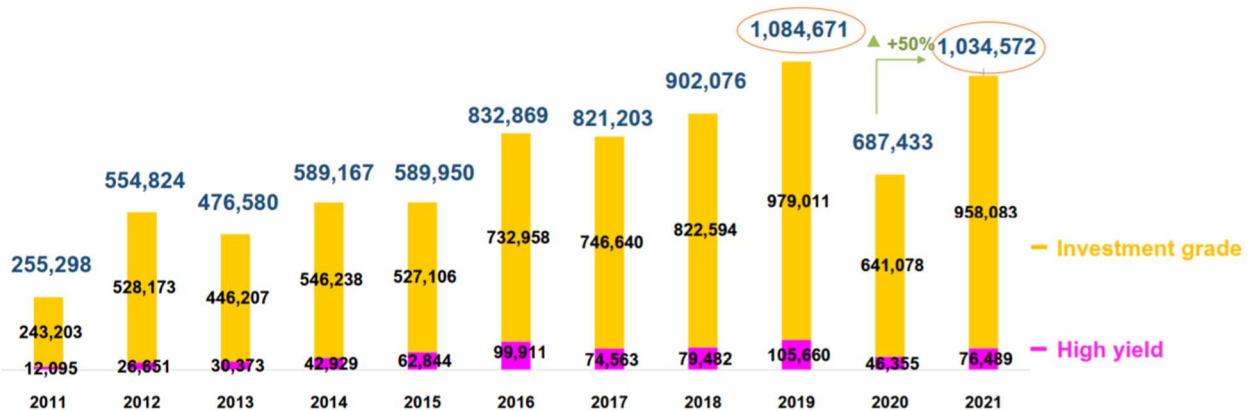
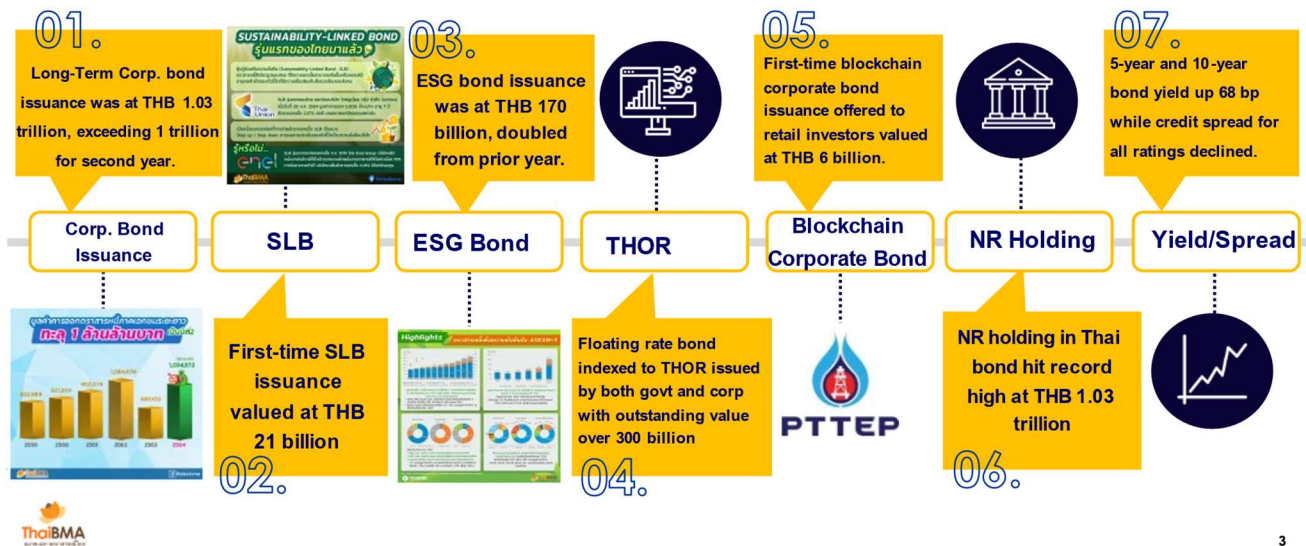


## 2021 Bond Market Highlights



### Another year of 1 trillion corporate bond issuance

Long-Term corporate bond issuance in 2021 exceeded THB 1 trillion for second year since 2019. The issuance value increased 50% from the prior year.

## First issue of Sustainability-linked bond.

Thai Union PCL. issued the first sustainability-linked bond (SLB) in Thailand with the issue size of THB 5,000 million. The bond has step-up / step-down coupon related to the achievement of Sustainability Performance Targets (SPTs).

**SUSTAINABILITY-LINKED BOND**  
**รุ่นแรกของไทยมาแล้ว**

หุ้นกู้ส่งเสริมความยั่งยืน (Sustainability-Linked Bond : SLB) ตราสารหนี้สีเขียวรูปแบบใหม่ ที่อัตราดอกเบี้ยสามารถเพิ่มขึ้นหรือลดลงได้ตามผลสำเร็จของตัวชี้วัดที่มีความเชื่อมโยงกับสิ่งแวดล้อมและสังคม

**Thai Union** SLB รุ่นแรกของไทย ออกโดยบริษัท ไทยยูเนี่ยน กรุ๊ป จำกัด (มหาชน) เมื่อวันที่ 20 ธ.ค. 2564 มูลค่าการออก 5,000 ล้านบาท อายุ 7 ปี อัตราดอกเบี้ย 2.47% ต่อปี เสนอขายแก่นักลงทุนสถาบัน

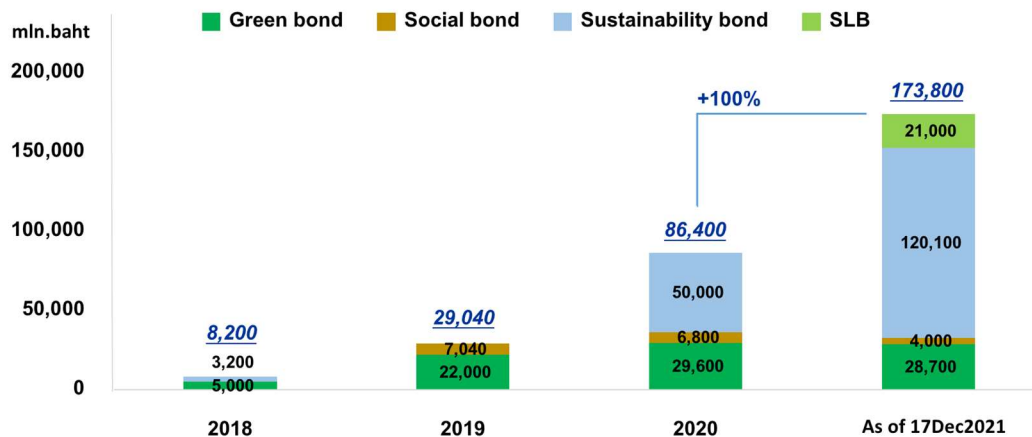
เป็นครั้งแรกของโลกที่การจ่ายอัตราดอกเบี้ย SLB เป็นแบบ Step up / Step down ตามผลการประเมินของตัวชี้วัดด้านความยั่งยืนบริษัท

