

7. Bond Market

The total volume of bond issuance rose significantly for the year 2016. New issues of bonds amounted to NT\$2,522.1 billion, an increase of NT\$431.9 billion or 20.66% over the previous year. At the end of 2016, the total outstanding of bonds issued reached NT\$11,584.5 billion, up by NT\$1,117.5 billion or 10.68% from the previous year end.

To support fiscal funding needs, issuance of central government bonds for 2016 was NT\$563.5 billion, falling by NT\$41.8 billion or 6.91% from the previous year.

Issuance of corporate bonds exhibited an uptrend in 2016. This was largely due to declining market rates leading corporations to issue new bonds in order to repay old ones with higher yields. Issuance of corporate bonds for 2016 grew by NT\$17.7 billion, or 6.58%, to NT\$286.0 billion.

With regard to bank debentures, the main purpose for banks to issue bonds was to strengthen their capital base and meet mid- to long-term operation funding needs. Bank debenture issuance totaled NT\$140.1 billion for the entire year, dropping by NT\$56.2 billion or 28.61% over the previous year.

In terms of asset securitization, corporations issued asset securitization products worth NT\$5 billion in 2016.

In addition, foreign institutions issued 165 foreign currency-denominated international bonds in Taiwan amounting to NT\$1,524.6 billion, increasing substantially by NT\$518.0 billion or 51.46% over the previous year. Meanwhile, seven NT dollar-denominated foreign bonds were issued by foreign institutions with a total amount of NT\$3.0 billion, down by NT\$2.5 billion or 45.87% compared to the previous year.

In the secondary market, yields on bonds with different maturities all displayed a downtrend in 2016 in reflection of the CBC's policy rate cuts. Among the components, the average 10-year government bond yield moved down by 54 basis points from 1.352% in the previous year to 0.818% in 2016. Owing to soft demand for bonds amid market expectations of yields remaining at low levels, annual transactions totaled NT\$66,817.9 billion, contracting by NT\$907.8 billion or 1.34% over the previous year.

Reduction in Government Bond Issuance

With respect to central government bonds, on account of the rise in tax revenues and government bond issuance approaching the ceiling, central government bond issuance for 2016 declined by NT\$41.8 billion, or 6.91%, to NT\$563.5 billion.

In 2016, the Ministry of Finance issued 2-year, 3-year, 5-year, 10-year, 20-year, and 30-year government bonds with respective amounts of NT\$53.5 billion, NT\$35.0 billion, NT\$120.0 billion, NT\$180.0 billion, NT\$90.0 billion, and NT\$85.0 billion.

In regard to issuing rates, affected by a slowing domestic economy and successive policy rate cuts in the first half of the year, the weighted average issuing rates in 2016 on central government bonds with different maturities were all lower than the previous year. The weighted average issuing rates on 2-year, 3-year, 5-year, 10-year, 20-year, and 30-year bonds dropped by 22, 33, 39, 49, 68, and 70 basis points, respectively, compared to the previous year.

Broken down by institutional investors, bonds held by the banking industry made up the largest share at 31.74% in 2016, an increase of 4.84 percentage points over the previous year. The insurance industry and Chunghwa Post came in second and third with shares of bond holdings at 31.22% and 30.55%, contracting by 5.43 percentage points and 0.05 percentage points, respectively. Meanwhile, the share of bonds held by bills finance companies went up by 1.09 percentage points to 3.76% from a year before. The insurance industry's share of bond holdings shrank chiefly because funds flowed to high-yield international bonds. As of the end of 2016, the total outstanding of central government bond issuance was NT\$5,542.3 billion, expanding by NT\$63.5 billion or 1.16% from the previous year end.

In terms of bonds issued by governments of special municipalities, new issues were nil in 2016. At the end of the year, the outstanding amount of bonds issued by governments of special municipalities stood at NT\$63.1 billion, down by NT\$27.6 billion or 30.41% from the previous year end.

Growth in Corporate Bond Issuance

Corporate bonds refer to NT dollar or foreign currency-denominated bonds issued in Taiwan by domestic corporations. In 2016, life insurance companies issued perpetual bonds to expand their capital base, while corporations issued new bonds to repay old ones with higher yields amid expectations that rates might have already hit relatively low levels. As a result, the issuing amount of corporate bonds for the year 2016 rose by NT\$17.7 billion or 6.58% to NT\$286.0 billion.

