

III. Financial sector assessment

3.1 Financial markets

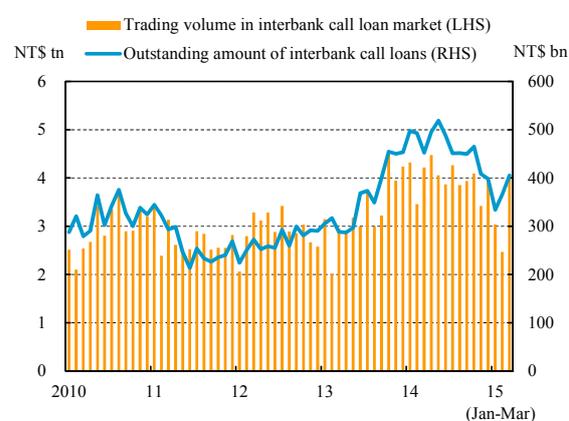
With respect to money and bond markets in 2014, the trading volume of interbank call loans initially expanded and then shrank. The trading volume of bills in the secondary market rose, although the outstanding amount in the primary market decreased slightly. In the bond market, the trading volume in the secondary market remained low, while the outstanding amount in the primary market continued to increase. Short-term market rates remained relatively stable at low levels, while long-term market rates fluctuated, closely following the movement of US government bond yields. With regard to the stock markets, stock indices trended up, while volatility fluctuated over the same period. In the foreign exchange market, the NT dollar exchange rate against the US dollar turned to depreciation after appreciating but remained relatively stable.

3.1.1 Money and bond markets

Trading volume of interbank call loans initially expanded but then decreased

In the first half of 2014, the average daily outstanding amount and the trading volume of interbank call loans increased remarkably by 42.15% and 58.13% year on year, respectively. The main reasons behind this were continued funding surpluses in the interbank call loan market, significant variations in fund levels across banks, and a lower base in the previous year. In the second half of the year, the outstanding amount and trading volume of interbank call loans decreased as a number of financial institutions adjusted their funding strategies for call loans (e.g., taking into

Chart 3.1 Interbank call loan market



Note: Outstanding amount is the monthly average of daily data.
Source: CBC.

account capital adequacy). Later, the figures continued to stay low in January and February 2015, but turned higher in March of the same year (Chart 3.1).

Bill issuance in the primary market slightly fell, but trading volume in the secondary market increased

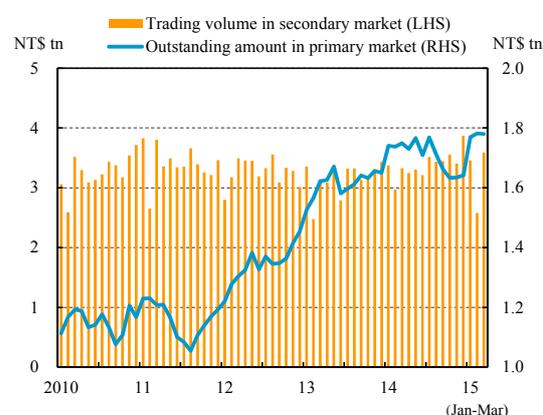
The outstanding amount of bill issuance at the end of 2014 fell by NT\$9 billion or 0.54% year on year. Affected by treasury liquidity management, the outstanding amount of treasury bills decreased by NT\$84.6 billion or 39.41%. Meanwhile, the outstanding amount of negotiable certificates of deposit (NCDs) also contracted by NT\$32.1 billion or 13.83%. On the contrary, the outstanding amount of commercial paper increased by NT\$107.6 billion or 8.98% compared to the previous year. The main reason behind this was that some state-owned enterprises (such as CPC Corporation) and large private enterprises raised funds through commercial paper issuance, encouraged by the fact that short-term market rates remained at low levels. In March 2015, the outstanding amount of bill issuance turned higher and reached a recent high record (Chart 3.2).

The trading volume in the secondary bill market rose by 7.72% year on year in 2014, as expanded issuance of commercial paper and ample market liquidity⁵² met the increasing needs of financial institutions and private enterprises for bill investments. In 2015 Q1, the trading volume roughly remained at a high level, except for a decrease in February owing to seasonal factors (Chart 3.2).

Bond issuance in the primary market expanded, but the turnover of outright transactions in the secondary market remained at a lower level

At the end of 2014, the outstanding amount of bond issuance ascended by 14.80% year on year, with foreign currency-denominated international bonds⁵³ accounting for the highest growth of 12.75 times. The reasons were mainly that the FSC significantly simplified steps

Chart 3.2 Primary and secondary bill markets



Sources: CBC and FSC.

