

## III. Financial sector assessment

### 3.1 Financial markets

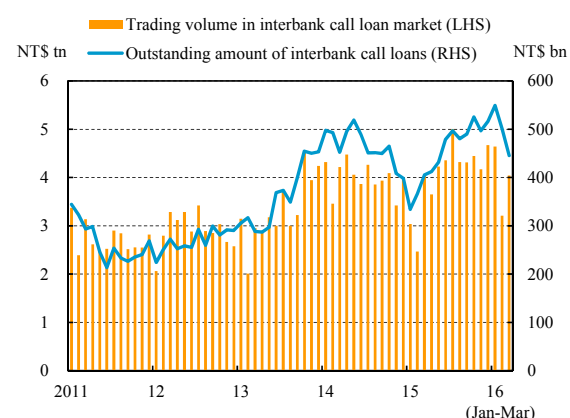
With respect to money and bond markets in 2015, the trading volume of interbank call loans roughly remained unchanged. The trading volume of bills in the secondary market fell, although the outstanding amount in the primary market increased. In the bond market, the turnover of outright transactions in the secondary market remained at a lower level, whereas the outstanding amount in the primary market expanded noticeably. Short-term market rates remained low, while long-term market rates fell. With regard to the stock markets, stock indices hit a fifteen-year high, while volatility reversed to fall after rising. 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 roughly remained unchanged*

In the first half of 2015, the average daily outstanding amount and the trading volume of interbank call loans both contracted year on year. However, in the second half of the year, the figures turned to increase, driven by the fact that bills finance companies expanded their borrowings from the interbank call loan market for yielding operations amid falling call loan rates. As a result, the annual outstanding amount and the trading volume of interbank call loans for the year as a whole were similar to the figures a year earlier. In 2016 Q1, affected by some financial institutions adjusting their funding strategies and the seasonal factor of the Lunar New Year, the trading volume of interbank call loans turned to diminish (Chart 3.1).

**Chart 3.1 Interbank call loan market**



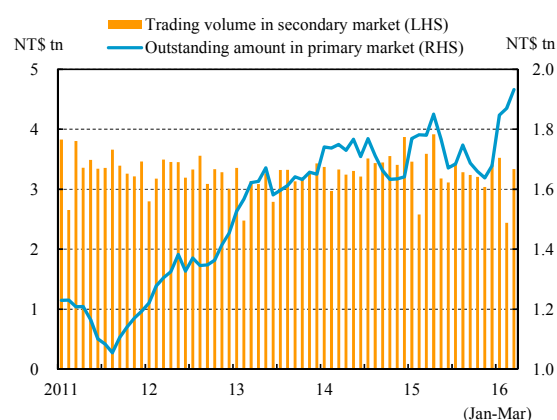
Note: Outstanding amount is the monthly average of daily data.  
Source: CBC.

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

At the end of 2015, the outstanding amount of bill issuance increased by NT\$36.5 billion or 2.22% year on year. Owing to domestic economic recovery and an increase in enterprises' current operation funding demand in early 2015, the outstanding amount of commercial paper,<sup>47</sup> which accounted for the largest share of total bill issuance, gradually increased. However, the outstanding amount of commercial paper gradually decreased from May onwards due to a weakening domestic economy. At the end of the year, the outstanding amount of commercial paper rebounded by NT\$39.8 billion or 3.04% compared to the previous year, fueled by stronger demand from enterprises for funding and a drop in the short-term market rate. Moreover, the outstanding amount of negotiable certificates of deposit (NCDs) also increased by NT\$37.4 billion or 18.70%. On the contrary, the outstanding amount of treasury bills contracted by NT\$40.0 billion or 30.77%.<sup>48</sup> In 2016 Q1, the outstanding amount of bill issuance in the primary market continued to trend upwards as commercial paper issuance increased (Chart 3.2).

In 2015, the outstanding amount of bill issuance in the primary market saw an increase. On the other hand, the bill trading volume in the secondary market over the same period decreased by NT\$1.2 trillion or 2.97% year on year. The main reasons behind this were that bills finance companies replaced RP transactions with call loans as their major source of funding for yielding operations, taking advantage of falling interest rates in the interbank call loan market, and that banks had actively purchased commercial paper, most of which was held to maturity. In 2016 Q1, the trading volume roughly remained steady (Chart 3.2).

Chart 3.2 Primary and secondary bill markets



Sources: CBC and FSC.