**รู้หรือไม่...**  
**enel** SLB รุ่นแรกของโลกออกเมื่อ ก.ย. 2019 โดย Enel Group บริษัทผลิตพลังงานในอิตาลีที่ตั้งเป้าหมายจะผลิตพลังงานทดแทนให้ได้อย่างน้อย 55% หากไม่สามารถทำได้ บริษัทจะเพิ่มอัตราดอกเบี้ย 0.25% ให้แก่นักลงทุน

**ThaiBMA** สมาคมตลาดตราสารหนี้ไทย **fbthaibma**

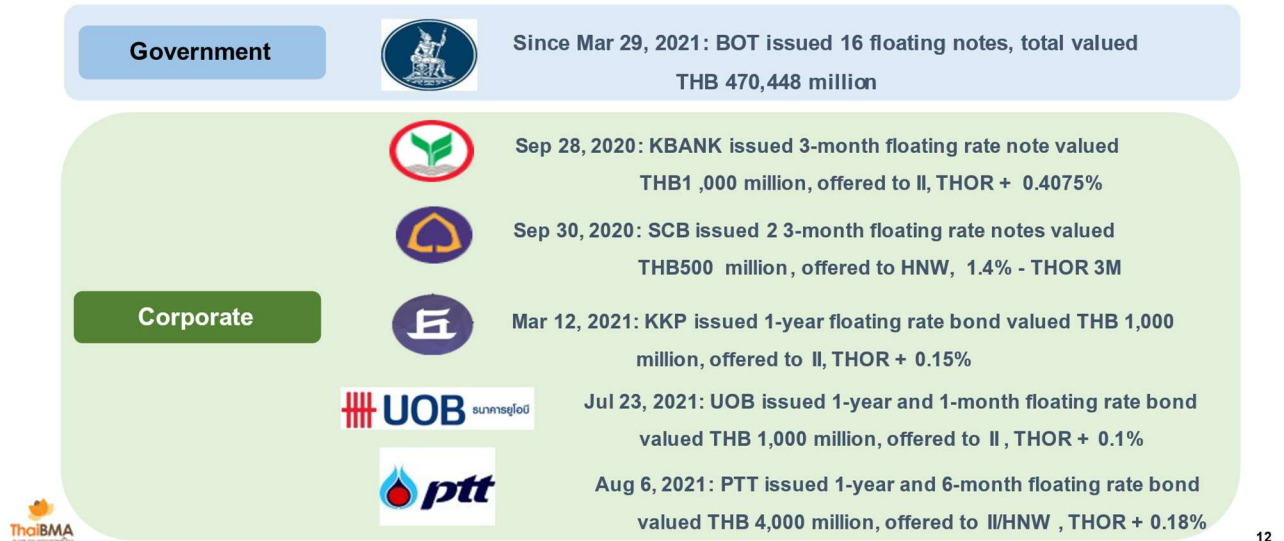
## ESG bond issuance surged

ESG bond issuance in 2021 dramatically rose by 100% from the previous year. The major portion came from sustainability bond issued by the Ministry of Finance (MOF) to finance the MRT Mass transit orange line and alleviate the effect of COVID-19.



## FRB indexed to new reference rate “THOR”

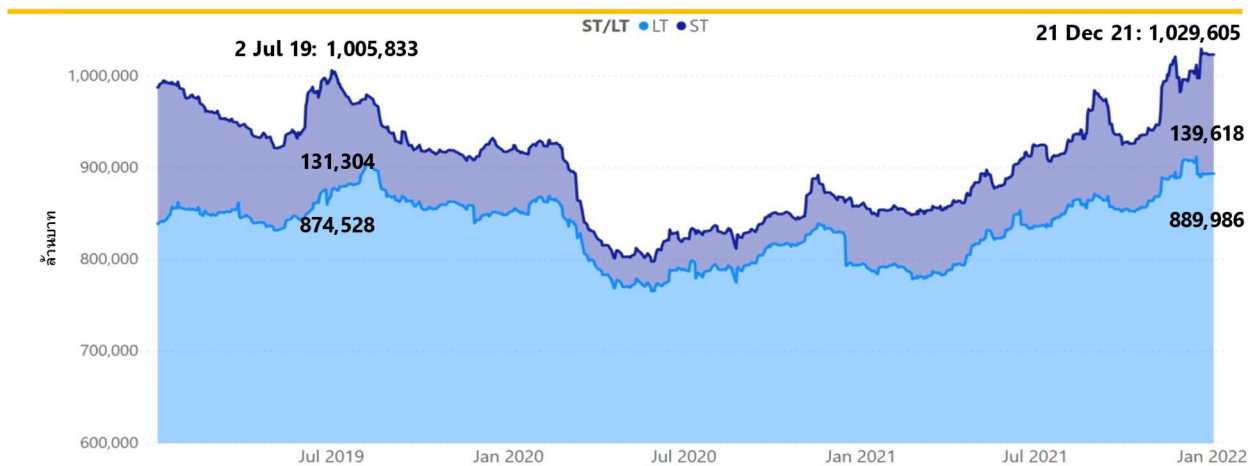
Floating rate note/bonds indexed to new types of reference rate, Thai Overnight Repurchase Rate (THOR), was continued to be issued by both the Bank of Thailand and corporate sector with total value over THB 300 billion. THOR will replace Thai Baht Interest Rate Fixing (THBFIX) as THBFIX will be phased out in 2023.