As for bond maturities, the majority of the issuance went for 5-year corporate bonds with a share of 42.22%, followed by perpetual bonds with 27.81%. On account of the CBC's successive rate cuts in 2016, the weighted average coupon rates on 2-year, 5-year, 7-year, and 10-year corporate bonds slid by 21, 41, 59, and 62 basis points from a year earlier to 0.734%, 0.963%, 1.046%, and 1.200%, respectively. Meanwhile, the weighted average coupon rate on perpetual bonds was 3.510%. At the end of 2016, the outstanding amount of corporate bonds stood at NT\$1,897.9 billion, falling by NT\$106.3 billion or 5.30% from the previous year end.

Issues and Outstanding Values in Bond Market by Category

Unit: NT\$ Billion

Year/ Month	Total		Central Government Bonds		Local Government Bonds*		Corporate Bonds		Bank Debentures		Beneficiary Securities**		Foreign Bonds***		Int'l Bonds****	
	Issues	Outstanding	Issues	Outstanding	Issues	Outstanding	Issues	Outstanding	Issues	Outstanding	Issues	Outstanding	Issues	Outstanding	Issues	Outstanding
2014	1,974.1	9,425.3	675.3	5,338.5	0.0	101.7	360.4	2,013.0	397.5	1,273.6	8.5	118.7	6.0	9.3	526.4	570.5
2015	2,090.2	10,467.0	605.3	5,478.8	8.2	90.6	268.4	2,004.2	196.3	1,285.9	0.0	94.5	5.5	9.6	1,006.6	1,503.4
2016	2,522.1	11,584.5	563.5	5,542.3	0.0	63.1	286.0	1,897.9	140.1	1,212.5	5.0	97.8	3.0	9.8	1,524.6	2,761.0
2016/ 1	177.4	10,475.0	65.0	5,428.8	0.0	90.6	14.1	1,984.7	25.7	1,290.8	0.0	94.6	0.0	9.3	72.7	1,576.1
2	212.7	10,652.6	29.9	5,458.7	0.0	90.6	0.9	1,954.5	6.5	1,295.1	0.0	93.5	0.0	8.6	175.4	1,751.5
3	199.0	10,645.1	60.0	5,388.7	0.0	80.6	6.7	1,917.6	5.2	1,280.7	0.0	93.7	0.5	8.9	126.6	1,874.9
4	138.5	10,767.9	30.0	5,418.7	0.0	80.6	18.4	1,927.8	0.0	1,274.8	0.0	93.3	0.0	8.9	90.2	1,963.8
5	255.9	10,961.9	60.0	5,478.7	0.0	80.6	28.3	1,927.3	7.2	1,262.9	0.0	92.2	0.7	9.6	159.7	2,110.7
6	290.7	11,179.5	60.0	5,538.7	0.0	70.6	50.0	1,935.5	9.6	1,265.5	0.0	92.1	0.0	9.3	171.1	2,267.7
7	152.4	11,208.4	60.0	5,528.7	0.0	70.6	4.4	1,916.0	0.0	1,261.7	0.0	92.2	0.0	8.8	88.1	2,330.4
8	241.9	11,323.1	30.0	5,508.7	0.0	70.6	20.4	1,910.8	2.2	1,255.0	5.0	97.3	0.0	8.3	184.3	2,472.4
9	313.7	11,415.9	30.0	5,453.7	0.0	70.6	21.8	1,905.9	26.3	1,271.7	0.0	97.4	0.7	9.0	234.9	2,607.8
10	199.4	11,482.6	53.6	5,457.3	0.0	70.6	18.0	1,887.3	5.7	1,253.1	0.0	97.9	0.0	8.9	122.1	2,707.5
11	172.5	11,517.5	55.0	5,512.3	0.0	70.6	27.1	1,861.7	29.2	1,219.0	0.0	97.7	0.8	9.6	60.4	2,746.5
12	168.1	11,584.5	30.0	5,542.3	0.0	63.1	76.2	1,897.9	22.5	1,212.5	0.0	97.8	0.3	9.8	39.1	2,761.0

Notes: * Referring to bonds issued by governments of special municipalities.

** Including those purchased back by originators for credit enhancement.

*** Including NT dollar and foreign currency-denominated bonds issued in Taiwan by international financial institutions.

****Including foreign currency-denominated bonds issued in Taiwan by international financial institutions.

Sources: 1. *Financial Statistics Monthly*, CBC.

2. Banking Bureau, Financial Supervisory Commission.

3. Department of Foreign Exchange, CBC.

Marked Decline in Bank Debenture Issuance

A total of 21 financial institutions issued bank debentures in 2016 in support of their funding needs, with an issuance amount of NT\$140.1 billion, showing a decrease of NT\$56.2 billion or 28.61% over the previous year. The reduction was mostly because banks had exceeded the minimum capital adequacy ratio required by law, thereby weakening demand for NT dollar-denominated subordinated debt issuance.