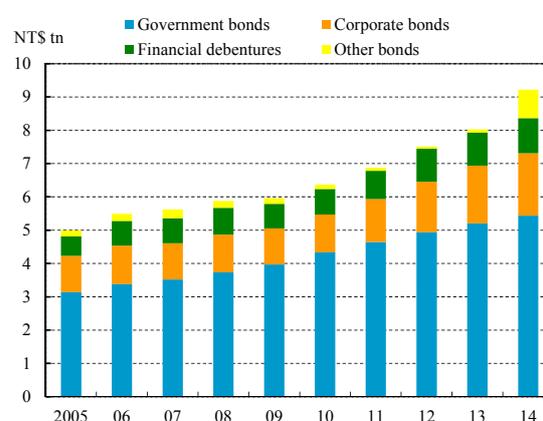
⁵² The proportion of commercial paper to the total trading volume in the secondary bill market is over 80%. As a result, it has considerable influence on changes in the trading volume.

⁵³ Bonds denominated in foreign currencies offered and issued in Taiwan by domestic and overseas issuers are called "International Bonds." Bonds denominated in renminbi (RMB) are specifically called "Formosa Bonds."

for issuing international bonds. It also relaxed related regulations, exempting the international bonds invested by insurers from the cap on their overseas investment from June onwards. These measures, in turn, attracted many domestic and foreign enterprises and financial institutions to issue international bonds for the purpose of fund raising. As for corporate bonds, the Fed's exit from its asset purchases and the expectation of the Fed's interest rate rise in near future spurred enterprises' willingness to issue more corporate bonds. As a result, the outstanding amount of corporate bond in 2014 increased by 8.01% over the previous year. Meanwhile, the outstanding amount of financial debentures also increased by 5.94% over the previous year as banks sought to reinforce capital adequacy and boost merger momentum. The corresponding figure for government bonds revealed a growth rate of 4.43% over the same period, a slight increase owing to ongoing policy implementation for regular and moderate issuance of government bonds (Chart 3.3).

In 2014, the risk for short swing trading increased, affected by the tapering of the Fed's asset purchases alongside an increase in the expectation of interest rate hikes. This, together with excessive concentration of bonds held in the market, resulted in a slight contraction in outright transactions in the secondary market throughout the year (Chart 3.4). In 2015 Q1, the monthly turnover ratio roughly remained flat after descending to a lower level of 5.71% in December 2014 (Chart 3.5).

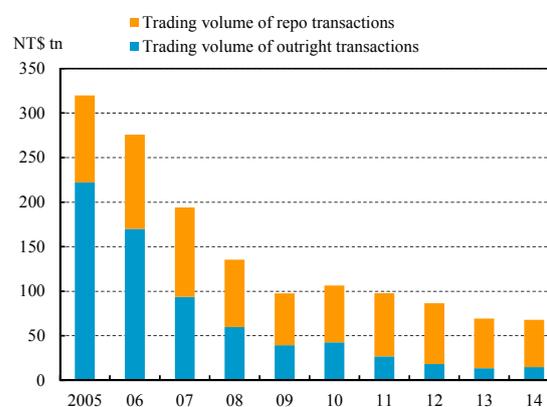
Chart 3.3 Outstanding amount of bond issuance in the primary market



Notes: 1. Other bonds include beneficiary securities, foreign bonds and foreign currency-denominated international bonds.
2. The ratio of other bonds to total outstanding volume was 9.3% at the end of 2014. Among them, international bonds accounted for 96.16% of the other bonds.

Source: FSC.

Chart 3.4 Outright and repo transactions in the bond market



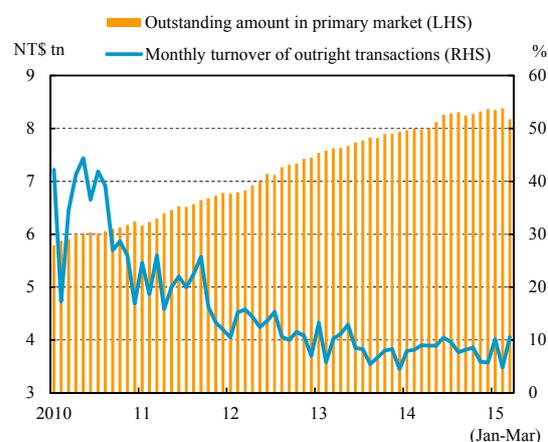
Source: CBC.