<sup>47</sup> The proportion of commercial paper to the total issuance in the primary bill market is over 80%. As a result, it has considerable influence on changes in the outstanding amount.

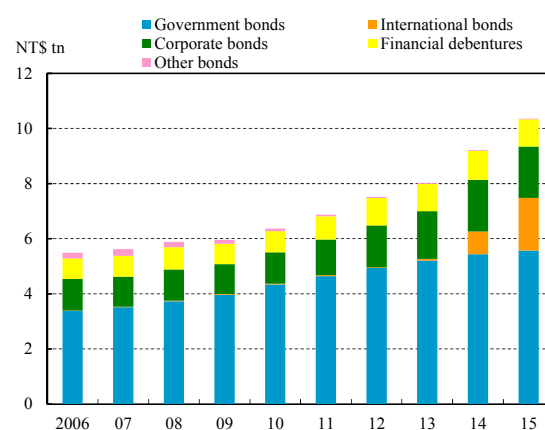
<sup>48</sup> With consideration to transactions, bills finance companies actively purchased NCDs to expand the source of bills. On the other hand, the Ministry of Finance, after having achieved annual tax budget goals ahead of schedule, redeemed more treasury bills to reduce the interest burden.

### 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 2015, the outstanding amount of bond issuance increased by NT\$1.13 trillion or 12.30% year on year. The reason was mainly that insurers built up their investment in International Bonds<sup>49</sup> as the FSC simplified steps for issuing International Bonds and relaxed the related regulations, as well as the yields of International Bonds being much higher than those of local government bonds with the same maturity. As a result, the outstanding amount of foreign currency-denominated international bonds sharply grew by 1.32 times to NT\$1.91 trillion,<sup>50</sup> exceeding corporate bonds and financial debentures, and was second only to local government bonds. As for corporate bonds, enterprises become less willing to issue corporate bonds as their investment strategy turned more conservative. The outstanding amount of corporate bonds in 2015 decreased by 0.37% or NT\$6.99 billion over the previous year. Moreover, the outstanding amount of financial debentures also decreased by 5.94% or NT\$62.44 billion year on year as some financial holding companies replaced bond issuance with capital injections to boost their bank subsidiaries' capital adequacy and merger momentum (Chart 3.3).

Bond issuance in the primary market markedly expanded in 2015, while the trading volume in the secondary bond market slightly fell by 0.45% year on year (Chart 3.4). The main reason was that liquidity in the

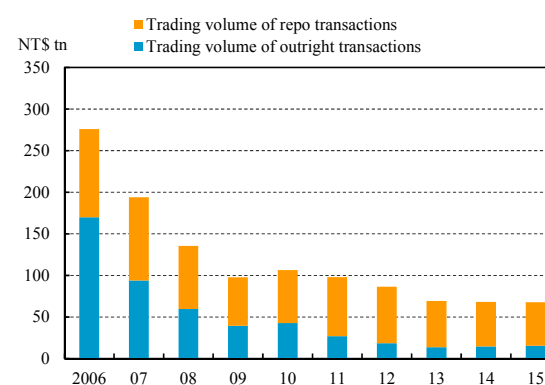
**Chart 3.3 Outstanding amount of bond issuance in the primary market**



Note: Other bonds include beneficiary securities and foreign bonds.

Source: FSC.

**Chart 3.4 Outright and repo transactions in the bond market**



Source: CBC.

<sup>49</sup> 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."

<sup>50</sup> Insurers, mainly life insurance companies, are the major investors in international bonds. In 2015, the auction ratio and hold ratio of government bonds were 9.57% and 21.58%, dropping by 3.36 percentage points and 3.19 percentage points, respectively, compared to a year earlier.

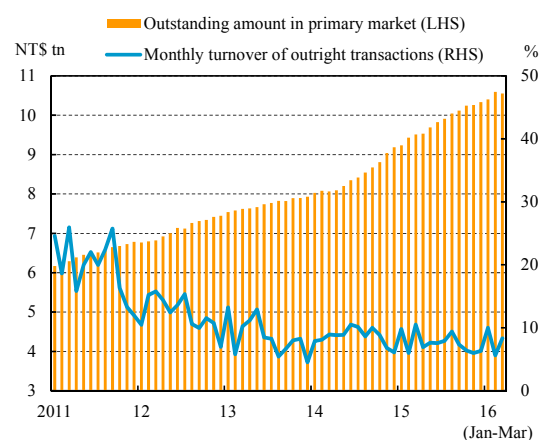
secondary bond market was insufficient, driven by the fact that life insurance companies mainly invested in international bonds by adopting buy-and-hold strategies, as well as an amplified concentration of bonds held in the market owing to rising bond holdings by banks. Therefore, in 2016 Q1, the monthly turnover ratio in the primary bond market<sup>51</sup> roughly remained flat after descending to a lower level of 7.67% in December 2015 (Chart 3.5).