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## NR Holding hit record high

Non-resident investors holding in Thai bonds made a new record high, reaching 1.03 trillion baht on Dec 21, 2021. The last high was on July 2, 2019, at 1.005 trillion baht.



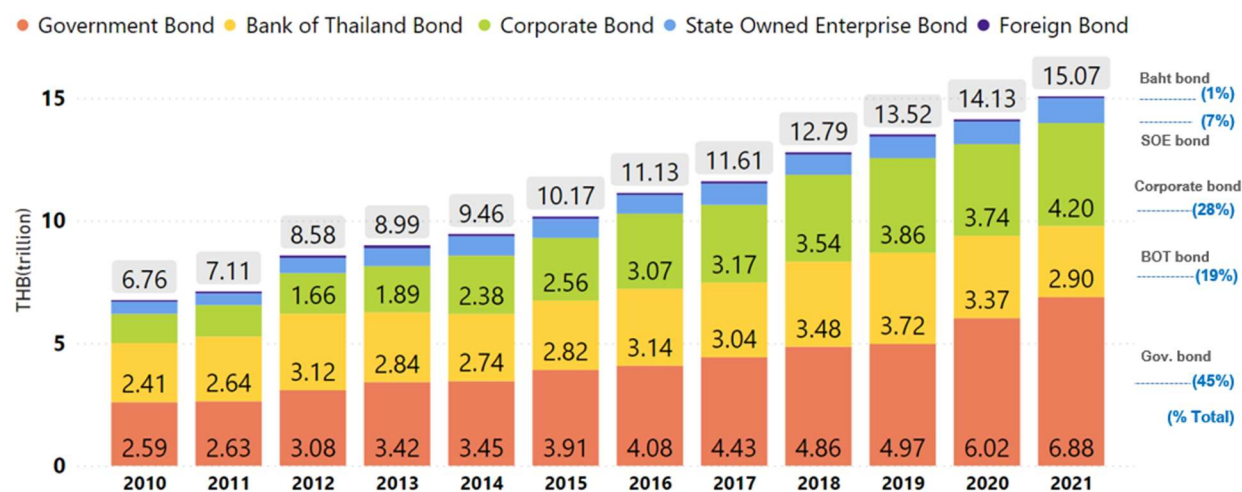
## 2021 THAI BOND MARKET REVIEW

- Long-Term corporate bond issuance in 2021 exceeded THB 1 trillion for second year since 2019. The issuance value increased 50% from the prior year.
- The first sustainability-linked bond (SLB) was issued by Thai Union PCL with the issue size of THB 5,000 million.
- ESG bond issuance in Thailand surged by 100% in 2021.
- Floating rate note/bonds indexed to new reference rate- Thai Overnight Repurchase Rate (THOR) with total value of over THB 300 billion were issued in 2021.
- Bond yield rose from signs of economic recovery and increased supply of government bond. 10-year bond yield at the end of year was 1.89%, 61 bps higher than the prior year.
- The first corporate bond using blockchain technology was offered to retail investors. PTT Exploration and Production (PTTEP) became the first corporate bond issuer of so-called digital bond offered to retail investors via the government’s digital wallet “Pao Tang” empowered by Krungthai Bank (KTB).
- New high of non-residents holding in Thai bonds at 1.03 trillion was recorded on December 21,2021.

### Outstanding Value – Total outstanding value of Thai bond market grew 6.4% from 2021.

In the second year of pandemic, total outstanding value of Thai bond market at the end of 2021 continued to increase by 6.6% to THB 15.07 trillion. The large portion came from government bond which accounted for 45% of total outstanding value. Corporate bond and Bank of Thailand (BOT) bond ranked second and third which accounted for 28% and 19% respectively. The remaining of the outstanding value were State Owned Enterprise (SOE) bond (7%) and foreign bond (1%). (See Figure 1)

**Figure 1: Outstanding Value of Thai Bond Market**



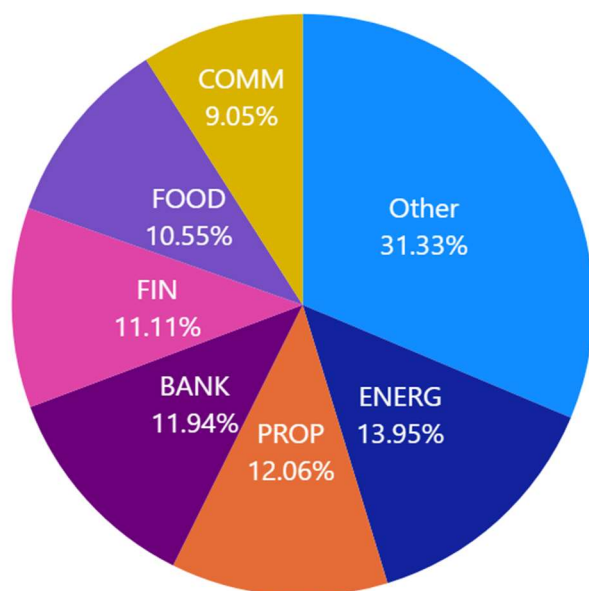
Classified by types of bonds, government bond and treasury bill grew 13.67% and 23.02% respectively. They contributed THB 762 billion to overall increase of THB 937 billion. Meanwhile, the outstanding value of BOT bond declined 13.90% and foreign bond fell 13.82%. Outstanding value of long-term corporate bond and commercial paper increased from increase in issuance in 2021. (See Figure 2)

**Figure 2: Outstanding Value Classified by Types of Bonds**

Type	2020	2021		Growth(%)
Government Bond	5,581,029	6,344,024	↑	13.67%
Treasury Bill	438,958	540,000	↑	23.02%
State Owned Enterprise Bond	926,622	1,016,305	↑	9.68%
Bank of Thailand Bond	3,365,405	2,897,665	↓	-13.90%
Long-Term Corporate Bond	3,569,330	3,937,065	↑	10.30%
Commercial Paper	169,863	264,639	↑	55.80%
Foreign Bond (Baht Bond)	81,807	70,504	↓	-13.82%
Total	14,133,014	15,070,202	↑	6.63%

Classified by sector, the outstanding value of top 6 sectors of long-term corporate bond contributed to 68.66% of the total. The 6 sectors were energy, property, bank, finance (non-bank), food and commerce sectors. (See Figure 3)

