate bonds. The demand for SGD bonds is high as they are invested in not only by local investors but also by

[3] In this section on credit ratings, Vietnam is excluded as no rated corporate bonds are available for the analysis in this section.

foreign investors through private banks or fund management companies. This excess demand situation in the corporate bond market of Singapore allows issuers to have flexibilities such as issuing unrated bonds. This practice is possible because there are no regulations for mandatory credit ratings of bonds, even for publicly offered corporate bonds or listed ones.

Based on the bonds that are rated by Moody's, about 38% of the outstanding corporate bonds have a rating of BBB (which is Baa in Moody's scale), while 17% have a rating of AAA (Aaa in Moddy's scale), 10% for AA (Aa in Moody's scale), and 34% of A (A in Moody's scale). As BBB rating in Singapore is in investment grade in terms of international rating scale and SGD is a globally liquid currency, BBB rated issuers in Singapore have the incentive to issue bonds because they can attract not only domestic investors but also investors overseas. This may be one of the reasons why BBB rated bonds are relatively large in Singapore. On the other hand, AAA rated bonds in Singapore are issued by government owned companies, such as Temasek, as they can follow the sovereign rating of Singapore, which is AAA.

Table 2.8: Comparison of Distribution of Credit Ratings of Corporate Bonds in ASEAN5, 2020

	AAA	AA	A	BBB	Below BBB
Indonesia	51%	21%	24%	3%	1%
Malaysia	45%	45%	9%	0.1%	1%
Philippines	100%	0%	0%	0%	0%
Singapore	**17%**	**10%**	**34%**	**38%**	**-**
Thailand	7%	24%	52%	17%	1%

ASEAN6 = Association of Southeast Asian Nations member states Indonesia, Malaysia, the Philippines, Singapore, and Thailand
Note: Figures are calculated based on the issued amount of bonds with credit ratings. Figures may not add up to 100% due to rounding off.
Source: Bloomberg; Author's calculations.

Most of the unrated issuers in the SGD bond market are household names in Singapore with a large credit following. Given the significant name recognition of these issuers, they are able to bypass the credit rating requirement as investors are already familiar with these names.

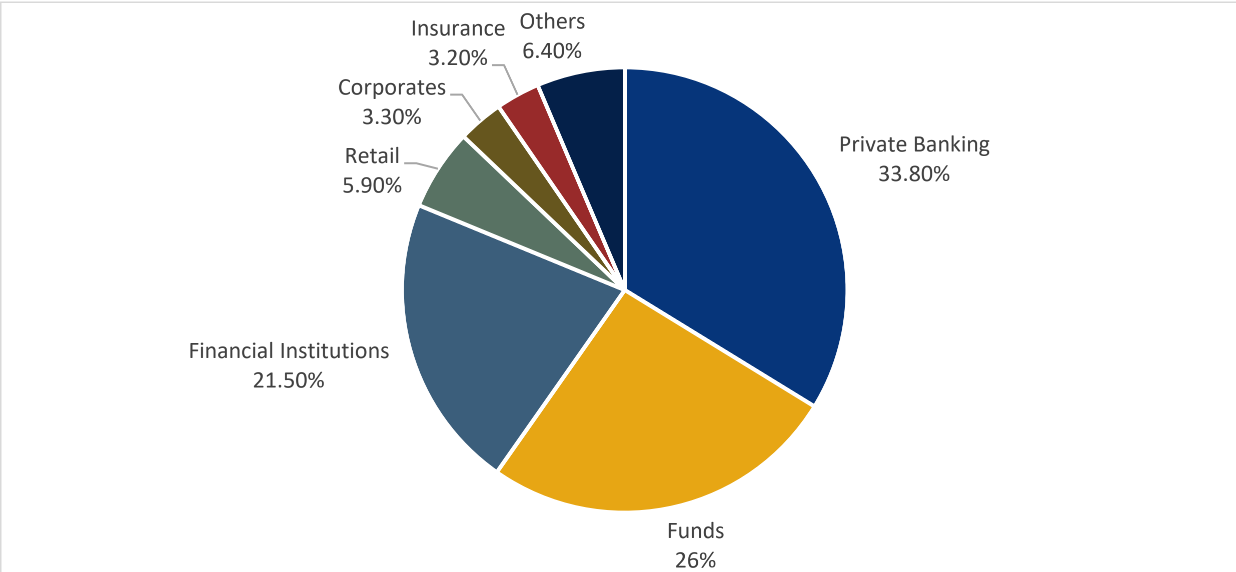
Investors in Singapore can accommodate both rated and unrated bonds in their respective investment portfolios. As already mentioned, since supply of bonds is less than the demand, investors are open to unrated bonds. They would generally consider unrated bonds as speculative. However, if the unrated bonds are coming from Singapore statutory boards, investors would assign an investment grade for these bonds due to the relation of the boards to the government. There are also plenty of companies with strong credit in Singapore that issue unrated bonds.

3. Investors

According to a report of MAS, investor groups in SGD-denominated corporate debt issuances consisted of financial institutions, fund managers, private banks, and insurance companies in 2019. Private banks have the highest share in SGD corporate bond issuances, taking 33.8% share. Fund managers hold 26% of SGD-denominated bonds, followed by financial institutions with 21.5% share. The financial institutions would generally refer to banks.

Unlike other ASEAN countries where insurance companies are one of the biggest investor groups for corporate bonds, investments of insurance companies in Singapore occupy only 3.2% of the country's corporate bond market. The small amount of the share of insurance companies implies that other investor groups, such as private banking and funds, are participated in by foreign investors. In addition, it may be attributed to the trend of insurance companies, which outsource the management of their funds to asset management companies in Singapore.

Figure 3.1: Investors of SGD-denominated Corporate Bonds, 2019



Source: Monetary Authority of Singapore (MAS) Singapore Corporate Debt Market Development 2020.

It is important to note that investors of the SGD corporate bond market also include foreign investors. These foreign investors can participate in the bond market through private banks and asset management companies.

3.1. Banks

In Singapore, deposit-taking institutions can be classified into full banks, wholesale banks, merchant banks, and finance companies. Full banks may undertake universal banking, which includes deposit-taking activities, cheque services and lending, and any other businesses that are regulated or authorized by MAS, including financial advisory services, insurance broking, and capital market services. Wholesale banks can perform activities carried out by full banks, except Singapore dollar retail banking activities. Operations of merchant banks include lending, asset management, private banking, securities dealing and underwriting, and investment banking. Finance companies are engaged in deposit-taking activities, and lending to individuals and corporations, including SMEs.

In addition to these classifications, there are also qualifying full banks (QFBs). This license is given to foreign banks, which allow them to open additional branches and/or off-premises ATMs. Up to 25 service locations, including bank branches or offsite ATM locations are allowed. QFBs can also share ATMs among themselves. QFBs can provide debit services through an Electronic Funds Transfer at Point of Sale (EFTPOS) network. It can also provide Supplementary Retirement Scheme and Central Provident Fund (CPF) Investment Scheme accounts. Additionally, QFBs can accept CPF fixed deposits.[4]

The banking industry in Singapore is predominantly composed of foreign banks. Based on the list of member banks of the Association of Banks in Singapore (ABS), the only members from local banks are DBS Bank, OCBC Bank, and United Overseas Bank. These three banks have the status of a full bank. As of the time of writing, ABS has 125 foreign bank members, which have the status of a qualifying full bank, full bank, or wholesale bank as licensed by the MAS. These foreign banks are from North America, Europe and Asia. ABS also has 19 affiliate members that have licenses as merchant banks, finance companies, capital market services, or advisory services.

[4] https://abs.org.sg/about-us/membership

Effective 18 August 2021, MAS Notice 637 indicates the risk weights per select asset class for reporting banks. In general, the risk weight relies heavily on the credit quality of the asset class based on the type of the institution. Tables 3.1 and 3.2 describe the credit quality grades, while Table 3.3 describes the risk weights select asset class types of reporting banks.

Table 3.1: Classification of Credit Quality Grades for Standard Approach on Credit Risk Exposures

Credit Quality Grade	**1**	**2**	**3**	**4**	**5**	**6**
Fitch Ratings and S&P Ratings Services	AAA AA+ AA AA-	A+ A A-	BBB+ BBB BBB-	BB+ BB BB-	B+ B B-	CCC+ CCC CCC- CC C D
Moody's Investor Services	Aaa Aa1 Aa2 Aa3	A1 A2 A3	Baa1 Baa2 Baa3	Ba1 Ba2 Ba3	B1 B2 B3	Caa1 Caa2 Caa3 Ca C

Source: MAS, https://www.mas.gov.sg/regulation/notices/notice-637.

Table 3.2: Classification of Credit Quality Grades for Short Term Exposures

Short-term Credit Quality Grade	**I**	**II**	**III**	**IV**
Fitch Ratings	F-1	F-2	F-3	Others
Moody's Investor Services	P-1	P-2	P-3	Others
S&P Ratings Services	A-1	A-2	A-3	Others

Source: MAS, https://www.mas.gov.sg/regulation/notices/notice-637.

Table 3.3: Risk Weights on Select Asset Class for Reporting Banks

<table>
<tr><th>Asset Class</th><th>Risk Weights under Standardized Approach to Credit Risk</th></tr>
<tr><td>Cash Items</td><td>0% risk weight to any exposure categorized as a cash item.

20% risk weight to cheques, drafts, and other items drawn on other banking institutions that are either payable immediately upon presentation or that are in the process of collection.</td></tr>
<tr><td>Central Government and Central Bank Asset Class</td><td>A Reporting Bank shall apply a 0% risk weight to any exposure to the Government of Singapore or the MAS, which is denominated in SGD and funded by liabilities denominated in SGD.

Based on the credit quality grade, a reporting bank should apply the following risk weights for other central government or central bank, which is denominated and funded in the local currency of its jurisdiction.