### **Short-term market rates remained low, while long-term market rates fell**

As for short-term market rates, affected by sluggish domestic economic growth and weak funding demand of enterprises, coupled with the CBC's two rate cuts by 12.5 bps in each of the September and December meetings in 2015, the secondary market rates of 90-day commercial paper sharply dropped. In 2016 Q1, short-term market rates remained at a low level, reflecting the fact that the CBC slashed policy rates by 12.5 bps in March (Chart 3.6).

With regard to long-term bond interest rates, the yield on Taiwan's 10-year government bond initially tumbled following the impact of falling international oil prices in the first half of 2015. Afterwards, the yield fluctuated within a narrow range, affected by the movement of key US economic indicators and US government bond yields. In the second half of 2015, plummeting domestic and foreign stock markets caused massive capital flows into the bond market for hedging. This, together with two consecutive policy rate-cuts of 12.5 bps each by the CBC, led the policy rates to keep falling and to diverge from the upward trend of US government bond yields. Furthermore, in

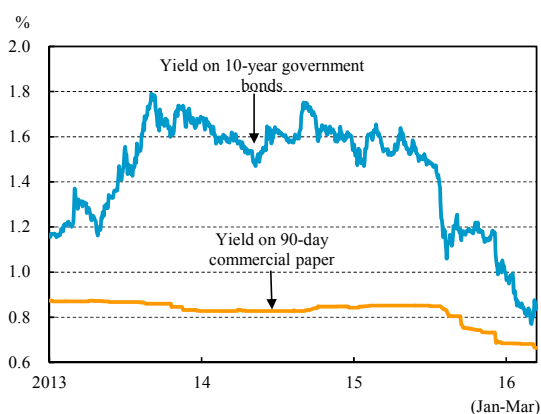
**Chart 3.5 Outstanding amount and turnover in primary bond market**



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.

<sup>51</sup> See Note 6.

early 2016, fueled by the global financial market turmoil and the CBC lowering policy rates again by 12.5 bps in March, more funds flowed into the bond market for safety. As a result, the yield on Taiwan's 10-year government bond fell to a historical low of 0.77% on 21 March 2016 (Chart 3.6).

With a weakening global economy and major advanced countries successively implementing monetary easing policies, Taiwanese government bond yields seem more likely to fall than to rise in the short term. However, since the yield on Taiwan's government bonds mostly fluctuate along with those of US government bonds, the corresponding yields will likely trend upwards in the future if affected by US monetary policy normalization. Related interest risk warrants close attention.

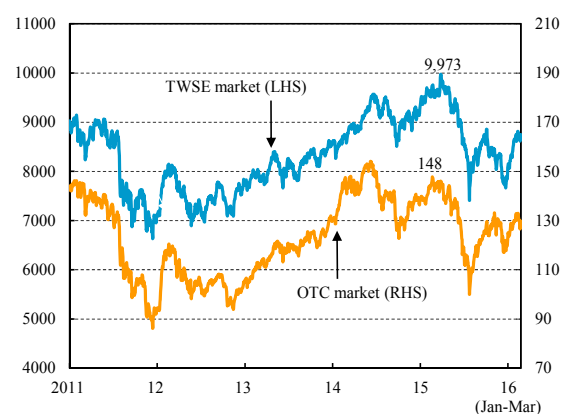
### 3.1.2 Equity markets

#### **Stock indices descended gradually after hitting a fifteen-year high, while volatility reversed to fall after rising**

In early 2015, the FSC announced a program to boost securities markets in Taiwan. In addition, the ECB continued to adopt quantitative easing monetary policies and major countries successively cut interest rates, leading to the run-up in major international stock markets. Reflecting these factors, the TAIEX of the TWSE market proceeded on a notable rise to hit the 10,000 intraday mark and close at a fifteen-year high of 9,973 on 27 April. However, in the second half of 2015, subdued by the slump in global stock markets and the slowdown in domestic economic recovery, the TAIEX experienced a sharp decline and dipped to 7,410 on 24 August. Afterwards, owing to the rally in international stock markets and the interest rate cut by the CBC, the TAIEX rebounded and registered 8,338 at the end of 2015, posting a decrease of 10.41% year on year (Chart 3.7). Broken down by sector, the indices for the oil, gas and electricity, food manufacturing, biotechnology and medical, textile and fiber, and plastics industries reported positive returns, while the indices for the other sectors all fell.