**Figure 3: Long-Term Corporate Bond Outstanding Value Classified by Sector**

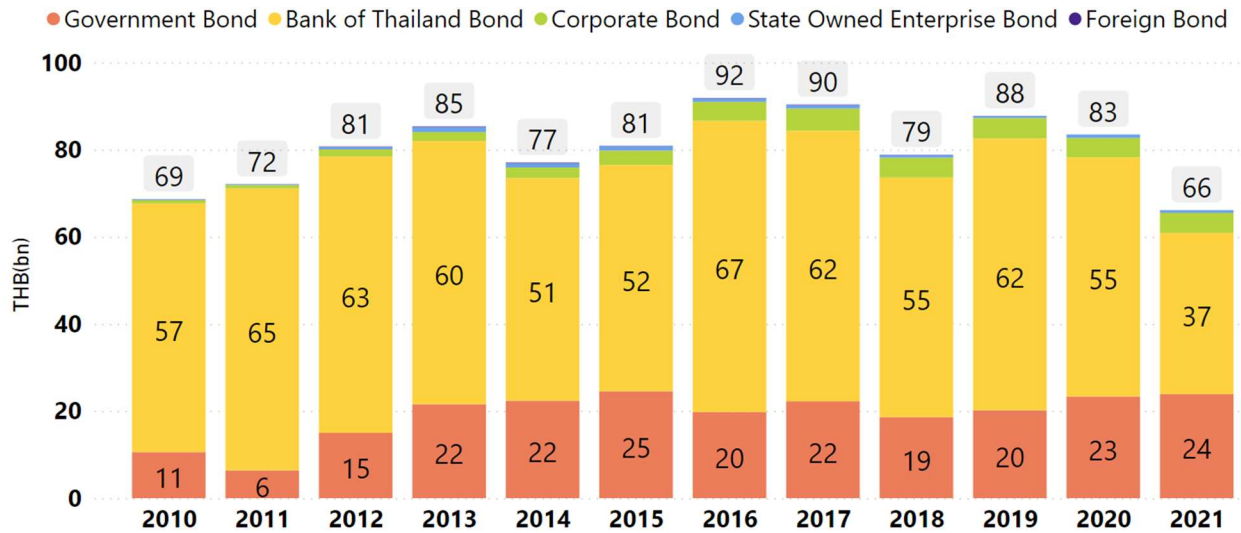




## Trading Value – Average trading per day down by 20%

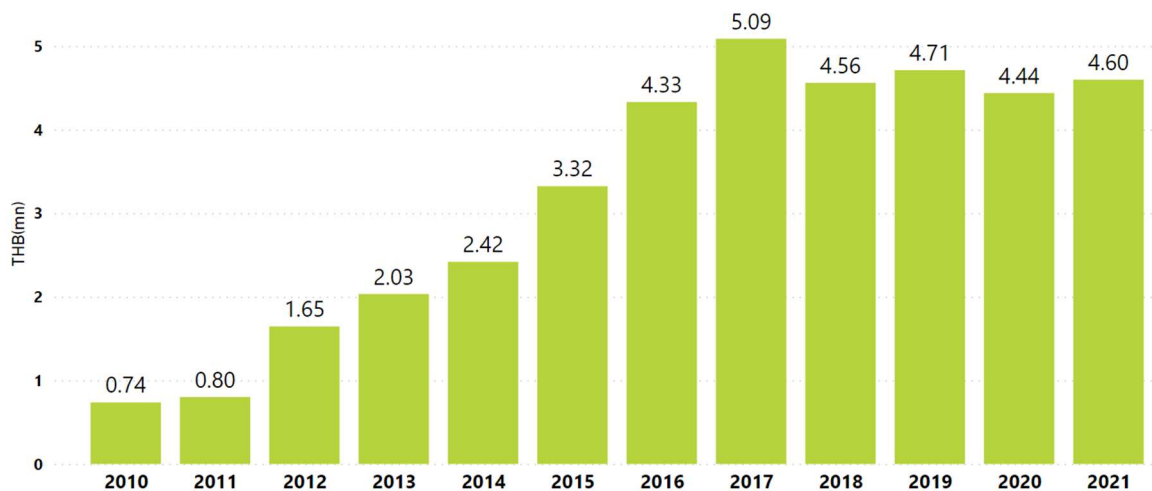
Daily average trading value in 2021 was at THB 66 billion, down 20% from the previous year at THB 83 billion due to declining trading activity in BOT bond. However, BOT bond was still the most traded bond for the year with average THB 37 billion traded daily. The second most traded was government bond with average trading at THB 24 billion. Both BOT and government bond accounted for 92% of daily trading activity. The other 8% was from corporate, state-owned enterprise and foreign bond, which accounted for THB 4.6 and 6 million respectively. (See Figure 4)

**Figure 4: Average Daily Trading Value in Thai Bond Market**



The average daily trading value of corporate bond was 4.6 billion, in line with the average of around THB 4.5 billion for the last 4 years. The main reason was due to buy-and-hold nature of individual investors which are the main holder of corporate bonds. (See Figure 5)

**Figure 5: Average Daily Trading Value of Corporate Bond**



**Bond issuance – Long-term corporate bond issuance increased 50% from last year, breaking THB 1 trillion milestone for second year.**

After a slow issuance last year, long-term corporate bond issuance rose sharply by 50% in 2021. The large increase was attributed to 6 business sectors namely energy, property, finance (non-bank), commerce, ICT and food. Each sector contributed over THB 100 billion to overall issuance.

Government bond issuance rose substantially by nearly 50% due to the government’s financing needs to fund COVID-19 relief measures. On the contrary, BOT bond issuance declined by 38% to accommodate the increased government bond issuance. Issuance of 6-month BOT bills and 3-year BOT bonds were discontinued in 2021 while the MOF re-auction 6-month treasury bills and 3-year government bonds on a regular basis.