<table>
<tr><td>Credit Quality Grade</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>Unrated</td></tr>
<tr><td>Risk Weight</td><td>0%</td><td>20%</td><td>50%</td><td>100%</td><td>100%</td><td>150%</td><td>100%</td></tr>
</table></td></tr>
<tr><td>Public Sector Entity (PSE) Asset Class</td><td>Risk weight on PSE asset class varies based on credit quality grade:

<table>
<tr><td>Credit Quality Grade</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>Unrated</td></tr>
<tr><td>Risk Weight</td><td>20%</td><td>50%</td><td>50%</td><td>100%</td><td>100%</td><td>150%</td><td>50%</td></tr>
</table>
Specific cases of exposures to a PSE:

For a PSE in Singapore, the exposure to a PSE is treated as an exposure to the Singapore Government. Singapore Government has a credit quality grade of "1" or "2" according to MAS guidelines
For a PSE outside Singapore, the bank regulatory agency of the jurisdiction where the PSE is established has exercised the national discretion to treat the exposure to the PSE as an exposure to the central government, and the central government of the jurisdiction of that PSE has a credit quality grade of "1" or "2" according to MAS guidelines.
</td></tr>
</table>

<table>
<tr>
<td></td>
<td>
<table>
<tr><th>Credit Quality Grade</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>Unrated</th></tr>
<tr><td>Risk Weight where the Central Government has a Credit Quality Grade of “1”</td><td>0%</td><td>0%</td><td>0%</td><td>100%</td><td>100%</td><td>150%</td><td>0%</td></tr>
<tr><td>Risk Weight where the Central Government has a Credit Quality Grade of “2”</td><td>20%</td><td>20%</td><td>20%</td><td>100%</td><td>100%</td><td>150%</td><td>20%</td></tr>
</table>
The exposure to a PSE in Singapore is treated as an exposure to the Singapore Government only if the exposure is an exposure to a statutory board in Singapore other than the MAS.
</td>
</tr>
<tr>
<td>Multilateral Development Bank (MDB) Asset Class</td>
<td>
Risk weights are based on the credit quality grade of the asset class from an MDB:
<table>
<tr><th>Credit Quality Grade</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>Unrated</th></tr>
<tr><td>Risk Weight</td><td>20%</td><td>50%</td><td>50%</td><td>100%</td><td>100%</td><td>150%</td><td>50%</td></tr>
</table>
0% risk weight to any exposure to a qualifying MDB.
0% risk weight to any exposure to the Bank for International Settlements, the International Monetary Fund, the European Central Bank, the European Union, the European Stability Mechanism, or the European Financial Stability Facility.
</td>
</tr>
<tr>
<td>Bank Asset Class</td>
<td>
Risk weights are based on the credit quality grade of the asset class from a bank.
<table>
<tr><th>Credit Quality Grade</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>Unrated</th></tr>
<tr><td>Risk Weight</td><td>20%</td><td>50%</td><td>50%</td><td>100%</td><td>100%</td><td>150%</td><td>50%</td></tr>
<tr><td>Risk-weight for short term exposures</td><td>20%</td><td>20%</td><td>20%</td><td>50%</td><td>50%</td><td>150%</td><td>20%</td></tr>
</table>
For short term exposures of bank asset class with an issue-specific external credit assessment, the following risk weights apply:
<table>
<tr><th>Credit Quality Grade</th><th>I</th><th>II</th><th>III</th><th>IV</th></tr>
<tr><td>Risk Weight</td><td>20%</td><td>50%</td><td>100%</td><td>150%</td></tr>
</table>
For short term exposures in bank asset class with an external issue-specific credit rating that is higher than the applicable credit quality grade than the one in the preceding table, the applicable risk weight should be based on issue-specific assessment to any unrated short-term exposure to the same banking institution.
</td>
</tr>
<tr>
<td>Corporate Asset Class</td>
<td>
Risk weights are based on the credit quality grade of the asset class from a corporate.
<table>
<tr><th>Credit Quality Grade</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>Unrated</th></tr>
<tr><td>Risk Weight</td><td>20%</td><td>50%</td><td>100%</td><td>100%</td><td>150%</td><td>150%</td><td>100%</td></tr>
</table>
For any exposure in the corporate asset class with no external credit rating by a recognized external credit assessment institution (ECAI): the risk weight is determined according to the preceding table or the risk weight that is applicable to an exposure to the central government of the jurisdiction in which the corporate is incorporated or established, whichever is higher.
The risk weight of any short-term exposure in the corporate asset class with an issue-specific external credit rating is as follows:
<table>
<tr><th>Credit Quality Grade</th><th>I</th><th>II</th><th>III</th><th>IV</th></tr>
<tr><td>Risk Weight</td><td>20%</td><td>50%</td><td>100%</td><td>150%</td></tr>
</table>
If a short-term exposure in the corporate asset class with an issue-specific external credit assessment

attracts a risk weight of 50% or 100%, then the risk weight should not be lower than 100% to any unrated short-term exposure to the same corporate.
attracts a risk weight of 150%, then the risk weight should be 150% to any unrated exposure (whether long-term or short-term) to the same corporate.

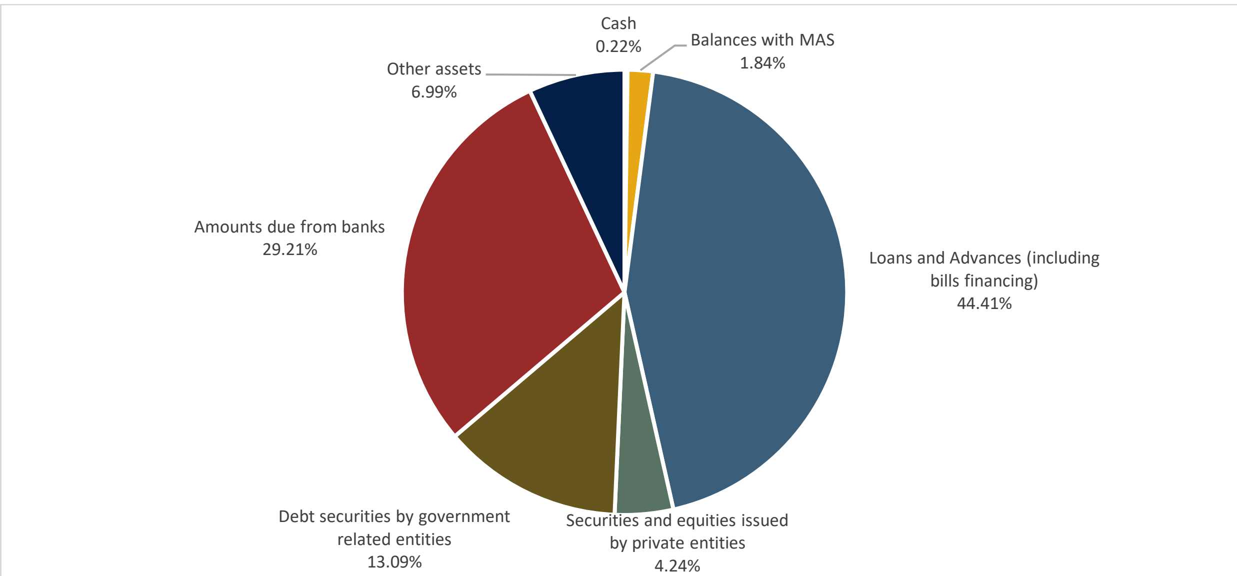
</td>
</tr>
</table>

	Subject to the approval of MAS, a 100% risk weight should be applied to exposures in the corporate asset class regardless of the credit quality grade of individual exposures. MAS will not normally grant approval to use this approach unless there is a clear implementation plan to adopt the Internal Ratings-Based Approach (IRBA). Where approval has been granted by MAS, the Reporting Bank shall apply a single consistent approach of either using external credit assessments that are recognized by ECAIs where available, or none at all.

Source: MAS, https://www.mas.gov.sg/regulation/notices/notice-637

Based on statistics from MAS, total number of assets of commercial banks in Singapore reached SGD1,528.42 billion as of December 2020. Figure 3.2 shows the distribution of asset types. Loans and advances, including bills financing, take up the largest share in the assets of banks. This is followed by amounts due from banks and debt securities by government related entities. Securities and equities issued by private entities are only 4.24% of total assets of banks.

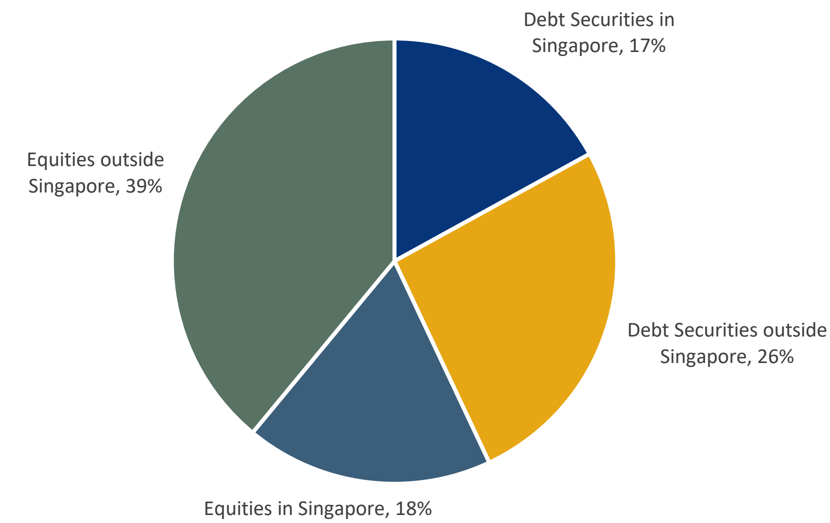
Figure 3.2: Assets of Commercial Banks (Domestic Banking Units) in Singapore, 2020



MAS = Monetary Authority of Singapore
Note: Domestic Banking Unit is used to book domestic transactions that are mostly denominated in Singapore dollar.
Source: MAS; Author's calculations.

Within the securities and equities by private entities, 43% are debt securities and 57% are equities. Banks can invest both in Singapore and in other foreign markets. In fact, debt securities and equities that are invested outside of Singapore are larger than those invested in the country.

Figure 3.3: Debt Securities and Equities of Private Entities Held by Commercial Banks (Domestic Banking Units) in Singapore, 2020



Note: Domestic Banking Unit is used to book domestic transactions that are mostly denominated in Singapore dollar.
Source: MAS; Author's calculations.

At this point, it is important to see the investment appetite of commercial banks (treasury function) and private banks for SGD corporate bonds.

Treasury Function of Banks

Commercial banks would typically have different duration appetites depending on the prevailing market dynamics. Though commercial banks could invest in corporate bonds with maturities of up to 10 years, they would be more inclined to focus on shorter tenor securities given that their investments are tied with the management of their own liquidity. Since these commercial banks operate in Singapore, the preference for currency would be in Singapore dollar. Commercial banks would also be more inclined to hold bonds until their maturity. Table 3.4 shows that local banks have much bigger assets than global banks in Singapore. This implies that the investment appetite of treasury function of banks is heavily influenced by local banks.