In early 2016, international stock markets deteriorated owing to the deepened concern over the downturn in the global economy,

**Chart 3.7 Taiwan's stock market indices**



Sources: TWSE and TPEx.

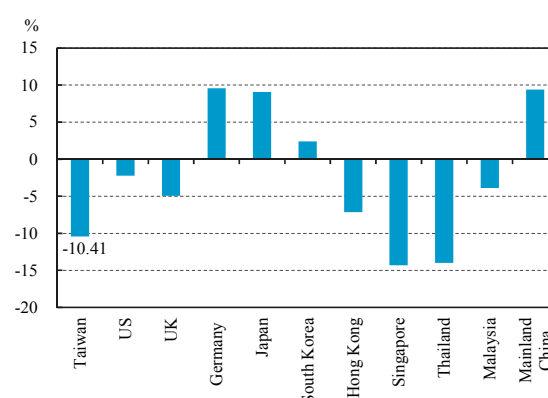
falling oil prices, implementation of the “circuit breaker” mechanism in Mainland China and depreciation of the renminbi. As a result, the TWSE market also slumped over the same period. Afterwards, thanks to the support from the National Financial Stabilization Fund, the measures implemented by Taiwan’s government to maintain market stability, as well as the gradual rally in European and US stock markets, the TAIEX turned to trend up and reached 8,744 at end-March 2016, increasing by 4.88% from the end of 2015 (Chart 3.7).

Taiwan’s Taipei Exchange Capitalization Weighted Stock Index, namely the OTC market index, closely tracked the movements of the TAIEX, trending downwards after hitting an annual high of 148 in March 2015, and later rebounded before falling gradually to close at 129 at end-December, for an annual decrease of 8.07%. The index rallied after declining in early 2016 and reached 130 at the end of March (Chart 3.7).

In contrast to major stock markets around the world, the TAIEX and most markets in Asia showed negative performances in 2015. In other regions of the world, the stock indices of Germany, Japan, and Mainland China performed better and increased by 9.56%, 9.07% and 9.41%, respectively (Chart 3.8).

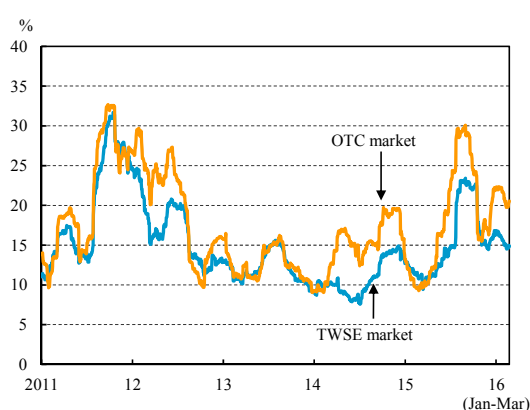
In 2015, volatility in the TWSE and the OTC markets amplified and broadly rose to its highest levels in Q3, reaching 23.42% and 30.07%, respectively. Subsequently, volatility in those two markets turned to drop to 14.48% and 16.30%, respectively, at the end of December. At the beginning of 2016, volatility of local stock indices amplified again and stood at 14.85% and 20.55%, respectively, at the end of March (Chart 3.9).

**Chart 3.8 Comparison of major stock market performances**



Notes: 1. Figures are for 2015.  
2. Taiwan’s data is for the TWSE market.  
Source: TWSE.

**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.

### Annual turnover ratio declined

The TWSE and the OTC markets both experienced reductions in trading in 2015. The average monthly trading value in the TWSE market registered NT\$1.68 trillion, a decrease of 7.80% year on year, while the annual turnover ratio in terms of trading value declined to 77.54%. In the OTC market, the trading situation was similar to the TWSE market. The average monthly trading value posted NT\$474.1 billion in 2015, a decline of 10.49% year on year, while the annual turnover ratio fell to 216.52% (Chart 3.10).

Comparing major stock markets around the world, the annual turnover ratio in Mainland China ranked among the highest in 2015, while that in the stock market in Taiwan was approximately equal to that in Germany, but higher than those in the UK, Hong Kong, Singapore, Thailand, and Malaysia (Chart 3.11).