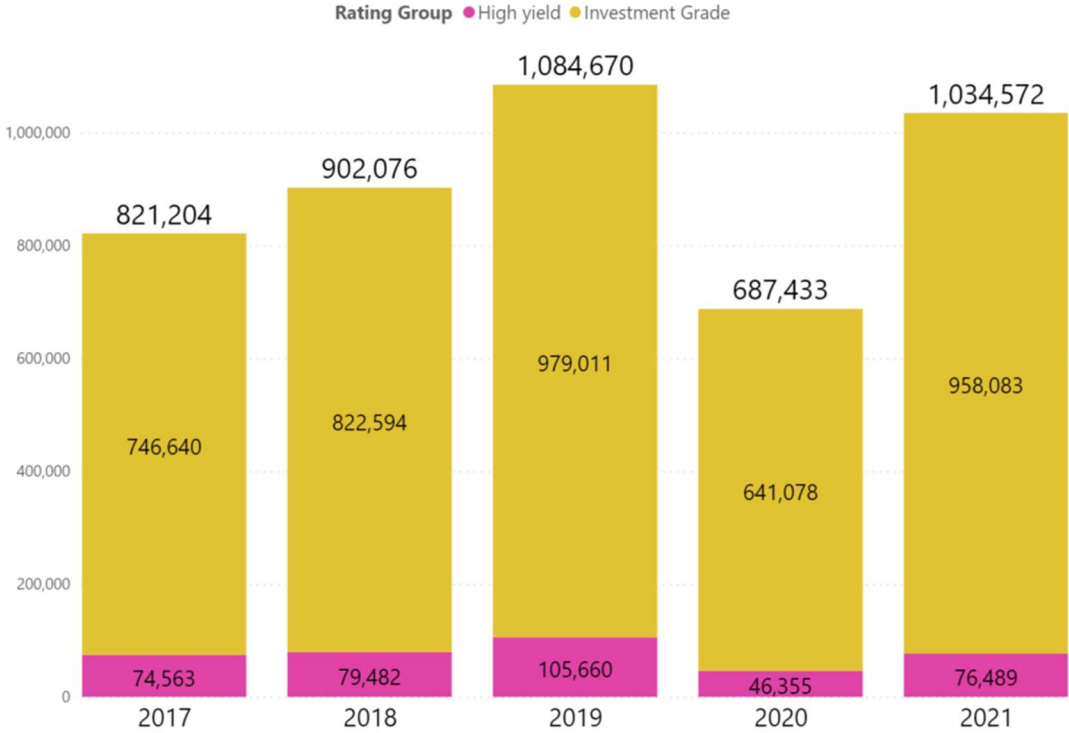
**Figure 6: Bond Issuance**

Type	2020	2021		Growth(%)
Government Bond	850,721	1,260,001	↑	48.11%
Treasury Bill	558,958	1,060,000	↑	89.64%
State Owned Enterprise Bond	181,390	197,658	↑	8.97%
Bank of Thailand Bond	7,196,556	4,464,438	↓	-37.96%
Long-Term Corporate Bond	687,433	1,034,572	↑	50.50%
Commercial Paper	607,662	698,943	↑	15.02%
Foreign Bond (Baht Bond)	1,600	5,627	↑	251.69%
Total	10,084,320	8,721,239	↓	-13.52%

**Long-term corporate bond issuance**

The value of long- term corporate bond issuance was at THB 1,034,572 million, up 50% from the prior year and exceeding 1 trillion for second year since 2019. Categorized by credit rating, both investment grade and high yield bond issuance increased 49% and 65% respectively. 67.73% of high yield bond issuance in 2021 were secured bonds.

**Figure 7: Long-Term Bond Issuance**

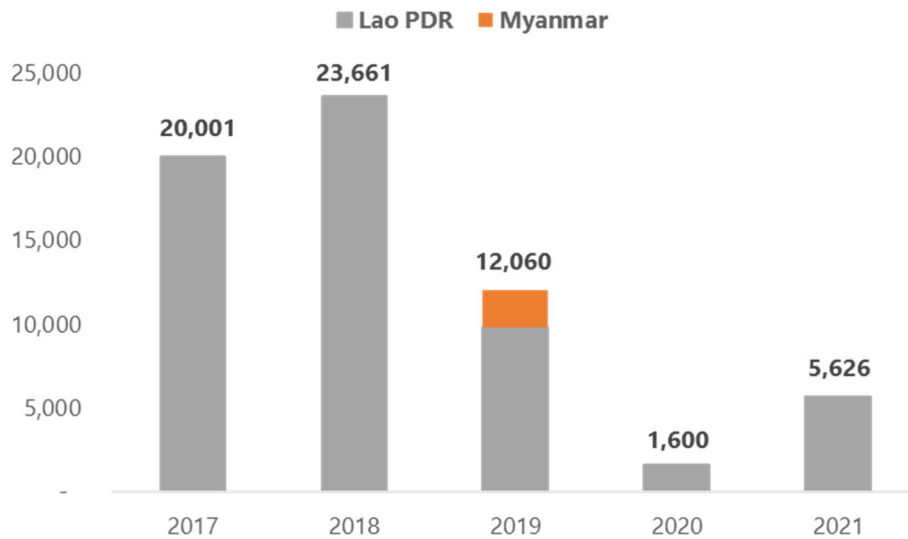




### Foreign bond issuance

This year, there was only 1 issuer from Lao PDR which was EDL-Generation Public Company. The total issuance was at THB 5,626 million. (See Figure 8)