Table 3.4: Assets of Select Banks in Singapore, 2020

Bank	Total Assets in 2020 (SGD billions)
DBS	650.81
OCBC	521.40
UOB	431.81
Standard Chartered Bank	111.4
Citibank Singapore	46.56
HSBC	28.09

Source: corporatefinanceinstitute.com

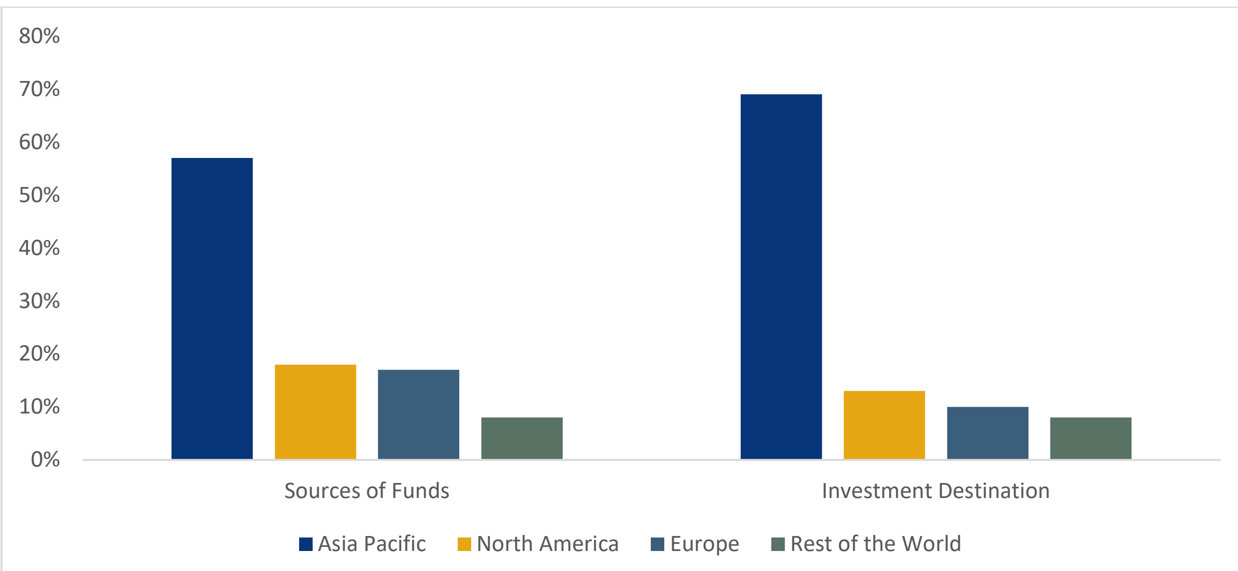
Private Banking

In this report, private banking refers to the wealth management service provided by banks to high-net-worth individuals who generally have an appetite for bonds with maturities of up to 10 years. In addition, these individuals prefer perpetual bonds that have higher yields over ordinary corporate bonds. Private banking clients expect these perpetual bonds to be redeemed at call dates. Due to their demand for higher yields, the private banking clients actively participate as investors of unrated bonds. They would also be an active trader of corporate bonds. The clients have appetites for both SGD- and USD-denominated corporate bonds. Both local banks and foreign banks are active in the private banking business in Singapore. Some foreign banks such as HSBC or UBS, are known to be active private banking players in the country.

3.2. Asset Management Companies

As of end of 2019, the asset management industry of Singapore had SGD3.98 trillion worth of assets under management, and 895 registered and licensed fund managers. The fund management industry of Singapore is another example of the country being an excellent international financial center. According to the MAS Asset Management Survey, ,76% of funds are sourced outside Singapore in 2019. Most of these funds are sourced from Asia Pacific (excluding Singapore), North America and Europe, as shown in Figure 3.4. Majority of funds coming from abroad is a unique characteristic of the asset management industry in Singapore because most of the investors in asset management industries of other ASEAN countries are local investors.

Figure 3.4: Sources and Investments of Funds in Singapore's Asset Management Industry, 2019

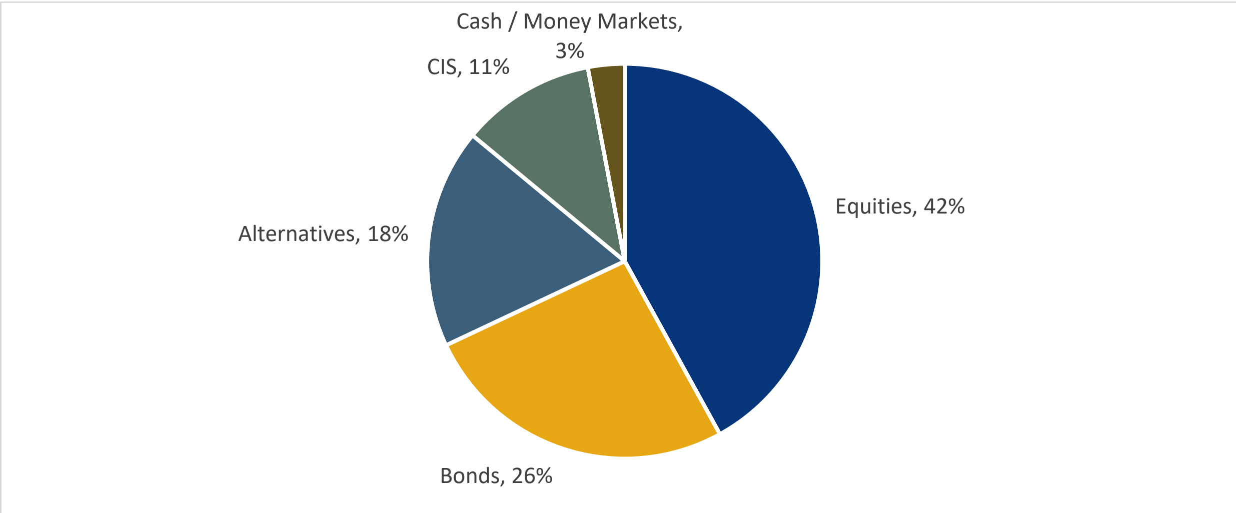


Note: The percentages refer to the share to industry's asset under management (AUM).
Source: MAS, 2020.

Figure 3.4 also shows that the Asia Pacific region served as the main investment destination of funds managed by asset managers based in Singapore. Other significant regions include North America and Europe. It is important to note the reason why asset management companies look into investments outside Singapore. Since the SGD corporate bond market is small, asset managers have to look for other destinations of investments.

Figure 3.5 shows the investments of asset managers in Singapore. Approximately 42% of investments are allotted to equities, while 26% are allotted to bonds. Alternative investments ranked third in the investments of asset managers, taking 18% of the total investments in the industry. MAS reported that corporate bonds comprised 66% of investments in the fixed income segment.

Figure 3.5: Investments in the Asset Management Industry of Singapore, by Asset Class, 2019



Source: MAS, 2020.

Corporate bonds in SGD bond funds include unrated bonds as well as rated bonds ranging from AAA to BBB in general. However, this can be as low as speculative grades (BB+ or below) in some bond funds. The investments on speculative bonds are driven by some SGD bond funds' benchmark, which is Markit iBoxx Singapore Dollar (SGD) Bond Index. This bond index is composed of AAA-rated bonds to high-yield bonds in terms of credit rating, and 1 to over 10 years in terms of maturity. Table 3.5 illustrates the credit and the market risks appetite of Singapore Select Bond Fund (which is the representative SGD bond fund of Eastspring Investments). This fund includes the SGD bonds issued by non-Singaporean entities at the end of 2020, as well as the 63% that are issued by Singaporean entities. This bond fund has a total value of SGD1.4 billion. The table provides information about the duration and credit rating distribution of Singapore Select Bond Fund.

Table 3.5: Duration and Credit Rating Distribution of Singapore Select Bond Fund of Eastspring Investments

		2020	**2019**
Duration		10.51 Years	7.30 Years
Credit ratings	AAA	6.53%	8.63%
	AA	0.64%	0.83%
	A	10.59%	8.89%
	BBB	31.32%	34.22%
	BB+	0.75%	-
	Not rated	48.34%	46.03%

Note: A includes A+, A, A-, A1, A2, and A3 and BBB includes BBB+, BBB, BBB-, Baa1, Baa2 and Baa3.
Source: Eastspring Investments Unit Trusts Annual Reports 2020; Author's calculations.

3.3. Insurance Companies

In 2019, per capita expenditure for life insurance amounted to SGD7,788 and general insurance amounted to SGD1,082. Other insurance industry development indicators are shown in Table 3.6. Notably, the domestic fund assets of life insurance have already reached 50.7% of the GDP of Singapore, which is significantly higher than its ratio in 2010 of 36.6%.

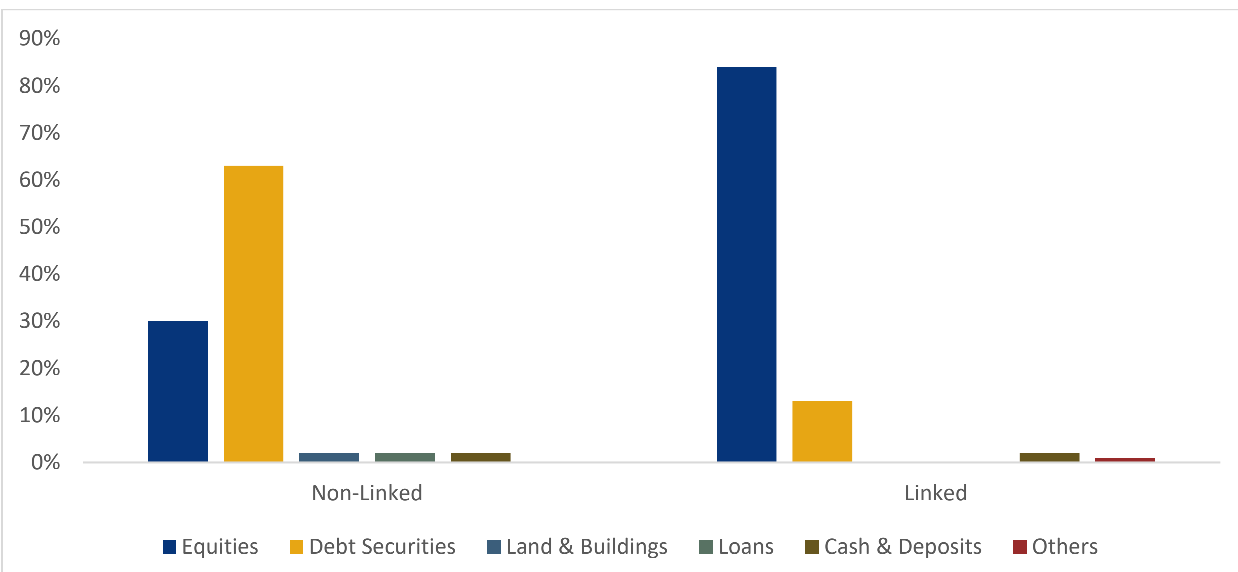
Table 3.6: Insurance Industry Development Statistics, 2019

	Share of GDP (%)
Domestic life sums insured	280.2
Domestic life premiums	6.2
Domestic general premiums	0.9
Domestic life fund assets	50.7
Domestic general fund assets	2.2

GDP = gross domestic product
Source: MAS Insurance Industry Statistics, 2020.

In terms of the asset size, the life insurance industry in Singapore can be classified according to linked and non-linked life insurance funds. Non-linked life insurance funds had a total asset of SGD205.83 billion in 2019, while linked life insurance funds had a total asset of SGD38.63 billion. The breakdown of the assets is shown in Figure 3.6.

Figure 3.6: Breakdown of Life Insurance Funds in Singapore, 2019



Source: MAS.

Majority of investments of non-linked insurance funds are in debt securities (63%), while those of linked insurance funds are in equities (84%). Other asset classes that insurance companies invest in include land and buildings, loans, and cash and deposits. These other asset classes are not significant compared with equity and bond investments.