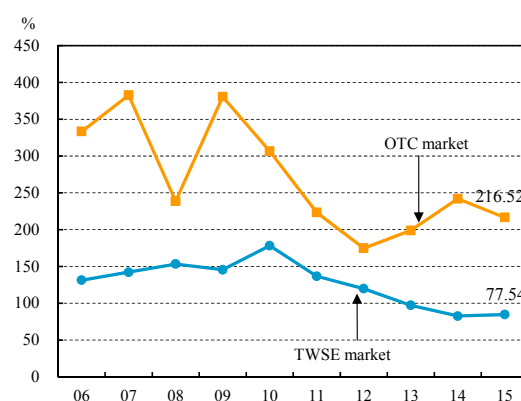
### 3.1.3 Foreign exchange market

#### The NT dollar exchange rate reversed

#### from appreciation to depreciation and the trading volume continued to increase

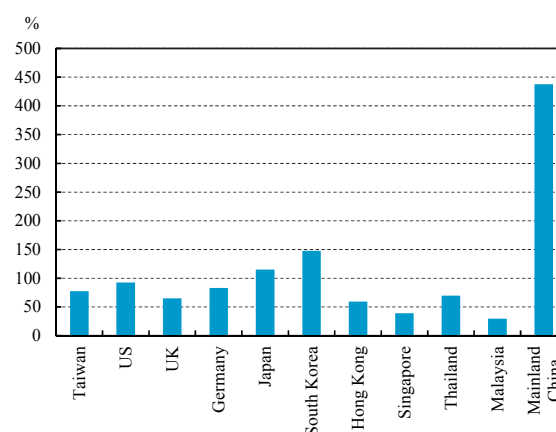
In early 2015, major economies, such as the euro area and Mainland China, adopted monetary easing policies. Moreover, the Swiss National Bank's (SNB's) announcement to abandon the Swiss franc's cap against the euro, coupled with the implementation of negative interest rates in Sweden, induced an international capital flight to safety towards Asian emerging countries. As a result, the NT dollar exchange rate appreciated against the US dollar, reaching a yearly high of 30.541 on 22 May. Thereafter, the Fed signaled an interest rate hike and the PBC adjusted downwards the mid-price of the renminbi against the US dollar, leading to the depreciation of Asian currencies. Meanwhile, the continuous decline of exports from

Chart 3.10 Annual turnover ratios in Taiwan's stock markets



Sources: TWSE and TPEX.

Chart 3.11 Comparison of turnover ratios in major stock markets



Notes: 1. Figures refer to accumulated turnover ratios in 2015.  
2. Taiwan's data is for the TWSE market.

Source: TWSE.

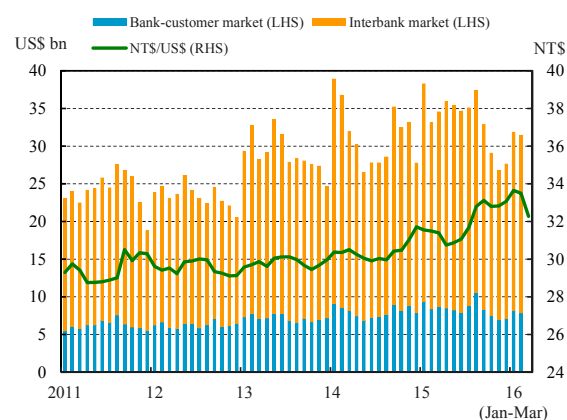
Taiwan and net selling from foreign investors in the domestic stock market brought the NT dollar exchange rate to turn to depreciation against the US dollar, hitting a yearly low of 33.292 on 25 September. At the end of 2015, the NT dollar exchange rate reversed to appreciate marginally and stood at 33.066, with annual depreciation of 4.08%. In early 2016, the sharp depreciation of the renminbi and the resulting greater fluctuations in the exchange rates of other Asian currencies, coupled with the divergence of monetary policies in major advanced economies and lingering geopolitical tensions, roiled the foreign exchange market. Reflecting this, the NT dollar exchange rate continually depreciated against the US dollar, yet later appreciated and rose to 32.282 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 4.08% was only greater than the Japanese yen's 0.63% in 2015. At the end of March 2016, the NT dollar appreciated by 2.43% compared to the end of the previous year, while other major Asian currencies also displayed appreciating trends (Chart 3.13).