In respect of the volume of issuance, the major types of NT dollar bank debentures issued were 7-year, 10-year, and perpetual debentures, making up shares of 26.05%, 24.40%, and 32.65% in total issuance, respectively. As for foreign currency bank debentures, 30-year bank debentures accounted for the lion's share with 41.24%. At the end of 2016, the outstanding amount of bank debentures was NT\$1,212.5 billion, declining by NT\$73.3 billion or 5.70% from the previous year end.

New Issues in Asset Securitization

New issues of asset securitization products amounted to NT\$5.0 billion for the entire year. The outstanding amount of asset securitization expanded by NT\$3.4 billion or 3.57% from the previous year end to NT\$97.8 billion.

Large Decrease in Foreign Bond Issuance

Foreign bonds refer to NT dollar-denominated corporate bonds issued in Taiwan by foreign institutions. The foreign bonds currently in circulation are convertible corporate bonds issued by offshore companies listed on the Taiwan Stock Exchange or Taipei Exchange (TPEX). For the year 2016, issuance of foreign bonds reached NT\$3.0 billion, a decrease of NT\$2.5 billion or 45.87% from a year earlier. At the end of the year, the outstanding amount of foreign bonds was NT\$9.8 billion, increasing by NT\$0.2 billion or 1.57% over the previous year end.

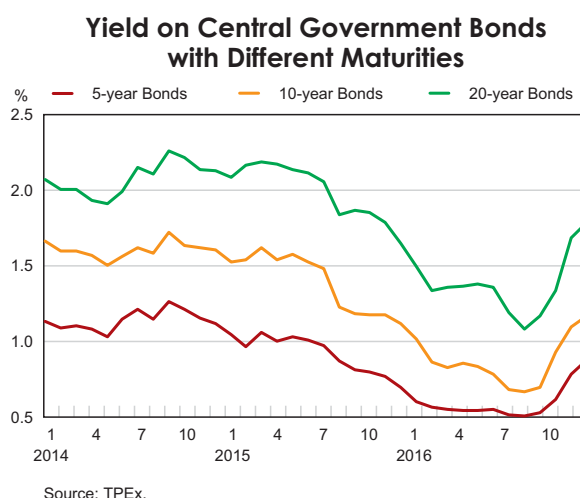
Substantial Increase in International Bond Issuance

International bonds refer to corporate bonds issued in Taiwan by foreign institutions and are currently denominated in foreign currencies. Issuance of international bonds in 2016 grew by NT\$518.0 billion or 45.87% from the previous year to NT\$1,524.6 billion. The increase was mostly driven by enhanced willingness for US dollar-denominated bond issuance stemming from market expectations of further rate hikes by the Fed since the beginning of the year.

With regard to currency composition, issuance of US dollar-denominated, RMB-denominated, AUD-denominated, NZD-denominated, and ZAR-denominated bonds in 2016 amounted to NT\$1,478.0 billion, NT\$39.9 billion, NT\$4.3 billion, NT\$1.3 billion, and NT\$1.0 billion, respectively. At the end of the year, the outstanding amount of international bonds was NT\$2,761.0 billion, an increase of NT\$1,257.7 billion or 83.65% over the previous year end.

Downtrend in Bond Yields and Decline in Transactions

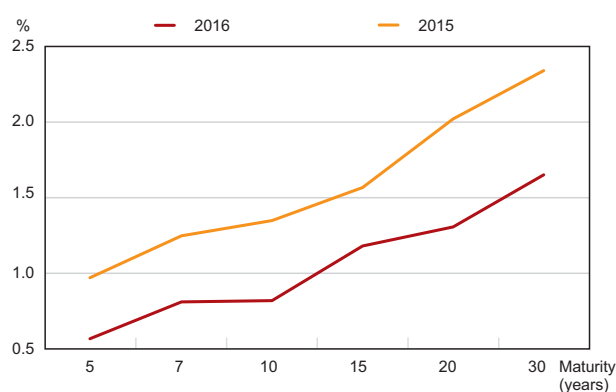
In 2016, sluggish domestic economic growth and the CBC's successive policy rate cuts in the first half of the year led the 10-year government bond yield to decline, which reached 0.630% on August 19. Subsequently, as funds flowed to the stock market from the bond market on the back of a domestic stock market rally, along with market expectations of the Fed lifting interest rates, the 10-year government bond yield trended upward and ended 2016 at 1.204%, 19 basis points higher than the 1.015% of the previous year end. The average yield on 10-year government bonds for the year was 0.818%, down by 53 basis points from 1.352% over the previous year.