Insurance companies also have general criteria when investing in corporate bonds. Insurance companies would typically have an appetite for longer dated bonds. In Singapore, insurance companies would have an appetite for bonds that have up to 30 years maturity. There are no regulatory prohibitions for insurance companies to invest in high yield bonds. Nevertheless, their portfolio still consists of a higher number of investment grade bonds than high yield bonds. In addition, because a lot of issuers in Singapore are unrated, insurance companies tend to invest in unrated bonds.

Notice 133 of MAS is used as reference for valuation and capital framework for insurers. This notice provides the guidelines on the counterparty default risk charge.[5] It also sets the definitions and scope for each counterparty risk class. Table 3.7 shows applicable risk charges for "other counterparty exposures", which include corporate bonds. MAS is explicit with its guideline for unrated counterparties, which specifies that an insurer should treat these as having a rating of between the counterparty risk class D and E. Specifically, the unrated counterparty default risk charge is 7.75%.

Table 3.7: Counterparty Risk Class Classification, Equivalent Credit Rating, and Counterparty Default Risk Charge for Insurance Companies in Singapore

Counterparty Risk Class	Equivalent Credit Rating				Counterparty Default Risk Charge
	Moody's	S&P	Fitch	A.M. Best Corp.	
Class A	Aaa	AAA	AAA	aaa	0.5%
Class B	Aa1 to Aa3	AA+ to AA-	AA+ to AA-	aa+ to aa-	1.0%
Class C	A1 to A3	A+ to A-	A+ to A-	a+ to a-	2.0%
Class D	Baa1 to Baa3	BBB+ to BBB-	BBB+ to BBB-	bbb+ to bbb-	5.0%
Class E	Ba1 to Ba3	BB+ to BB-	BB+ to BB-	bb+ to bb-	10.5%
Class F	B1 to B3	B+ to B-	B+ to B-	b+ to b-	20.0%
Class G	Caa1 and below	CCC+ and below	CCC+ and below	ccc+ and below	48.5%
Unrated	N/A				7.75%

Source: MAS.

Under the new Risk-Based Capital 2 (RBC2) of Singapore, which is stipulated in Notice 133 of Valuation and Capital Framework for Insurers as of June 2021, an insurer may recognize the internal credit rating of its corporate debt securities invested based on its credit rating model. An insurer that received the approval of MAS to adopt an internal credit rating model must apply the internal credit rating derived from such model to all its externally rated and unrated corporate bonds. In the application of an internal ratings to unrated bonds, an insurer must not apply any internal rating that is higher than the Credit Quality Class D equivalent for any unrated corporate debt security, regardless of whether the internal credit rating is higher.

Insurance companies optimize their allocations to meet the target yields and the expectations of policyholders and shareholders. In addition to LCY corporate bonds, insurance companies can also invest in overseas bonds on the condition that these bonds are rated at least BBB in the global rating scale. Insurance companies are aware of the relatively small size of the LCY corporate bond market in Singapore. Hence, insurance companies consider overseas bonds for their investments.

3.4. Central Provident Fund

The Central Provident Fund (CPF) of Singapore is one of the most comprehensive social security systems globally. The main objective of CPF is to secure the retirement of Singaporean citizens and permanent residents. Healthcare, home ownership, family protection, and asset enhancement are among the priorities of CPF.

[5] MAS Notice 133 (Amendment) as of 28 June 2021. https://www.mas.gov.sg/-/media/MAS-Media-Library/regulation/notices/ID/notice-133/MAS-133_tracked_22-Jun-2021.pdf?la=en&hash=1516487EB7B8F4060DEA9E4D521AB040B51BC52F

On examination of the annual report and financial statement of CPF, approximately 96.3% of its investments are occupied by special issues of Singapore government securities. These issuances are specifically made to CPF for the purpose of supporting the organization's fulfillment on its obligations. The floating rate special issues do not have quoted market values and CPF cannot trade these in the market. Their interest rates are from 2.5% to 6% per annum, which are pegged based on the rates at which CPF pays interests to its members. Fixed rate special issues provide interests of 4% to 6% per annum.

As CPF is privileged to invest special issues of Singapore government securities which are designed to generate cash flows to meet the obligations from its liability side, it seems to be less keen on investing in other assets. As a result, the corporate bond investment of CPF was SGD1.59 billion in 2020, which was only about 0.35% of the total investments of CPF.

Table 3.8: Investments of the Central Provident Fund in 2020

	Amount (SGD '000)	Share
Financial assets at amortized cost		
Special issues of Singapore Government securities		
- Floating rate	368,247,102	80.0%
- Fixed rate	74,911,649	16.3%
Advanced deposits	13,946,625	3.0%
Debt investments at FVOCI		
Singapore Government securities	407,658	0.1%
Statutory Board bonds	529,840	0.1%
Corporate bonds	1,486,907	0.3%
Debt investments at FVTPL		
Corporate bonds	103,063	0.0%
Equity investments at FVOCI	599,360	0.1%
	460,232,204	100%

FVOCI = Fair Value through Other Comprehensive Income FVTPL = Fair Value through Profit or Loss
Source: CPF Annual Report 2020.

3.5. Retail Investors

Retail investors are encouraged to participate in the corporate bond market of Singapore. Under the Securities and Futures Act (SFA), Singapore allows bond issuance to retail investors. It also promotes the Prospectus Exemption frameworks, which enable qualified issuers to tap the retail investors for their bonds without having to file any prospectus. The Prospectus Exemption frameworks are the Exempt Bond Issuer framework and the Seasoning framework. The key features for each framework are described in Table 3.9.

Table 3.9: Frameworks for Retail Corporate Bonds in Singapore

	Issuance with Prospectus	Exempt Bond Issuer Framework	Seasoning Framework
Target Issuers	Can be offered to all investors at issuance	Can be offered to all investors at issuance	Initial issuance offered in the wholesale bond market. After the 6-month seasoning period, bonds are available for trading in SGX by retail investors, in board lot size of SGD1,000.
Subscription	Up to 100% of the tranche can be offered to retail investors.	At least 20% of the initial offering are offered to wholesale investors.	Re-tap issuance can be offered to retail investors after the 6-month seasoning period of up to 50% of initial issuance size.

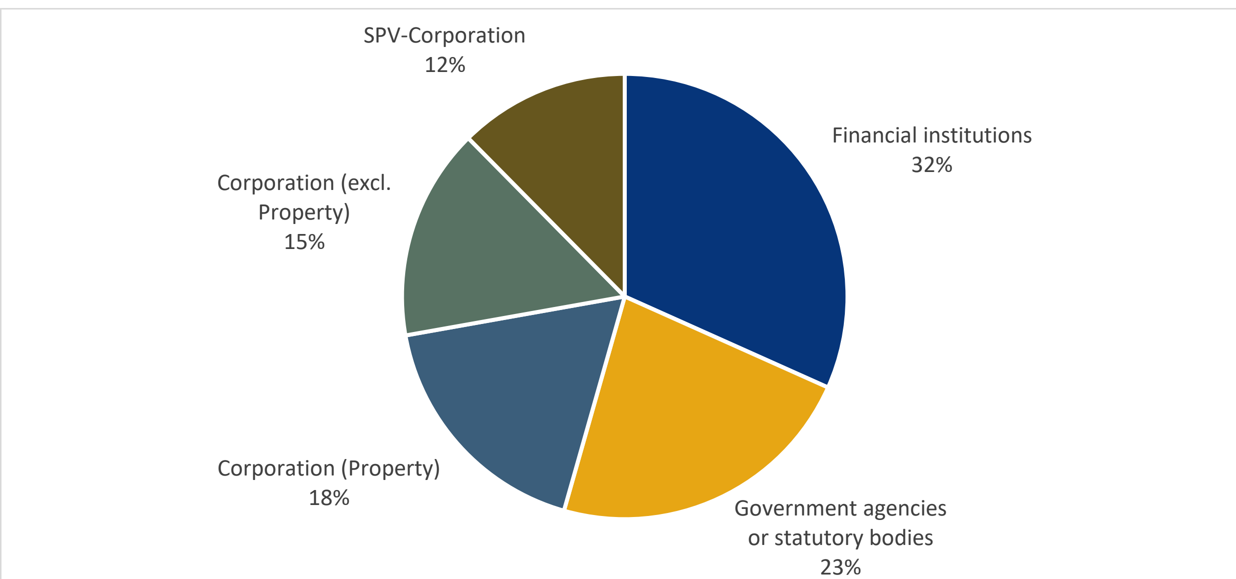
Source: Singapore Exchange (SGX).

Accessibility of corporate bonds to retail investors has improved. For instance, individual investors can buy bonds through alternative bank channels such as automated teller machines (ATMs) or internet banking. They do not need to go to a branch of a bank to invest in corporate bonds. With this ease and accessibility, MAS emphasizes the need for heightened scrutiny of bonds targeted by the retail investors. As such, specific documentation is required for retail bond offerings.

4. Issuers

MAS also reported the profile of issuers for SGD-denominated bonds in 2019. Based on the issuance volume for 2019, corporate issuers of SGD-denominated issuances include property companies, non-property companies, financial institutions, special purpose vehicles, and government agencies or statutory boards. Most of the issuers are financial institutions, followed by government agencies and property companies. Figure 4.1 shows the composition of issuers for SGD-denominated bonds.

Figure 4.1: Issuers of SGD-Denominated Corporate Bonds, 2019



SPV = special purpose vehicle
Source: MAS, 2020.

The top 10 issuers according to the issuance amount are shown in Table 4.1. The data is based on outstanding bonds as of December 2020 by Bloomberg. The top issuer based on outstanding corporate bonds is Singapore Airlines, with 11.65% of the total outstanding SGD-denominated bonds of Singaporean entities. This is followed by Capitaland Treasury, with 4.14% share, and Mapletree Treasury Services, with 3.84% share.

Table 4.1: Top 10 Issuers Based on Issued Amount of Outstanding SGD-Denominated Bonds of Singaporean Entities, 2020

Issuer Name	Industry	Total Amount Issued (SGD million)	Share to Total Outstanding SGD-denominated Bonds of Singaporean Entities
Singapore Airlines	Airlines	8,726	11.65%
Capitaland Treasury	Real Estate	3,100	4.14%
Mapletree Treasury Services	Financial Services	2,875	3.84%
Frasers Property Treasury	Real Estate	2,730	3.64%
Temasek Financial I Ltd	Financial Services	2,600	3.47%
Capitaland Ltd	Real Estate	2,450	3.27%
United Overseas Bank	Banks	2,250	3.00%
Keppel Corp Ltd	Other Industrial	2,150	2.87%
City Developments Ltd	Real Estate	1,855	2.48%
DBS Group Holdings Ltd	Banks	1,730	2.32%

Note: Industry classification are based on Bloomberg's industry groups.
Source: Bloomberg; Author's calculations.

5. Other market participants

5.1. Monetary Authority of Singapore

The Monetary Authority of Singapore (MAS) is the central bank and integrated financial regulator of Singapore. MAS is also the sole government authority for the financial and capital markets of the country. As a central bank, MAS promotes a sustained and non-inflationary economic growth using monetary policies and close macroeconomic surveillance and analysis.