As for the NT dollar against other key international currencies, in 2015 the NT dollar appreciated by 0.65%, 3.42% and 6.69% against the British pound, the Korean won and the euro, respectively, but depreciated by 3.47% against the Japanese yen over the same period (Chart 3.14).

In 2015, domestic and international capital movements continued to increase. The average daily trading volume in Taiwan's foreign exchange market kept rising and reached US\$33.4 billion, increasing by 6.25% compared to US\$31.5 billion a year earlier, primarily because of an increase in the trading volume of the interbank market (Chart 3.12). A breakdown by

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

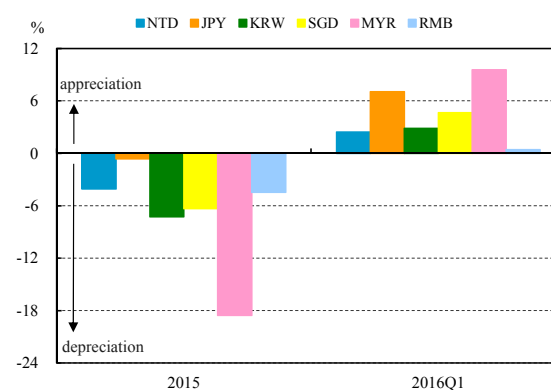


Notes: 1. Trading volume is the monthly average of daily data, while exchange rate is end-of-period data.

2. The latest data for trading volume is as of February 2016.

Source: CBC.

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



Source: CBC.



counterparty showed that the average daily trading volume in the interbank market accounted for 74.95% of the total in 2015, while the retail bank-customer market made up a 25.05% share. As for types of transactions, spot trading accounted for the largest share of 41.51% of the total, followed by foreign exchange swaps with 40.08%.

### **NT dollar exchange rate volatility remained relatively stable**

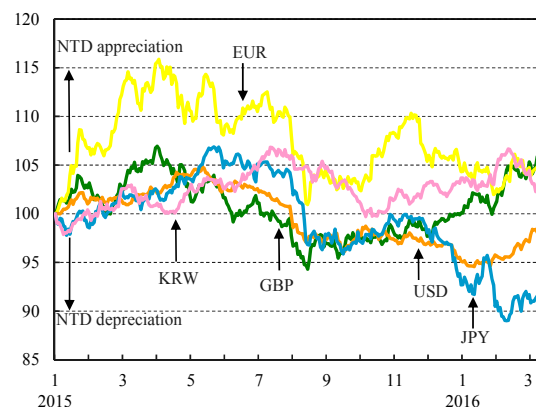
Volatility in the NT dollar exchange rate against the US dollar fluctuated between 2.22% and 7.67% in 2015, and registered an annual average of 4.54%. In early 2016, owing to the fluctuations of the renminbi, the exchange rates of other Asian currencies fluctuated dramatically. Notably, volatility in the NT dollar exchange rate against the US dollar fluctuated between 3.13% and 5.95% during 2016 Q1. Since 2015, the NT dollar exchange rate against the US dollar has been relatively stable compared to the exchange rates of major currencies such as the Japanese yen, the euro, the Korean won and the Singapore dollar (Chart 3.15).

## **3.2 Financial institutions**

### **3.2.1 Domestic banks**

In 2015, the total assets of domestic banks<sup>52</sup> accumulated continuously, though at a slower pace than in the previous year. Asset quality improved and the concentration in corporate loans kept declining while the concentration of credit exposures in real estate loans decreased

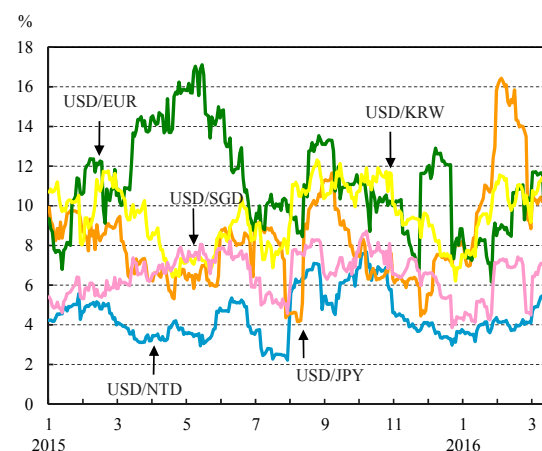
**Chart 3.14 Movements of NT dollar exchange rate against key international currencies**



Note: 2 January 2015 = 100.

Source: CBC.

**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.

<sup>52</sup> The 40 domestic banks referred to in this section include the Agricultural Bank of Taiwan.