Short-term market rates stabilized, while long-term market rates mostly fluctuated along with those of US government bonds

As for short-term market rates, in 2014, the CBC's decision to keep policy rates unchanged, coupled with market liquidity standing at an appropriate level, helped the yield on 90-day commercial paper to remain broadly stable at around 0.83% in the first three quarters. However, in the fourth quarter, owing to seasonal factors, short-term market rates slightly rose. In 2015 Q1, the figure remained relatively stable within the lower range.

The trend of long-term market rates closely tracked the movement of US government bond yields. In 2014 Q1, international capital flowed into the US to hedge the risks of geopolitical tension in Ukraine. As a result, yield on Taiwan's 10-year government bonds dipped along with falling US government bond yields. Afterwards, the yield on Taiwan government bonds trended up and then fluctuated from June onwards owing to a marked recovery in the domestic economy. Furthermore, from the middle of September onwards, rising expectation of a Fed interest rate hike in near future drove up the yield on Taiwan government bonds. However, in 2014 Q4, a tumble in international oil prices alleviated inflationary pressures. This, coupled with bullish global bond markets in response to the successive implementation of monetary easing by several major economies, led to a drop in the yield on Taiwan government bonds. Subsequently, in 2015 Q1, the yield on Taiwan government bonds also went up and then dropped, tracking the movement of US government bond yields (Chart 3.6).

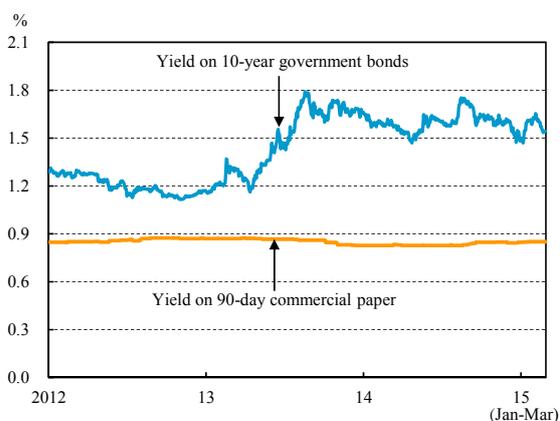
Chart 3.5 Outstanding amount and turnover in primary bond market



Notes: 1. Primary bonds include government bonds, corporate bonds and financial debentures.
2. Monthly turnover = trading value in the month/ average bonds issued outstanding.
Average bonds issued outstanding = (outstanding at the end of the month + outstanding at the end of last month)/2.

Source: FSC.

Chart 3.6 Yield spread



Source: Bloomberg.

3.1.2 Equity markets

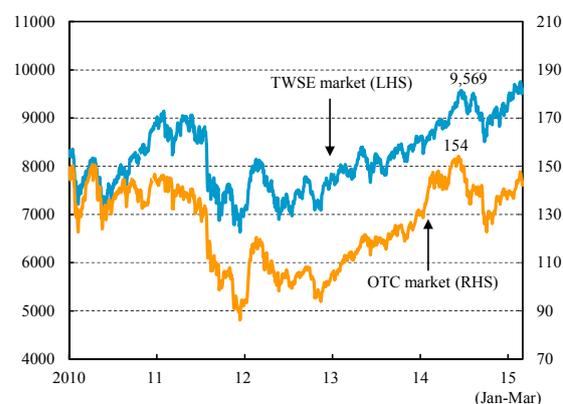
Stock indices trended up gradually amid heavy volatility

Both the TWSE and the OTC markets performed better in 2014 than in 2013. In the first half of 2014, spurred by global economic recovery, continuous revenue increases of the electronics industry, and the FSC's new measure to allow two-way day trading, juridical investors recorded net buying and led the TAIEX of the TWSE market on an upward path to hit a year high of 9,569 on 15 July. However, subdued by the Kaohsiung gas explosion incident and a series of food security scandals, the TAIEX dipped to 8,513 on 17 October. Afterwards, owing to the rise in US stock indices and net buying by foreign investors, the TAIEX rebounded and registered 9,307 at the end of 2014, an increase of 8.08% year on year. In early 2015, the FSC announced a program to boost securities markets, including easing the daily price up/down limit to 10%, and US stock indices kept hitting new highs during the same period. Against this backdrop, the TAIEX continued to trend up and reached 9,586 at end-March, increasing by 3.00% from the end of 2014 (Chart 3.7).