As the integrated financial regulator of Singapore, MAS regulates financial institutions operating in the country, such as banks, insurance companies, and securities companies. The Monetary Authority of Singapore Act provides the legal framework for MAS to regulate the financial services sector in the country. MAS works with existing industry players to promote Singapore as a "dynamic international financial center".

5.2. Singapore Exchange

Singapore Exchange (SGX) is known as the international and multi-asset exchange in the region. SGX can provide a wide range of securities exchange services from listing, trading, clearing, settlement, and depository to data services. In terms of listing debt securities, SGX is perceived as the globally preferred debt securities listing venue in Asia, which has over 3,000 listed debt securities whose issued amounts are over USD1 trillion in total, with 45 countries and 19 currencies. Over 80% of listed bonds are originated outside of Singapore. Listed bonds in SGX include RMB-denominated international green bonds issued by Hanwha Solution Corporation and Korea Stock Exchange-listed renewable energy company, with CGIF guarantee. Table 5.1 describes the types of debt securities that SGX provides as comprehensive and straightforward listing framework.

Table 5.1: List of Debt Securities at Singapore Exchange

▪ Asset Back Securities	▪ Green Bond	▪ Mortgage-Backed Securities
▪ Contingent Convertible Capital Instruments (CoCos)	▪ Hybrid Capital Securities	▪ Perpetuals
▪ Convertible/Exchangeable Bonds	▪ Komodo Bonds	▪ Renminbi Bonds
▪ Covered Bonds	▪ Loan Participation Notes	▪ Structured Products
▪ Fixed/Floating Rate Bond	▪ Masala Bonds	▪ Sukuks
	▪ Medium Term Note Programme	

Source: SGX.

For the domestic market, SGX is considered as a self-regulatory organization (SRO) in the country. As a regulator, SGX promotes order and transparency in the market.

SGX also provides comprehensive information about its listed fixed income securities. The market information of SGX contains information about retail fixed income securities, wholesale fixed income securities, ESG fixed income securities (which include green bonds, social bonds, sustainability bonds, and sustainability-linked bonds), evaluated fixed income prices, and Chinese domestic bonds.

5.3. Credit Rating Agencies

According to the Bond Market Guide for Singapore of the Asian Development Bank (ADB), there are four credit rating agencies (CRAs) that are accredited and operating in Singapore. These CRAs are holders of Capital Market Services (CMS) licenses for credit rating services: A.M. Best-Asia Pacific (Singapore), Fitch Ratings Singapore, Moody's Investors Service Singapore, and Standard and Poor's Singapore. As of time of writing, there is no outstanding SGD bond rated by A.M. Best-Asia Pacific.

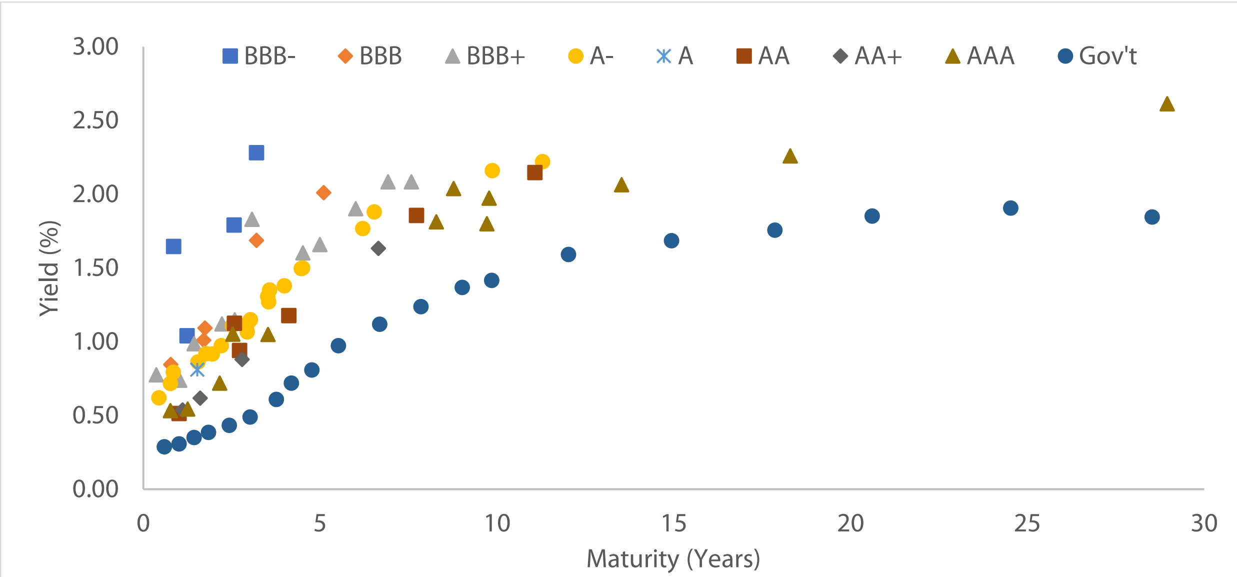
6. Credit Spreads

Singapore does not have a bond pricing agency that provides yield-to-maturity (YTM) matrices for government bonds and corporate bonds with different maturities and different credit ratings on a regular basis.

Instead, Bloomberg provides SGD government bond curve and SGD SG corporate curve in a daily basis.[6] SGD SG corporate curve on 27 August 2021 was fitted by 192 corporate bonds composed of 65 rated and 127 unrated bonds. The dots displayed in Figure 6.1 are the yields of the bonds that have certain credit ratings and maturities. A+, AA- and below BBB- ratings are not shown in the figure because there is no bond that corresponds to these ratings.

[6] As reference, the Bloomberg curve ID for SGD government bond is BI593, and the Bloomberg curve ID for SGD Singapore corporate curve is BF49.

Figure 6.1: SGD Government and Corporate Bond Yields, 27 August 2021



SGD = Singapore dollar
Source: Bloomberg.

Table 6.1 shows the spread matrix by using the yields in Figure 6.1. As there are no bonds whose maturities are exactly 3, 5, 7, 10, and 20 years from the bonds constituting the SGD SG corporate curve, the bonds reflected in Table 6.1 are the ones whose maturities are near the maturities in the table. Some spreads are left blank as no bonds nearby the maturities are available.

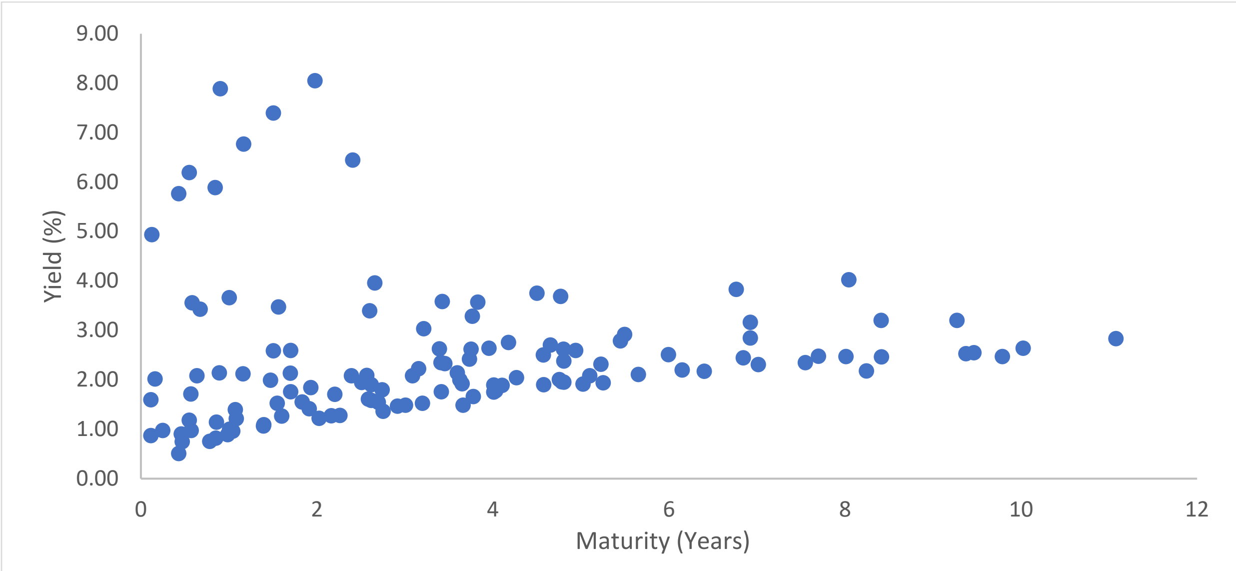
Table 6.1: SGD Corporate Bond Yield Matrix

	3Y	5Y	7Y	10Y	20Y
AAA to AA	0.56%			0.55%	0.46%
A-	0.65%		0.76%	0.74%	
BBB+		0.85%	0.96%		
BBB and BBB-	1.26%	1.20%			

SGD = Singapore dollar, Y = year
Source: Bloomberg; Author's calculations.

On the other hand, Figure 6.2 shows the yield distribution of unrated bonds. Data used for this figure are the 127 unrated bonds from the 192 corporate bonds constituting the SGD SG corporate curve as of 27 August 2021.

Figure 6.2: Distribution of SGD SG Unrated Bonds, 27 August 2021



SG = Singapore, SGD = Singapore dollar
Source: Bloomberg.

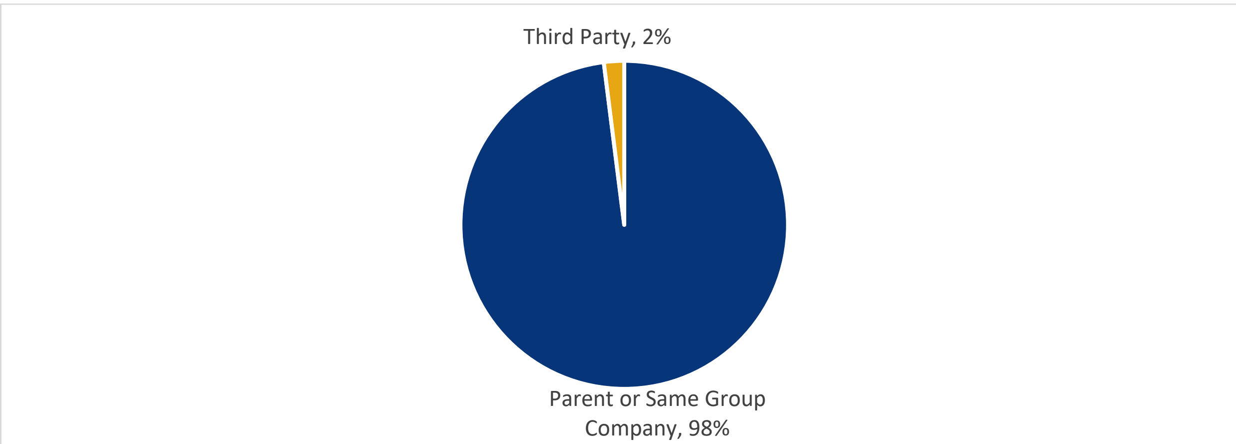
While the number in the data is not sufficient to provide a general view of corporate bond yields, below are the implications that can be extracted from the preceding two figures and table.