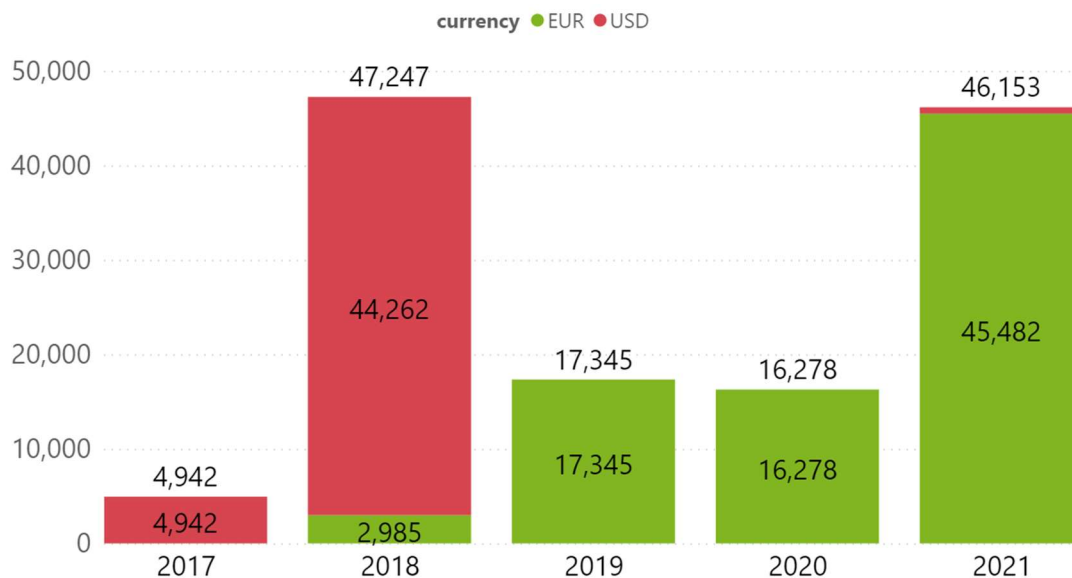
**Figure 8: Foreign Bond Issuance**



### FX bond issuance

Total FX bond issuance in 2021 was at THB 46,153 million. Most of the bonds were EUR denominated bond issued by Kiatnakin Phatra Bank (KKP) and Kasikornbank (KBANK). (See Figure 9)

**Figure 9: FX Bond Issuance**



## **ESG bond issuance – ESG issuance hit another record high as both public and private sectors issued more ESG bonds.**

Total issuance of ESG bond was at THB 173 billion in 2021, which increased 100% from the prior year, making accumulated outstanding value amounting to THB 297 billion. More than half of ESG bond issuance came from MOF's sustainability bond worth THB 107 billion. The proceeds from the bond were used for funding mass transportation projects and COVID-19 relief package. Another issuer from public sector was National Housing Authority of Thailand (NHA). NHA issued social and sustainability bonds to finance new and existing affordable and green housing projects. The projects aim to create sustainable and better living for Thai people.

For private sector, there were variety of ESG bonds issued in 2021. KBANK was a new issuer in sustainability bond. The bank issued EUR 155 million to finance or refinance eligible green or social projects. Another corporate issuer, Thai Food Group, was the first corporate to issue social bond. The proceeds from the bond were used to buy raw materials from farmers, whose businesses were affected by COVID-19, and hire local workers. For green bonds, there were 5 issuers in 2021 and most of them were issued to finance renewable energy projects.

2021 marked the first year that the sustainability-linked bonds (SLBs) were issued in Thailand. As opposed to other ESG bonds, the proceeds from the SLBs can be used in normal business operation to promote more sustainable business activity rather than being tied to finance specific sustainable projects. There were 2 issuers of SLBs, and both were from private sector namely Thai Union (TU) and Indorama Ventures (IVL). TU was the first SLB issuer that introduced step-up and/or step-down coupon rates related to the achievement of Sustainability Performance Targets (SPTs). These targets include remaining in the Dow Jones Sustainability Index (DJSI) Emerging Markets and ranking in the top 10 companies for the DJSI Food Products Industry Index; reducing carbon emissions from manufacturing operation by 4% annually; and increasing the monitoring and surveillance of Thai Union's wild-caught tuna supply chains. SLB issued by IVL is tied to IVL's three performances: reducing greenhouse gas emissions by 10% by 2025 (from a 2020 base), increasing recycling of PET bale input to 750,000 ton per year by 2025 and achieving 25% renewable electricity consumption in 2030. (See Figure 10)

Figure 10: ESG Bond Issuers in 2021

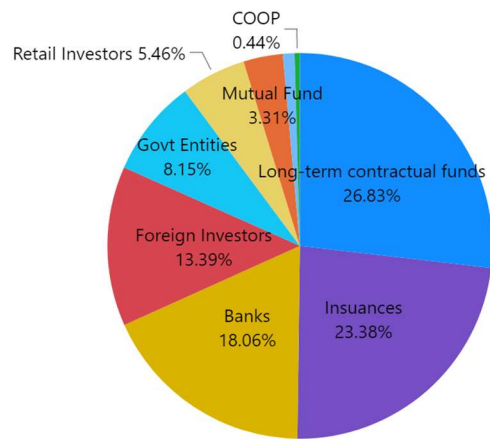
	Theme	Entity	Issue Size
<b>GOV</b>			
	<b>Sustainability</b>	<b>MOF</b>	<b>THB 107,000 mln.</b>
<b>SOE</b>			
	<b>Sustainability</b>	<b>NHA</b>	<b>THB 2,100 mln.</b>
	<b>Social</b>	<b>NHA</b>	<b>THB 3,000 mln.</b>
<b>CORP</b>			
	<b>Sustainability</b>	<b>BEM</b>	<b>THB 6,000 mln.</b>
	<b>Sustainability</b>	<b>KBANK</b>	<b>THB 5,000 mln.</b>
	<b>Social</b>	<b>TFG</b>	<b>THB 1,000 mln.</b>
	<b>Green</b>	<b>TLT</b>	<b>THB 2,000 mln.</b>
	<b>Green</b>	<b>BGRIM</b>	<b>THB 3,000 mln.</b>
	<b>Green</b>	<b>BCPG</b>	<b>THB 12,000 mln.</b>
	<b>Green</b>	<b>SPCG</b>	<b>THB 1,500 mln.</b>
	<b>Green</b>	<b>BTS</b>	<b>THB 10,200 mln.</b>
	<b>SLB</b>	<b>TU</b>	<b>THB 5,000 mln.</b>
	<b>SLB</b>	<b>IVL</b>	<b>THB 10,000 mln.</b>
	<b>SLB</b>	<b>TU</b>	<b>THB 6,000 mln.</b>
	<b>Total</b>		<b>THB 173,800 mln.</b>

## Composition of Bond Holders in 2021

### Holders of Government Bond

The top holder of government bond was long-term contractual funds at 26.83% of total government bond outstanding. Insurances ranked second with 23.38%. Foreign Investors remain one of the significant government bond holders at 13.39%. (See Figure 11)

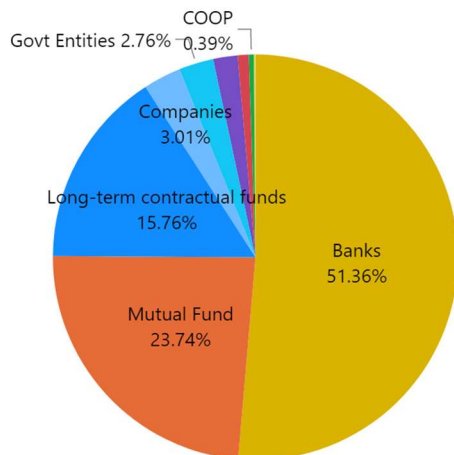
**Figure 11: Holders of Government Bond**