Taiwan's Taipei Exchange Capitalization Weighted Stock Index, the OTC market index, closely tracked the movements of the TAIEX, hitting an annual high of 154 in early July after trending up from the beginning of 2014, and closed at 140 at end-December, with an annual rise of 8.34%. The index climbed further in 2015 Q1 and reached 144 at the end of March (Chart 3.7).

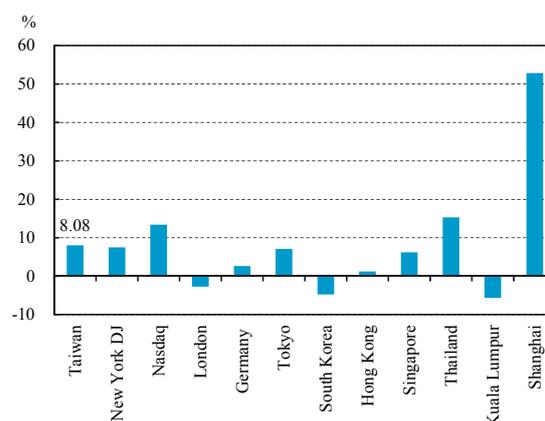
Comparing major stock markets around the world, most markets showed positive performances in 2014 except for the stock indices of London, South Korea and Kuala Lumpur

Chart 3.7 Taiwan's stock market indices



Sources: TWSE and TPEX.

Chart 3.8 Comparison of major stock market performances



Notes: 1. Figures are for 2014.

2. Taiwan's data is for the TWSE market.

Source: TWSE.

Lumpur, and the Shanghai Composite Index outperformed others with an annual rise of 52.87%. The TAIEX climbed by 8.08% year on year (Chart 3.8).

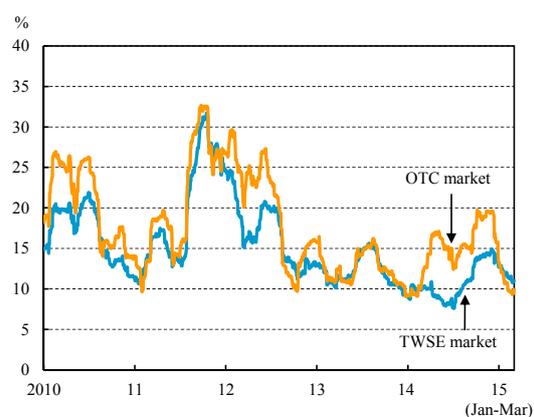
Broken down by sector, the index for the electronics industry in the TWSE market performed relatively well, thanks to robust demand growth in semiconductor, panel, and cellphone related products. The semiconductor industry index performed the best, with an annual rise of 29.63%.

In 2014, volatility in the TWSE market amplified after an initial down trend, while that in the OTC market rose; volatility in those two markets stood at 14.51% and 18.94% respectively at the end of December. At the beginning of 2015, volatility in the TWSE and the OTC markets trended downward as the local stock indices rebounded and stabilized, standing at 10.99% and 9.91%, respectively, at the end of March (Chart 3.9).

Annual turnover ratio expanded slightly in the TWSE market while that in the OTC market rose for the second consecutive year

The TWSE market experienced an expansion in trading in 2014, with the average monthly trading value registering NT\$1.82 trillion, a rise of 15.61% year on year, while its turnover ratio in terms of trading value rebounded to 84.63%. However, trading in the OTC market showed a better performance. Its average monthly trading value reached NT\$530 billion in 2014, an increase of 57.68% year on year, and the annual turnover ratio continuously rose to 241.92% (Chart 3.10).

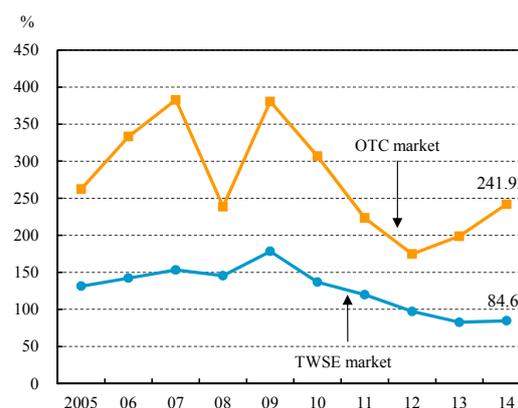
Chart 3.9 Stock price volatility in Taiwan's markets



Note: Volatility refers to the annualized standard deviation of 60-day daily index returns.