- Figure 6.1 shows that AAA rated bonds are available up to 30 years, which is the same as the longest maturity of SGD government bonds. As credit ratings applied to Singapore entities are all from the ratings of S&P, Moody's, or Fitch, AAA rated corporates are the same as the Singapore government in terms of credit rating.
- Table 6.1 shows that the maximum tenors become shorter as credit rating goes down. While the maximum maturities that correspond to credit ratings in this table do not mean the maximum maturities that are available for issuances, the table at least implies that the maximum tenor that is liquid enough to be traded or issued becomes shorter as credit ratings go down.
- Credit spreads from A-rated bonds are relatively competitive based on their credit rating. They are required to pay only an additional 10 to 20 basis points on top of the AA-rated to AAA-rated bonds, which are 4 to 6 notches higher than A-rated bonds.
- There are two types of unrated bonds in Singapore, which are differently priced as shown at Figure 6.2. One type consists of bonds that are unrated because they are expected to be rated as speculative grades (BB+ or below ratings). They are much higher in terms of yields and are shorter on average in terms of maturity than the other type. On the other hand, the other type of unrated bonds is priced as tight as investment grades bonds. Among them, there are the bonds issued by Singapore government owned entities.

7. Guaranteed Corporate Bonds

Approximately 37% of outstanding corporate bonds in Singapore are guaranteed. Most of the guarantors in Singapore's corporate bond market are the parents of the issuers. It is important to note that there is no credit guarantee institution in Singapore. As shown in Figure 7.1, 98% of guaranteed bonds are guaranteed by parents of the issuers or the group companies of companies to which the issuers belong, and 2% are guaranteed by third-party guarantors.

Figure 7.1: Classification of Guarantors of Corporate Bonds in Singapore

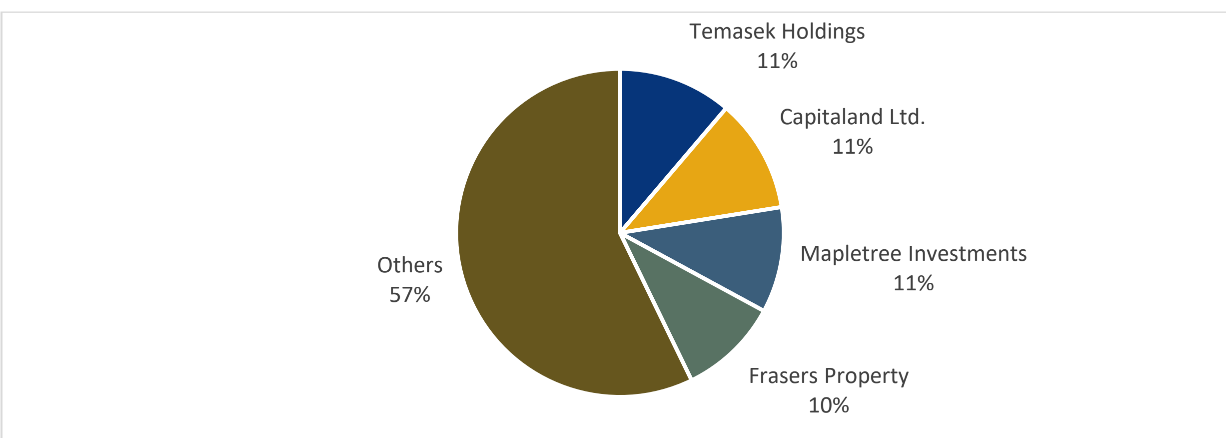


Source: Bloomberg.

7.1. Parent or same group company guarantee

The guaranteed corporate bonds market in Singapore is significantly occupied by the bonds that are guaranteed by parent or same group companies. The top four parent guarantors are Temasek Holdings, CapitaLand Ltd., Mapletree Investments, and Frasers Property. It is interesting to note that out of the top four, Capitaland Ltd., Mapletree Investments, and Frasers Property are real estate companies, which provide guarantees to their subsidiaries which play the financing role of their parent companies.

Figure 7.2: Parent Guarantors in Singapore's Corporate Bond Market



Source: Bloomberg; Author's calculations.

It is important to introduce the concept of financial and treasury centers in Singapore. Under Section 43E of the Income Tax Act of Singapore, a financial and treasury center is defined as a division or department of a company that provides treasury, investment, or financial services in Singapore for its offices or its associated companies. Financial and treasury centers operating in Singapore can avail of concessionary tax rate. The concessionary rate is 10% for financial and treasury centers established before 24 March 2016, and 8% for those established after. Nevertheless, the approval for financial and treasury centers is only until 31 December 2026.[7]

As will be seen in the next sections, some of the guarantees are intended for the issuances of the financial and treasury centers that are financial vehicles of the companies, and not an operating subsidiary as in the more familiar cases in other countries. In this case, they are different from ordinary parent guarantees, which are intended to support financing of less creditworthy subsidiaries. Rather, they are similar to the non-guaranteed bonds issued by the parents of the treasury centers.

Temasek Holdings

Temasek Holdings is a global investment company with headquarters in Singapore. Temasek Holdings was established in 1974 to commercially manage the initial portfolio acquired from the Singapore Minister of Finance. Over time, Temasek Holdings has already fostered a global portfolio from a diverse range of industries, including financial services, telecommunications, media and technology, and consumer and real estate.

Table 7.1 shows the list of SGD-denominated bonds with guarantee from Temasek Holdings. With the guarantor being AAA-rated by S&P and Moody's, these bonds are all AAA-rated by the two rating agencies. These bonds are senior unsecured bonds. The redemption currency of these bonds is also in SGD.

Table 7.1: List of Bonds with Guarantee from Temasek Holdings

Issuer Name	Issue Amount (SGD million)	Coupon Rate	Issue Date	Maturity Date	Tenor (Y)
Temasek Financial I Ltd.	1,000	4.2%	2 Aug 2010	2 Aug 2050	40
	300	4.2%	7 Dec 2009	7 Dec 2039	30
	300	4%	7 Dec 2009	7 Dec 2029	20
	500	3.79%	5 Mar 2010	5 Mar 2025	15
	500	4.05%	5 Mar 2010	5 Mar 2035	25
Temasek Fin IV Private Ltd.	500	2.7%	25 Oct 2018	25 Oct 2023	5

SGD = Singapore dollar, Y = year
Source: Bloomberg.

CapitaLand Ltd.

CapitaLand Limited (CapitaLand) is one of the largest diversified real estate groups in Asia, with a global portfolio that is equivalent to SGD138 billion. Listed at SGX, CapitaLand provides diversified real estate classes including commercial retail, business parks, industrial and logistics, integrated development, urban development, and lodging and residential. In terms of geography, investments of CapitaLand are mostly focused on Singapore and People's Republic of China. However, the company is keen on expanding in other markets such as India, Viet Nam, Australia, Europe, and the United States.

[7] Section 43G of Income Tax Act of Singapore. Concessionary rate of tax for Finance and Treasury Center. https://sso.agc.gov.sg/Act/ITA1947?ProvIds=pr43E-#pr43E-

Table 7.2: List of Bonds with Guarantee from CapitaLand Ltd.

Issuer Name	Issue Amount (SGD million)	Coupon Rate	Issue Date	Maturity Date	Tenor (Y)
Capitaland Treasury Ltd.	500	3.65%	17 Oct 2019	-	Perpetual
	800	2.9%	21 Sep 2020	21 Sep 2032	12
	500	3.08%	19 Oct 2017	19 Oct 2027	10
	800	3.15%	29 Aug 2019	29 Aug 2029	10
	500	3.8%	28 Aug 2014	28 Aug 2024	10

SGD = Singapore dollar, Y = year
Source: Bloomberg.

Table 7.2 shows that Capitaland Ltd. provided guarantee to bonds issued by Capitaland Treasury Ltd. Based on the latest annual report of Capitaland Ltd., Capitaland Treasury Ltd. is a subsidiary wholly owned by Capitaland Ltd.[8] and the treasury vehicles of Capitaland Ltd.[9] The total issuance amount of outstanding bonds of Capitaland Treasury Ltd. is SGD3,100 million. One of the bonds has a perpetual tenor, while the others have significantly long-term tenors – from 10 years to 12 years maturity. Capitaland Ltd. is unrated. As such, all the bonds that are issued by Capitaland Treasury Ltd. with guarantees from Capitaland Ltd. are also unrated.

Mapletree Investments Ltd.

Mapletree Investments Ltd. (Mapletree Investments) is a real estate development, investment, and capital and property management company in Singapore, which owns and manages SGD60.5 billion worth of various real estate properties as of 31 March 2020. Similar to other large real estate groups in the country, Mapletree Investments has a portfolio of assets across Asia Pacific, Europe, the United Kingdom, and the United States.

Table 7.3 illustrates that Mapletree Investments provided guarantee to one issuer, Mapletree Treasury Services Limited, which is a subsidiary of Mapletree Investments. Mapletree Treasury Services is a finance and treasury center, which performs financial and treasury operations and activities for the holdings and related companies within the Mapletree Group.[10] Mapletree Investment is unrated, and all the bonds issued by Mapletree Treasury Services with guarantees of Mapletree Investments are unrated.

Table 7.3: List of Bonds with Guarantee from Mapletree Investments Ltd.

Issuer Name	Issue Amount (SGD million)	Coupon Rate	Issue Date	Maturity Date	Tenor (Y)
Mapletree Treasury Services	700	3.95%	12 May 2017	-	Perpetual
	625	4.5%	19 Jan 2017	-	Perpetual
	200	1.2%	14 Dec 2020	14 Dec 2023	3
	300	3.15%	3 Sep 2019	3 Sep 2031	12
	250	3.58%	13 Mar 2019	13 Mar 2029	10
	300	3.4%	3 Sep 2018	3 Sep 2026	8

[8] Subsidiaries, Capitaland Limited Annual Report 2020. https://investor.capitaland.com/misc/CapitaLand-Annual-Report-2020_HR.pdf
[9] 2020 Full Year Financial Statements Announcement. https://investor.capitaland.com/newsroom/20210224_060919_C31_TB0SDQJLSAXAMNDK.2.pdf
[10] Listing of Significant Entities in the Group, from Mapletree Investments Pte. Ltd. Annual Report 2019/2020/. https://www.mapletree.com.sg/services/view_file.aspx?f=%7B556A208F-EAE3-4EFB-A1F5-322338207096%7D

	300	2.85%	29 Aug 2017	29 Aug 2025	8
	200	2.888%	21 June 2018	21 June 2021	3

SGD = Singapore dollar, Y = year
Source: Bloomberg.

Frasers Property

Frasers Property is another diversified real estate company with headquarters in Singapore. The assets of the company range from residential, retail, commercial and business parks, and industrial and logistics in various locations in Southeast Asia, Australia, Europe, and People's Republic of China.