### Holders of Bank of Thailand (BOT) Bond

The largest holder of BOT bond was banks, accounting for 51.36% of BOT bond outstanding. The second and third largest holders were mutual funds and long-term contractual funds which accounted for 23.74% and 15.76% respectively. (See Figure 12)

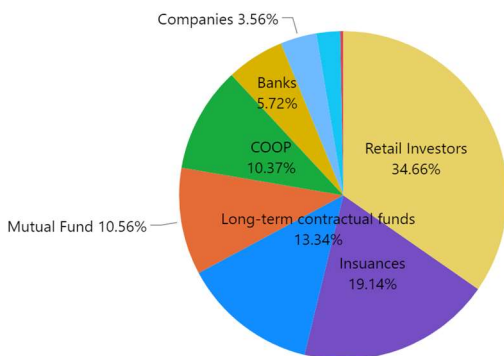
**Figure 12: Holders of Bank of Thailand (BOT) Bond**



## Holders of Corporate Bond

The main holder of corporate bond was individual Investors, accounting for 34.66%. Insurances and long-term contractual funds ranked second and third with 19.14% and 13.34% respectively. (See Figure 13)

**Figure 13: Holders of Corporate Bond**



## NR flows - large inflow in 2021 made an all-time high NR holding value at THB 1.03 trillion

Total NR flows for the year 2021 was net inflow at THB 144 billion, while previous year was net outflow at THB 64,025 million. The inflow entered in the second quarter of the year when there was high inflation expectation in the US from high economic activity. The market expected that the Federal Reserve (Fed) may raise interest rate faster than expected which would slow down the economic growth. Therefore, investors were buying more risk-free asset to offset the risk. In the first half of the year, total net inflow was at THB 73 billion.

In the second half of the year, there was inflows due to speculation that THB had depreciated excessively from business inactivity and high case of COVID-19. After the cases went down, foreign flows came in both bond market and stock market speculating appreciation of THB. In November 2021, Thai government announced reopening of business and welcomed more foreign tourists. Therefore, there was an expectation that Thai economy would rebound as people went back to work. In the second half of the year, total net inflow in Thai bond market was at THB 71 billion.

The total net inflow for the year 2021 was at THB 144 billion, of which THB 141 billion were inflow for long-term bond. For short-term, there was net buy outright trading at THB 70 billion and expired bond at THB 67 billion, resulting in THB 3 billion of inflow.

## NR investor holding

NR investor holding of Thai bond increased from THB 857 billion in 2020 to THB 1.02 trillion at the end of 2021. NR holding reached THB 1 trillion in November 2021 and peaked on 21 December at THB 1.03 trillion which was a record high. The last time that NR holding exceeded 1 trillion was in July 2019. Average Time to Maturity (ATM) declined slightly from 9.55 at the end of 2020 to 8.8 at the end of 2021.

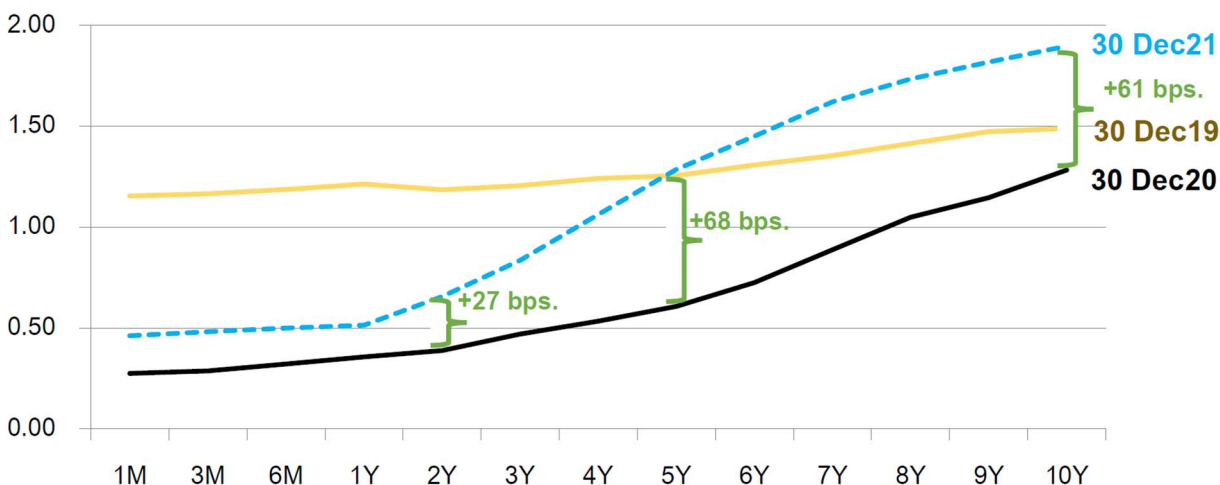
## Yield movements

At the start of 2021, COVID-19 remained the dominant risk factor for economy around the world. As the year progressed and vaccines were rolled out, the economy began to recover from the slowdown. Risk appetite grew as investor invested more in risky assets and sold safe assets such as bonds which push yield higher.

During the first half of the year, the surge in US inflation due to business reopening had caused global bond yields including Thailand to rise markedly. There was market expectation that the Fed may have to raise interest rate faster than expected thus slowing down the economic growth.

However, Delta variant emerged during the second and third quarter of the year had deteriorated the sentiment of economy full recovery. Investors were in risk-off mode again and bond yield was getting lower.