Sources: TWSE, TPEX, and CBC.

Chart 3.10 Annual turnover ratios in Taiwan's stock markets



Sources: TWSE and TPEX.

Comparing major stock markets around the world, the annual turnover ratios in Shanghai and Tokyo ranked among the highest in 2014, while the TWSE market ranked in the middle, approximately equal to the stock market in New York, but higher than those in London, Germany, Hong Kong, Singapore, Thailand and Kuala Lumpur (Chart 3.11).

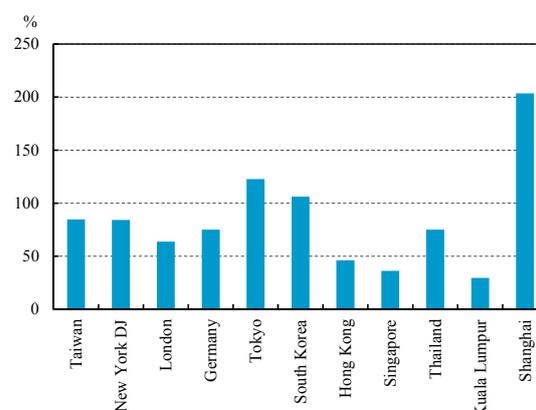
3.1.3 Foreign exchange market

The NT dollar exchange rate reversed from appreciation to depreciation and the trading volume increased

The NT dollar exchange rate appreciated against the US dollar since 2014 Q2, reaching a yearly high of 29.905 on 2 July, owing to an increase in net foreign capital inflows. Thereafter, the Fed ended its asset purchase program, known as QE, at the end of October and the ECB and the BOJ introduced further monetary easing, leading the US dollar to appreciate and the NT dollar exchange rate to hit a yearly low of 31.815 on 24 December. At the end of 2014, the NT dollar exchange rate reversed to appreciate marginally and stood at 31.718, with annual depreciation of 5.57%. In early 2015, the NT dollar exchange rate fluctuated within a narrow range and rose to 31.401 against the US dollar at the end of March (Chart 3.12).

Compared to other major currencies in Asia, the depreciation of the NT dollar against the US dollar at 5.57% was higher than the Korean won's 3.26%, the Singapore dollar's 4.36% and renminbi's 2.42% in 2014. At the end of March 2015, the NT dollar appreciated slightly by 1.01% compared to the end of the previous year, while the Japanese yen, Korean won, Singapore dollar and Malaysian ringgit all displayed depreciating trends (Chart 3.13).

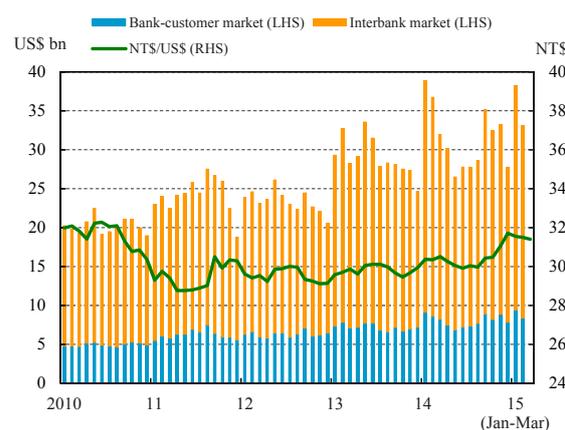
Chart 3.11 Comparison of turnover ratios in major stock markets



Notes: 1. Figures refer to accumulated turnover ratios in 2014.
2. Taiwan's data is for the TWSE market.

Source: TWSE.

Chart 3.12 NTD/USD exchange rate and foreign exchange market trading volume



Notes: 1. Trading volume is the monthly average of daily data, while exchange rate is end-of-period data.
2. The latest data for trading volume is as of February 2015.

Source: CBC.