Frasers Property guaranteed the bonds issued by Frasers Property Treasury, with a total issued amount of outstanding bonds of SGD2,430 million. Frasers Property Treasury is a wholly owned subsidiary of Frasers Property.[11] Three of the four bonds guaranteed by Frasers Property are perpetual bonds. Frasers Property is unrated, and all the bonds issued by Frasers Property Treasury with guarantees from Frasers Property are also unrated.

Table 7.4: List of Bonds with Guarantee from Frasers Property

Issuer Name	Issue Amount (SGD million)	Coupon Rate	Issue Date	Maturity Date	Tenor (Y)
Frasers Property Treasury	600	4.98%	11 Apr 2019	-	Perpetual
	350	3.95%	21 Sep 2017	-	Perpetual
	300	4.38%	17 Jan 2018	-	Perpetual
	500	4.15%	23 Feb 2017	23 Feb 2027	10
	280	4.25%	21 Apr 2016	21 Apr 2026	10
	500	3.65%	22 May 2015	22 May 2022	7
	200	3.95%	7 Oct 2014	7 Oct 2021	7

SGD = Singapore dollar, Y = year
Source: Bloomberg.

7.2. Third-Party Guarantee

There are only four bonds guaranteed by third-party guarantors in SGD corporate bond market at the end of 2020. Out of these four bonds, three are guaranteed by CGIF and one is guaranteed by RBC Investor Services Trust. The details about these bonds are shown in Table 7.5.

Table 7.5: Third-Party Guaranteed Bonds in Singapore's Corporate Bond Market

Issuer	IVL Singapore Ltd	Keppel Reit MTN Pte Ltd	CJ Logistics Asia	Nexus International School
Guarantor	CGIF	RBC Investor Services trust	CGIF	CGIF
Issue Date	7 Oct 2015	6 Apr 2017	25 Mar 2019	3 Dec 2019
Maturity	7 Oct 2025	8 Apr 2024	25 Mar 2024	3 Dec 2031
Amount Issued (SGD Million)	195	75	70	150

[11] Frasers Property Annual Report 2020. https://investor.frasersproperty.com/newsroom/FPL_Annual_Report_2020.pdf

Coupon Rate (%)	3.73	3.275	2.938	3.15
Redemption Type	At Maturity	At Maturity	At Maturity	Amortizing

CGIF = Credit Guarantee and Investment Facility, SGD = Singapore dollar
Source: Bloomberg.

CGIF guaranteed bonds are perceived to be "scarce" in the market, and thus welcomed by local investors. They are priced at slightly wider spread compared to ordinary AA-rated bonds as guaranteed bonds are less liquid than ordinary bonds. According to the 2020 Annual Report of Fullerton Fund, the CGIF-guaranteed bond issued by Nexus International School is held by its two bond funds, Singapore bond fund and SGD income fund. In general, a guaranteed bond with sinking feature, which is considered illiquid, is invested by insurance companies or pension funds who put less emphasis about liquidity so much as they tend to hold bonds until their maturities. The fact that the CGIF guaranteed bond is invested by asset managers in their funds who consider liquidity as an important element in their investments implies that CGIF guaranteed bonds are considered attractive by most investors in Singapore.

It is not easy to compare the spreads of SGD CGIF guaranteed bonds with those of other AA-rated SGD bonds. This is because AA-rated bonds are rarely issued in Singapore's corporate bond market. Based on Bloomberg data, there are only 11 SGD bonds, including five CGIF guaranteed bonds, which have been issued since January 2014 until December 2020 and are rated AA- to AA+ (or Aa1 to Aa3) by at least one rating agency from S&P, Moody's, and Fitch. Out of the 11 bonds, only the bonds issued with a 10-year maturity are analyzed for a fair comparison of spreads. This is shown in Table 7.6. Nexus international school bond guaranteed by CGIF is included in the list as it is considered as 10-year bond by investors due to its weighted average principal redemption at issuance being near 10-year even if its maturity is 12 years. [12]

Table 7.6: Spread Comparison of 10-year AA-rated SGD Bonds

Issuer	Guarantor	Rating[1]	Issue Date	Maturity	Coupon	Spread[2]
Protelindo	CGIF	AA (S)	11/27/14	11/27/24	3.25	0.95
Nordea Bank	N/A	AA (F)	5/27/15	5/27/25	3.26	0.82
IVL	CGIF	AA (S)	10/7/15	10/7/25	3.73	1.19
SMRT Capital	SMRT Corp	AA+ (S)	4/20/18	4/20/28	3.22	0.84
NEXUS IS	CGIF	AA (S)	12/3/19	12/3/31	3.15	1.42

CGIF = Credit Guarantee and Investment Facility, SGD = Singapore dollar
Notes:
[1] S and F in parentheses refer to S&P and Fitch rating.
[2] Spreads are calculated as coupon rates minus 10-year Singapore government bond rates at the pricing dates of the corporate bonds in the list.
Source: Bloomberg.

Investors in Singapore consider the appropriate spreads of CGIF guaranteed bonds with comparable AA rated bonds with the same maturities. In addition, they would demand for a liquidity premium as an additional buffer for guaranteed bonds. From Table 7.6, the same is not applied to SMRT Capital bond guaranteed by SMRT Corporation as it is considered closer to a state-owned enterprise (SOE) bond than a guaranteed bond from SMRT Corporation. SMRT Corporation, which is the parent of the issuer, is a subsidiary of the Government of Singapore's Temasek Holdings.

The spreads of CGIF guaranteed bonds in Table 7.6 are in line with how market participants assess in the manner that they are priced at approximately 20 basis points higher than comparable bonds. It can be understood that

[12] Nexus internal school bond is the amortized bond which redeems 3.33% of principal from year 5 to 7 and 18% from year 8 to 12, which makes the weighted average principal redemption 9.6 years at issuance.

additional spread was added to CGIF guaranteed Nexus international school bond due to its complex structure. However, it is too early to conclude that CGIF guaranteed bonds are required approximately 20 basis points more than their comparable bonds as the bonds in the list were issued at different times. This means that market conditions that affect the spreads were all different.

8. Cross Border Bonds

There are two types of cross-border bonds. The first type corresponds to the local currency bonds issued by foreign entities. The ratio of this type of bonds to total local currency bonds shows how much foreign entities are participating in the local currency bond market. Local currency bonds, which are settled in major currencies such as the US dollar, need to be excluded in the calculation of this ratio to understand the real participation of foreign issuers because these bonds are neither issued nor traded in the local bond market. However, the bonds that are settled in major currencies are also investigated in this chapter. As shown in table 8.1, Singapore is the only country in ASEAN where foreign entities are actively participating in the local currency corporate bond market. Approximately 26% of SGD bonds issued by companies are issued by non-Singaporean entities.

The second type of cross-border bonds corresponds to the foreign currency bonds issued by local entities. The ratio of this type of bonds to total bonds issued by local entities shows how much local entities rely on the offshore market for their bond financing. Singapore is the highest in terms of this ratio in ASEAN, which implies that Singaporean companies significantly rely on foreign currency denominated bonds for their total bond financing. Given the highly developed capital market in Singapore that can attract even foreign entities, it is presumed that the reason this ratio is high in Singapore is not because SGD corporate bond market is not big enough to absorb the funding needs of Singaporean companies. Rather, it is because the Singapore dollar is very liquid and SGD forward or cross currency swap market is well developed so that Singaporean companies can easily convert to SGD after they issue foreign currency bonds.

Table 8.1: Cross-Border Corporate Bonds in ASEAN6, 2020

Country	Ratio of LCY bonds issued by foreign entities to total LCY bonds		Ratio of FCY bonds issued by local entities to total bonds issued by local entities
	Including major currency settled bonds	Excluding major currency settled bonds	
Indonesia	30%	0.3%	60%
Malaysia	1%	1%	16%
Philippines	2%	0.3%	34%
Singapore	**26%**	**26%**	**67%**
Thailand	1%	1%	16%
Viet Nam	1%	0%	0%

ASEAN6 = Association of Southeast Asian Nations member states Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Viet Nam, FCY = foreign currency, LCY = local currency
Note: The ratios are based on the amount issued of the bonds.
Source: Bloomberg; Author's calculations.

8.1. SGD Corporate Bonds issued by Foreign Entities

From the data provided by Bloomberg, SGD corporate bonds issued by foreign entities are all redeemed in SGD as well. As of 31 December 2020, there were 260 outstanding SGD corporate bonds issued by foreign entities, which amounted to a total of SGD26.7 billion. Issuers of these bonds are from 26 countries. As Singapore is a recognized financial hub in Asia and the Singapore dollar is a liquid low-yielding international currency, the SGD bonds issued by foreign entities, especially foreign banks and financial institutions, are well observed. Out of the 26 countries, the top four countries in terms of total issued amount are introduced in Table 8.2. The table shows that banks are also the most active issuers of SGD bonds from the top four countries.

Table 8.2: SGD Corporate Bonds from the Top Four Foreign Countries, 2020

Country	Issuers	Number of Issues	Total Issued Amount (SGD million)
UK	HSBC Holdings, Goldman Sachs International, Standard Chartered Bank and 4 more	42	4,564
Australia	Commonwealth Bank, ANZ Bank, National Australia Bank and 5 more	13	2,693
Switzerland	UBS, Credit Suisse, Julius Baer Group	40	2,681
France	Societe General, BNP Paribas, Credit Agricole and 2 more	11	2,264

SGD = Singapore dollar

Note: The names of corporate issuers are the top three issuers of SGD-denominated corporate bonds (based on issuance amount) in each country identified in the table.

Source: Bloomberg; Author's calculations.

SGD bonds are also issued by the companies and banks from ASEAN+3[13] although they occupy a market that is much smaller than European banks described in Table 8.2. While issuers from People's Republic of China, Hong Kong, and Japan are mostly banks and financial institutions, issuers from Indonesia, Malaysia, and Republic of Korea are non-financial institutions. Profesional Telekomunika is an Indonesian telecommunication company that tapped the SGD bond market. Notably, the SGD bond market can accommodate longer-term and larger-sized bond issuances compared to Indonesia's corporate bond market. CGIF provided guarantee to this issuer for its 10-year SGD180 million bond. Ciputra Development is also an Indonesian entity that issued SGD bonds. Unlike Profesional Telekomunika, which issued the AA-rated SGD bond with CGIF guarantee, Ciputra Development issued the first SGD bond in September 2017, with its own credit rating of BB- from Fitch. Despite the downgrading to B+ in November 2020, the company was able to issue another SGD bond with 5-year tenor in February 2021. Based on its financial statements, Ciputra Development entered into derivate transactions to hedge the currency risk that rose from the SGD bond issuances. Cagamas, rated A3 by Moody's, is a Malaysian entity that highlighted its SGD bond as the only SGD bond issuance in Malaysia in 2020. Cagamas used cross currency swap to hedge the foreign currency exposure from the SGD bond issuance.