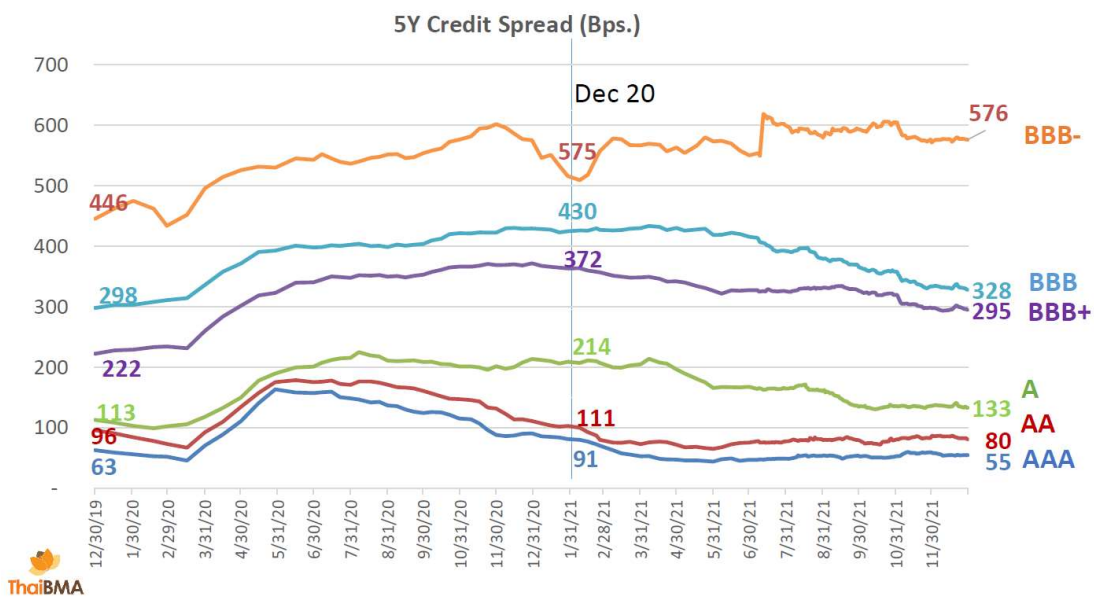
In the last quarter of the year, Thai economy began to show signs of recovery with the easing of government measures and re-opening of borders. Global inflation, particularly in the US, rose significantly due to higher energy prices, supply bottleneck, labor shortage and increasing demands for goods and services. As inflation concern grew, the Fed's tapering of bond purchase was expected to be earlier and faster than previously anticipated, leading to rising US long-term bond yields. In tandem with US bond yields coupled with expected increasing government bond supply, Thai government bond yields moved higher across the curve. 2-year, 5-year and 10-year government bond yields finished the year at 0.65%, 1.28% and 1.89% respectively. Approximately 61-68 bps higher from the start of the year. Short-term yield rose only slightly because there was no sign of raising policy rate which remained in the lowest level at 0.5%.



## Credit spread movement

Credit spread of investment grade corporate bonds has been declining as COVID-19 cases subsided and investor's confidence came back. Besides, ample liquidity and low deposit rate have prompted investors to search for higher yield investment such as corporate bonds. For the year 2021, credit spread for bonds in the rating group of AAA and AA, declined 31-36 bps while rating group of A and BBB (except BBB-) declined 77 - 102 bps. Comparing to pre- COVID level, credit spread for rating category of AAA and AA were below the pre-pandemic level, while A and below were still higher than that of pre-pandemic level. This indicated that investors were somewhat risk conscious over credit quality of bonds.

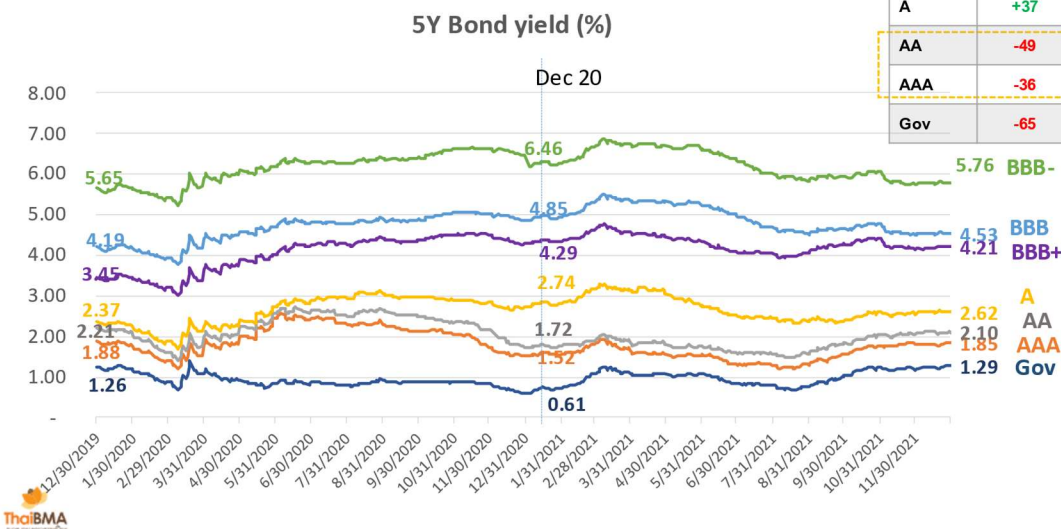




### Corporate bond yields

Corporate bond yield, a result of government bond yields plus credit spread, represented a cost of funding for corporates. In 2021, corporate bond yield for 5-year bonds in the rating group of AAA and AA increased by 33 – 38 bps to stay at 1.85% - 2.1% which was the level near the pre-pandemic level in 2019. For corporates in the rating group of A, 5-year corporate bond yield decreased by 12 bps to stay at 2.52%, higher than the pre-pandemic level of 2.37%. Meanwhile, 5-year corporate bond rated BBB+, BBB and BBB- increased by 76 bp, 34 bp and 12 bp respectively, higher than pre-pandemic level.

### Cost of funding for corporate issuers rated AA and above was at pre-pandemic level, at the end of 2019.



Bps.	Chg in 20	Chg in 21	Chg in 20-21
BBB-	+81	-70	+12
BBB	+66	-32	+34
BBB+	+84	-8	+76
A	+37	-12	+25
AA	-49	+38	-11
AAA	-36	+33	-3
Gov	-65	+68	+3

Yield declined in 2021

Yield for AA and AAA increased in 2021. The yields was at pre-pandemic level.

## **Summary**

Although 2021 has been another year of COVID-19 with new variants, we have seen healthy recovery of corporate bond issuance from the prior year, indicating that Thai bond market has become more resilient. New products were created and introduced to the market such as sustainability-linked bond (SLB) and THOR floating rate bonds. There was a digital innovation using blockchain technology in bond issuance for both government and corporate sector. The record high of NR holding has also demonstrated foreign investors' confidence in Thai bond market. Despite unforeseeable risks in the future, it is expected that the bond market will continue to be one of the important sources of funding for both the government and corporate sector in Thailand.