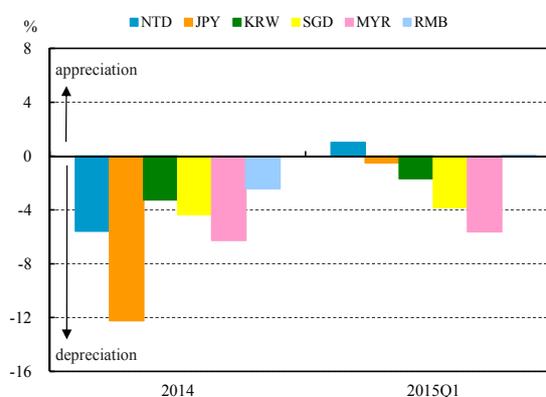
As for the NT dollar against other key international currencies, the Japanese yen continued to depreciate, so the NT dollar appreciated against the yen by 7.59% in 2014. Meanwhile, the NT dollar also appreciated by 7.10% and 0.29% against the euro and the British pound, respectively, but depreciated by 2.40% against the Korean won over the same period (Chart 3.14).

In 2014, owing to greater domestic and international capital movements, the transactions in the foreign exchange market became more active than a year earlier. The average daily trading volume of the foreign exchange market reached US\$31.5 billion, increasing by 8.27% compared to US\$29 billion a year earlier, primarily because of an increase in the trading volume of the interbank market (Chart 3.12). A breakdown by counterparty showed that the average daily trading volume in the interbank market accounted for 74.44% of the total in 2014, while the retail bank-customer market made up a 25.56% share. As for types of transactions, foreign exchange swaps accounted for the largest share of 42.78% of the total, followed by spot trading with 36.52%.

NT dollar exchange rate volatility remained relatively stable

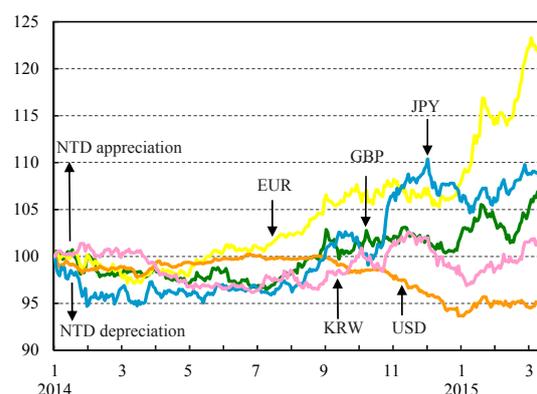
Volatility in the NT dollar exchange rate against the US dollar fluctuated between 0.79% and 4.25% in 2014, and registered an annual average of 2.22%. In early 2015, central banks in Europe, Mainland China and South Korea set off a wave of monetary policy easing and interest-rate reduction. In addition, the SNB's announcement to abandon the Swiss franc's cap against the euro, coupled with the introduction of negative interest rates in several

Chart 3.13 Exchange rate changes of major Asian currencies against the US dollar



Source: CBC.

Chart 3.14 Movements of NT dollar exchange rate against key international currencies

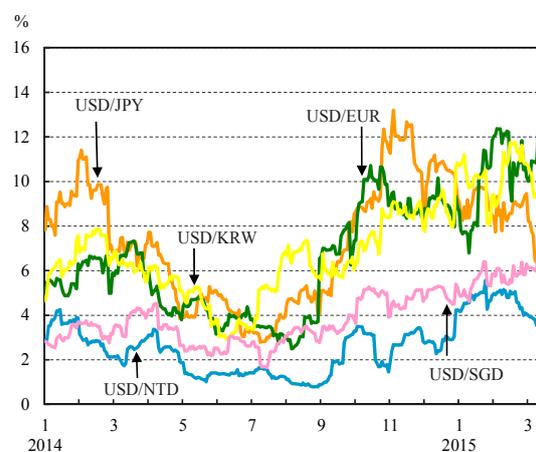


Note: 2 January 2014 = 100.

Source: CBC.

countries,⁵⁴ induced international capital inflows into Asia, leading to greater fluctuations in financial markets. Volatility in the NT dollar exchange rate against the US dollar was thus affected and rose to around 5%, before gradually trending downwards. From 2014 onwards, the NT dollar exchange rate was relatively stable compared to volatility in the exchange rates of major currencies such as the Japanese yen, euro, Korean won and Singapore dollar against the US dollar (Chart 3.15).

Chart 3.15 Exchange rate volatility of various currencies versus the US dollar



Note: Volatility refers to the annualized standard deviation of 20-day daily returns.

Source: CBC.

⁵⁴ ECB cut rates into negative territory in June 2014, followed by SNB and Sweden's Riksbank in January and February 2015, respectively.