Table 8.3: SGD Corporate Bonds from ASEAN+3 Countries Except Singapore, 2020

Country	Issuers	Number of Issues	Total issued Amount (SGD million)
China	Agricultural bank of China, Bank of China, China Orient Securities, China Construction Bank, CQ Banan Eco Park, ICBC	7	1,035
Hong Kong	Wheelock Finance, Wharf Finance, Cathay Pacific	3	785
Indonesia	Profesional Telekomunika, PT Ciputra Development	2	330

[13] ASEAN+3 = ASEAN countries and People's Republic of China, Japan, and Republic of Korea

Japan	Sumitomo Mits Trust	1	20
Malaysia	Cagamas Global	1	130
Korea	Daewoo E&C, Posco International	2	245

ASEAN+3 = ASEAN countries and People's Republic of China, Japan, and Republic of Korea, SGD = Singapore dollar
Source: Bloomberg.

Table 8.4 shows the information per sector on SGD corporate bonds issued by foreign entities. Aside from banks and other financial institutions, there are other notable sectors in which foreign issuers of SGD bonds are coming from. Life insurance companies recorded the highest average issue size of USD264 million. Although issuances from refining and marketing, supranational and government development banks do not have high total issued amount, these are significant in terms of average issue size. The bond from the refining and marketing sector came from Indian Oil Corporation. The bond was issued in 2012 with a 10-year maturity. The International Bank for Reconstruction and Development is the supranational issuer of two SGD bonds. On the other hand, Landwirtschaftliche Rentenbank, Germany's development bank for agribusiness and rural areas, is the government development bank issuer. In its annual report in 2017, Landwirtschaftliche Rentenbank noted that this was its first issuance of SGD-denominated bonds. Lastly, one issuance from life insurance company is labelled as a green bond. This is from Manulife Financial Corporation, with an issue amount of USD378 million equivalent.

Table 8.4: SGD Corporate Bonds of Foreign Entities per Select Sector and Amount Issued, 2020

Sector	Number of Bonds	Total Issued Amount (equivalent USD million)	Average Issue Size (equivalent USD million)
Financial Services	107	5,190	49
Banks	68	4,280	62
Diversified Banks	30	3,790	126
Real Estate	17	2,451	144
Life Insurance	5	1,321	264
Refining and Marketing	1	303	303
Supranationals	2	756	378
Government Development Banks	1	378	378

USD = United States dollar
Note: Exchange rate used is USD1=SGD1.322. Industry classification is based on Bloomberg.
Source: Bloomberg; Author's calculations.

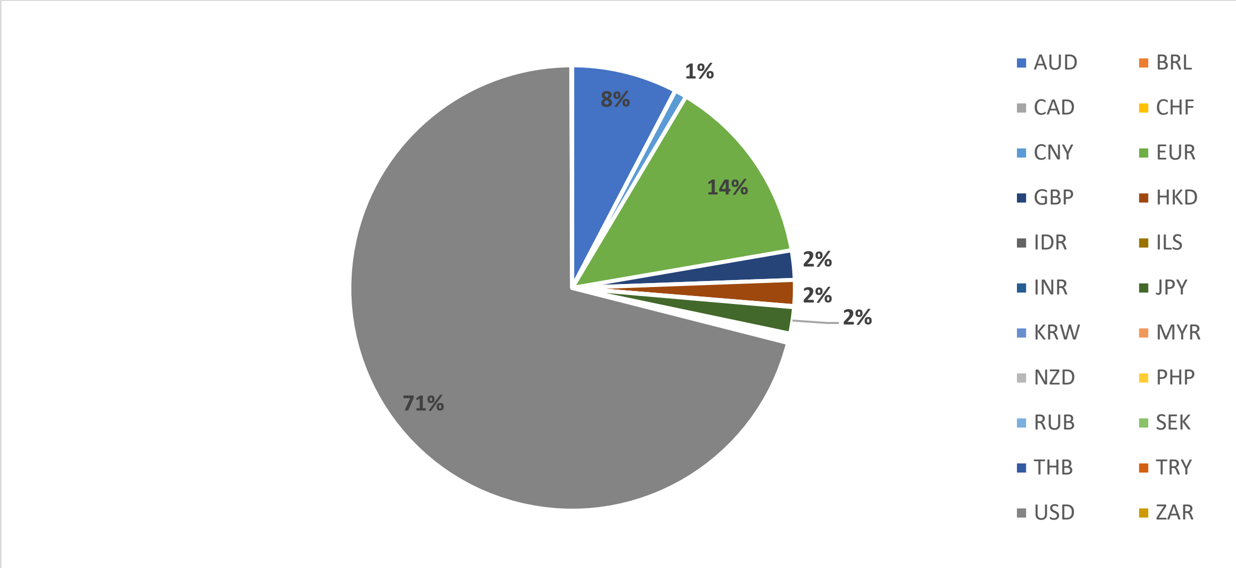
Overall, the prevalence of SGD bonds issued by foreign entities shows the diversity in the countries of incorporation of issuers and the recognition of SGD as an international currency. This asserts the position of Singapore as an international financial hub in ASEAN.

Singaporean institutional investors also have a general criterion when considering cross-border bonds. They would prefer bonds to have international credit ratings from any of the global credit rating agencies. If there might be no credit ratings, they would prefer those bonds issued by corporates that have previously issued SGD or major currencies-denominated bonds. A final criterion in scenarios in which there are no credit ratings is the strong presence or nexus in Singapore.

8.2. FCY Corporate Bonds Issued by Singaporean Entities

Based on the outstanding bonds as of 31 December 2020, there are 22 foreign currencies which Singaporean entities tapped for corporate bond issuance. The total value amounts to USD115 billion. Based on the amount issued in USD equivalent, approximately 71% of these are issued in USD, 14% are in Euro, and 8% are in Australian dollar.

Figure 8.1: Currency Breakdown of FCY Bonds Issued by Singaporean Entities, 2020



FCY = foreign currency
Source: Bloomberg.

In addition to the big three currencies, British pound, Japanese yen, Hong Kong dollar and Chinese yuan are the currencies which occupy 1% or more of the total foreign currencies issued by Singaporean entities. Across ASEAN5 countries, USD-denominated bonds dominate the foreign currency bonds issued by local entities. However, Table 8.5 shows that the dominance of USD-denominated bonds in Singapore is not as strong as those in other ASEAN5 countries. This implies that Singaporean entities use more currencies than the entities from other countries.

Table 8.5: Dominance of USD in Foreign Currency Bond Issuances in ASEAN5, 2020

Country	Number of FCYs including USD	Dominance of USD
Indonesia	4	96%
Malaysia	8	91%
Philippines	3	97%
Singapore	**22**	**71%**
Thailand	3	93%

ASEAN5 = Singapore, Malaysia, Thailand, the Philippines, Indonesia, and Viet Nam, FCY = foreign currency, USD = United States dollar
Source: Bloomberg.

Among the 22 foreign currencies used by Singaporean entities, ASEAN+3 currencies are also included. Japanese yen is the biggest among ASEAN+3 currencies, followed by Chinese yuan, Malaysian ringgit, Korean won, Thai baht, Indonesian rupiah, and Philippine peso. Table 8.6 shows some interesting ASEAN+3 currencies' bonds issued by Singaporean entities. First Resources and Bumitama Agri are two issuers that tapped MYR sukuk issuances in Malaysia, the biggest sukuk market in the world. GLP Pte is the issuer of JPY bond in Japan and Yoma Strategic Holdings is the issuer of THB bond in Thailand. Both have CGIF guarantee. In fact, Yoma Strategic Holdings is a listed company in Singapore, even though it is a company from Myanmar.

Table 8.6: FCY Corporate Bonds of Singaporean Entities Labeled as Green Bonds

Currency	Issuer	Issue Date	Maturity	Amount (LCY million)	Remark
JPY	GLP Pte	24 Dec 2020	24 Dec 2029	15,400	CGIF guaranteed bond
MYR	First Resources	27 Oct 2014	27 Oct 2021	400	Sukuk with AA2 by RAM
	Bumitama Agri Ltd	22 July 2019	22 July 2024 22 July 2026	300 400	Both are Sukuk and rated AA3 by RAM
PHP	Sindicatum Renewable	15 Aug 2018	15 Aug 2028	1,060.2	GuarantCo guaranteed bond
THB	Yoma Strategic holdings	25 Jan 2019	25 Jan 2024	2,220	Originally Myanmar company CGIF guaranteed bond

CGIF = Credit Guarantee and Investment facility, JPY = Japan yen, LCY = local currency, MYR = Malaysian ringgit, PHP = Philippine peso, THB = Thai baht
Source: Bloomberg; Author's illustration.

There are 13 Singaporean entities' FCY corporate bonds that are labeled as green bonds. Of these 13, bonds issued by Sindicatum Renewable Energy Company Pte. Ltd. have guarantees from GuarantCo, an international organization that provides credit guarantees to eligible issuers. These bonds were issued in Philippine peso and Indian rupee but settled in US dollar.

Financial entities are most active in issuing FCY corporate bonds in Singapore. Most of the FCY corporate bond issuances are from banks, followed by the financial services companies and commercial finance and real estate sectors. Among these, the financial services sector has the smallest average issue size, while the commercial finance sector has the largest average issue size. Nevertheless, there are still some sectors that have a small number of issuers but have large average issuance size. Table 8.7 shows these sectors.

Table 8.7: FCY Corporate Bonds per Select Sector and Amount Issued, 2020

Sector	Number of Bonds	Total Issued Amount (equivalent USD million)	Average Issue Size (equivalent USD million)
Banks	222	37,232	168
Financial Services	975	20,265	21
Commercial Finance	37	12,203	330
Real Estate	52	7,292	140
Metals and Mining	4	2,500	625
Wireline Telco Services	6	3,600	600
Design, Manufacturing, and Distribution	5	3,075	615
Coal Operations	7	3,581	512

Note: Industry classification is based on Bloomberg.
Source: Bloomberg; Author's calculations.

9. Outlook for Singapore's Corporate Bond Market

Despite Singapore is seen as an international debt market, there are still efforts to develop the corporate bond market in the country. Singapore has implemented bond grant schemes to encourage the issuance and listing of bonds in SGX. One of these schemes is the Global-Asia Bond Grant Scheme, which helps companies with Asian nexus who would issue in Singapore's bond market for the first time. The issuance should have a minimum size of SGD200 million or a bond program size of at least SGD200 million, with an initial issuance of at least SGD20 million for applicants of the Sustainable Bond Grant Scheme. Under this grant scheme, half of the eligible expenses of the issuer is funded. This excludes credit rating fees for SGD-denominated bond issuance, which receives 100% funding.

MAS also started implementing the SGD Credit Rating Scheme in 2019 to encourage bond issuers to obtain credit ratings. Under this scheme, credit rating expenses of up to SGD400,000 will be offset. This scheme aims to improve the overall market transparency in the local currency corporate bond market of Singapore. With credit ratings, investors will be able to access timely and independent assessments of credit worthiness of bond issuers.

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