Moreover, average yields on 5-year, 7-year, 10-year, 15-year, 20-year, and 30-year government bonds for the year 2016 slid by 40, 44, 53, 39, 72, and 70 basis points, respectively, compared to the previous year.

In terms of transaction volume, with market rates staying at relatively low levels in the second half of the year, as well as expectations of the Fed's rate increases, demand for bonds softened. Consequently, total bond transactions for 2016 contracted by NT\$907.8 billion or 1.34% from the previous year to NT\$66,817.9 billion.

Yield Curve of Central Government Bonds



Source: TPEx.

By type of bonds, government bonds accounted for 67.71% of total bond transactions with an annual trading volume of NT\$45,243.5 billion. Corporate bonds came in second, making up 25.74% of total transactions with an annual trading volume of NT\$17,202.0 billion. The third most actively traded were bank debentures, accounting for 3.56% of total transactions with an annual trading volume of NT\$2,376.9 billion. International bonds, foreign bonds, and asset securitization products made up marginal shares of 2.91%, 0.04%, and 0.03% in total transactions, with their respective annual trading reaching NT\$1,946.8 billion, NT\$29.4 billion, and NT\$34.7 billion.

Bond Transactions in the Taipei Exchange

Unit: NT\$ Billion

Year/ Month	Total	Outright Transactions		Repurchase Agreement Transactions	
		Amount	Share(%)	Amount	Share(%)
2014	68,032.4	14,706.0	21.6	53,326.4	78.4
2015	67,725.7	15,414.3	22.8	52,311.4	77.2
2016	66,817.9	14,573.7	21.8	52,244.3	78.2
2016/ 1	6,273.7	1,782.9	28.4	4,490.9	71.6
2	3,822.7	911.7	23.9	2,911.0	76.1
3	6,173.8	1,508.0	24.4	4,665.8	75.6
4	4,808.9	848.1	17.6	3,960.8	82.4
5	5,622.4	1,388.0	24.7	4,234.3	75.3
6	5,707.5	1,434.1	25.1	4,273.5	74.9
7	5,732.8	1,263.6	22.0	4,469.2	78.0
8	6,482.2	1,397.3	21.6	5,084.9	78.4
9	5,619.7	1,043.2	18.6	4,576.5	81.4
10	5,425.2	1,137.0	21.0	4,288.2	79.0
11	5,822.7	1,075.6	18.5	4,747.1	81.5
12	5,326.2	784.1	14.7	4,542.1	85.3

Source: TPEx.

Turnover in Bond Market by Category

Unit: NT\$ Billion

Year/ Month	Total	Government Bonds	Corporate Bonds		Bank Debentures	Beneficiary Securities	Foreign Bonds	Int'l Bonds
			Nonconvertible	Convertible				
2014	68,032.4	49,776.5	14,296.9	753.9	2,483.3	89.5	33.2	599.2
2015	67,725.7	45,778.7	17,396.9	650.5	2,574.3	34.7	35.3	1,255.4
2016	66,817.9	45,243.5	16,546.7	655.3	2,376.9	19.4	29.4	1,946.8
2016/ 1	6,273.7	4,451.1	1,376.4	56.2	225.8	1.2	3.2	159.8
2	3,822.7	2,434.6	975.9	35.4	174.3	1.2	3.1	198.2
3	6,173.8	4,362.7	1,368.2	71.1	226.8	2.5	2.5	140.1
4	4,808.9	3,224.6	1,211.6	52.2	200.6	0.7	2.3	117.0
5	5,622.4	3,799.4	1,323.0	45.6	219.9	0.6	2.7	231.2
6	5,707.5	3,803.1	1,447.3	48.3	194.8	1.7	2.4	209.9
7	5,732.8	4,044.4	1,309.6	57.7	174.5	0.4	2.1	144.1
8	6,482.2	4,471.6	1,521.0	61.5	178.5	4.9	2.3	242.4
9	5,619.7	3,793.4	1,373.9	48.7	200.5	0.9	3.1	199.2
10	5,425.2	3,732.7	1,364.2	45.5	181.2	1.7	1.9	98.0
11	5,822.7	3,878.8	1,577.4	64.5	182.8	1.6	1.5	116.1
12	5,326.2	3,246.9	1,698.4	68.6	217.1	2.1	2.3	90.8

Source: TPEx.