Box 4**Development and prospects of international bond market in Taiwan**

International bonds are foreign currency-denominated bonds issued in Taiwan by domestic and foreign issuers and listed on the Taipei Exchange, while those denominated in RMB are called Formosa bonds. International bond issuance helps domestic issuers to finance with foreign currencies, enhances the international competitiveness of Taiwan's financial industry by allowing foreign issuers to participate in local bond markets, and provides more investment opportunities for ample local liquidity. This box introduces the development and prospects of Taiwan's international bond market, as well as its potential impacts on local bond markets.

1. The development of the international bond market

The development of the international bond market can be divided into the following three stages:

1.1 Initial stage (2006-October 2012)

- (1) Allowing qualified domestic and foreign corporations¹ to issue international bonds denominated in foreign currencies, except for RMB, subject to credit rating requirements of issuers or issued bonds and approvals from the FSC and the CBC.
- (2) In this stage, the aforementioned measures set the foundation of the international bond market.

1.2 Warming-up stage (November 2012-May 2014)

- (1) Opening up Formosa bond issuance, setting up a cross-strait currency clearing mechanism, and permitting DBUs to conduct RMB business, and including RMB in the foreign currency clearing platform. All these measures opened a new era of Taiwan's offshore RMB market.
- (2) Implementing multi-tier regulation on international bond investors, which significantly relaxed requirements for foreign currency bonds sold to qualified institutional investors, such as issuer qualifications, issuance procedures and registration documentation. For bonds sold to the general public, related regulations remain the same to protect financial consumers.
- (3) Permitting certain Chinese corporations² to issue RMB-denominated corporate bonds in Taiwan that are only allowed to be sold to qualified institutional investors.

1.3 Flourishing stage (June 2014-present)

- (1) Amending the *Insurance Law* on 4 June 2014 to exclude international bonds from overseas investment by insurance companies, which is subject to a ceiling of 45% of a company's fund.
- (2) Expanding the scope of eligible professional investors to enlarge the investor base. In addition to qualified institutional investors such as banks, securities firms and insurance companies, any corporate entity or individual that meets the requirements regarding financial strength or professional expertise³ can also qualify as a professional investor to invest in international bonds.

2. Current conditions of the international bond market

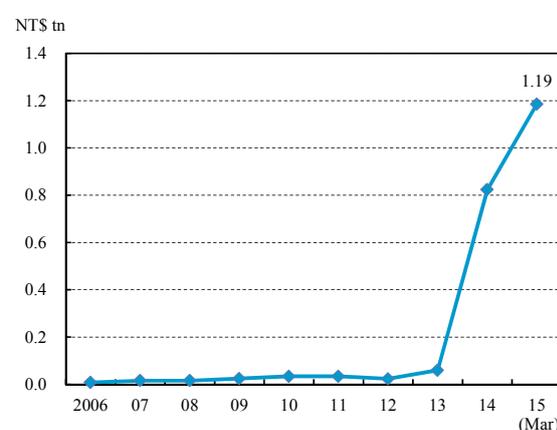
In recent years, the international bond market has become more active with tremendous growth in issuance and trading volume.

2.1 Primary market

Subject to the prevailing macroeconomic environment, related regulations and issuance procedures, the issuance of international bonds experienced six years of limited growth since 2006 (Chart B4.1). However, the market started to warm up in 2013 and showed an enormous expansion in 2014, with its issuance surpassing that of government bonds for the first time.

Further analysis of the market during the period from 2006 to March 2015 shows international bonds that were only sold to qualified professional investors accounted for 90.3% of total issuance, while those sold to the general public only accounted for 9.7% of the total

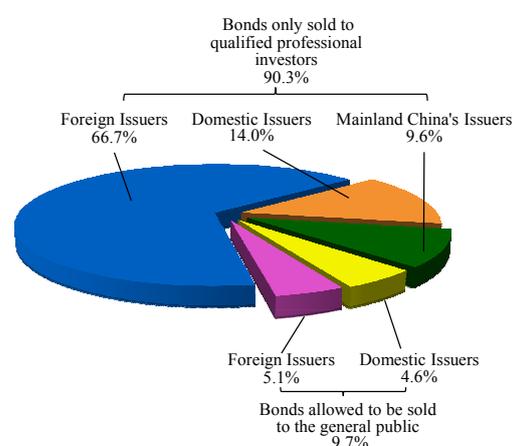
Chart B4.1 International bond issuance in Taiwan



Note: All currencies are converted into NTD.

Source: FSC.

Chart B4.2 Components of international bond market



Note: Figures are from 2006 to March 2015.

Source: CBC.

(Chart B4.2). As for the type of issuers, 71.8% of bonds were issued by foreign corporations, followed by 18.6% by domestic corporations, while bonds issued by Chinese banks only accounted for 9.6% because of their late entry to the market (Chart B4.2). Regarding type of investors, insurance companies were the largest investors in USD and RMB bonds, accounting for 93.1% and 44.8%, respectively, during the period from January 2014 to March 2015 (Table B4.1).

2.2 Secondary market

In recent years, the secondary market for international bonds shared the same trend with the primary market. Its trading volume reached NT\$698.3 billion in 2014, significantly growing by 22.3 times compared to its value in 2013 (Chart B4.3).

3. The effects of international bond issuance on the local government bond market

The recent takeoff of international bond issuance indicates great progress in Taiwan's bond market. However, its massive issuance might have adverse impacts to some degree on the local government bond market.

3.1 The investments of insurance companies gradually shifted from government bonds to international bonds

Because USD-denominated long-term international bonds have higher yields than local government bonds with the same maturity, coupled with the exclusion of international bond investments from the regulatory foreign investment ceiling, insurance companies

Table B4.1 International bond issuance by investor type

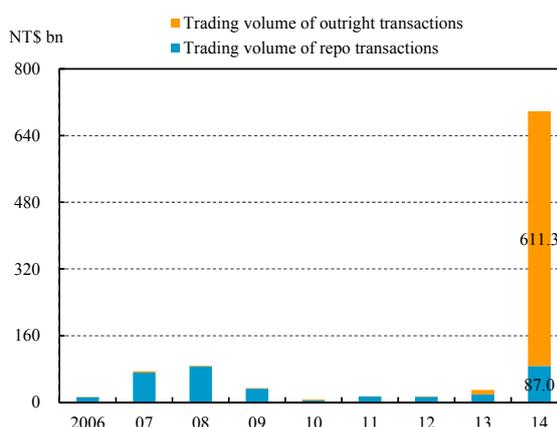
Currencies	Investors	Insurance companies	Banks	Securities firms	Foreign enterprises	Others	Total
		USD	US\$ bn	27.7	0.3	0.2	0.8
	%	93.1	1.0	0.8	2.6	2.5	100.0
CNY	RMB bn	14.6	9.1	5.9	1.7	1.3	32.6
	%	44.8	27.8	18.0	5.3	4.1	100.0

Notes: 1. Figures are from January 2014 to March 2015.

2. Figures for USD denominated bonds exclude US\$0.3 billion of convertible bonds.

Source: CBC.

Chart B4.3 Trading volume of international bond market



Note: All currencies are converted into NTD.

Source: FSC.

increased their investments in international bonds and became the largest investors in the market (Table B4.1). Conversely, the ratios of government bond bidding and holding by insurance companies gradually diminished.

3.2 The bidding willingness of government bond dealers might be affected

The relatively high yields of international bonds could undermine the bidding willingness of government bond dealers. For example, the ratio of bidding to auction amount of 20-year long-term government bonds saw a decreasing trend from September 2014 onwards.

4. Future prospects and possible actions

- (1) As foreign issuers remain interested in issuing Formosa bonds in Taiwan, it is expected that the international bond market still has room to grow, depending on the policy of total issuance limitation on Formosa bonds set by the financial authority.
- (2) Considering the opaque financial statements of Chinese private corporations, the financial authority should take prudent measures on the issuing of Formosa bonds in Taiwan, as well as enhancing financial transparency of those corporations and conducting related risk controls.
- (3) International bond issuance could provide more business opportunities for domestic financial industry. Nevertheless, its impacts on the local government bond market warrant close attention.

Notes: 1. Foreign issuers should meet certain qualifications, such as being listed corporations and branches or subsidiaries of foreign banks.
 2. They include state policy banks, state-owned commercial banks and joint stock commercial banks, as well as their overseas branches and subsidiaries.
 3. This refers to corporations and funds with assets over NT\$50 million, or individuals with assets over NT\$30 million and sufficient financial knowledge and trading experiences.

Sources: 1. Kao Chin-yi (2013), *The development opportunities and prospect of international bond market in Taiwan*, Securities and Futures Monthly, August.
 2. Zhou Zi-Fu and Zeng Bao-Ci (2013), *The development and prospect of Formosa Bonds*, Securities and Futures Monthly, August.