

5. Foreign Exchange Market

Appreciation of the NT Dollar in trade-weighted terms

In 2015, the NT dollar depreciated against the US dollar and the renminbi (RMB), but appreciated against most major international currencies including the euro, the Japanese yen, and the Korean won. The trade-weighted nominal effective exchange rate index of the NT dollar increased by 2.64% on a daily average basis. The exchange rate movements of the NT dollar against the US dollar, the euro, the yen, the RMB, and the Korean won are analyzed as follows.

The NT dollar against the US dollar slightly appreciated before it weakened in the second half of 2015. Early in the year, the US dollar strengthened as the US economy expanded at a moderate pace, while the economic growth rates of Japan, the euro area and China all slowed down. After the Swiss National Bank (SNB) discontinued the minimum exchange rate of the Swiss Franc (CHF) per euro on January 15, international hedge funds flowed into emerging Asia including Taiwan, and the NT dollar turned to appreciation. A softer US dollar at the end of April, owing to sluggish first quarter GDP performance in the US and growing market expectations for the Fed to postpone rate normalization after the FOMC Statement noted that underutilization of labor resources was little changed, and inflows of foreign capital into Taiwan's financial markets combined to lead the NT dollar higher, soaring to a yearly high against the US dollar on May 22. In July, the Fed chairperson's speech about a possible rate hike within 2015 caused the US dollar to strengthen, while foreign capital inflows turned into a net outflow from Taiwan, resulting in NT dollar depreciation against the US dollar. On August 11, the People's Bank of China (PBOC) devalued the RMB exchange rate against the US dollar, leading most major Asian currencies to fall. Meanwhile, Taiwan's exports continued to contract and the CBC announced a rate cut in its September Board Meeting. Consequently, the NT dollar hit a yearly low on September 25. From October onwards, the US economic indicators were mixed; however, Taiwan's economic growth rate slipped into negative territory in the third quarter. In December, the Fed announced its rate hike, while the CBC decided to cut policy rates to boost economic growth, leading the NT dollar to depreciate against the US dollar. At the end of 2015, the NT dollar depreciated by 4.08% against the US dollar compared with the end of the previous year. On a daily average basis, the NT dollar depreciated against the US dollar by 4.80% in 2015.

The NT dollar appreciated against the euro in the first half of the year but then depreciated in the third quarter and slightly appreciated in the last quarter. The NT dollar against the euro fell to a yearly low on January 5. As oil prices steadily declined, and investors worried about a deflation risk in the euro area, the euro faced depreciation pressures. This was exacerbated by the ECB's

expansion of its asset purchase program and the SNB's discontinuing the minimum exchange rate of CHF per euro. As a result, the NT dollar against the euro soared to a yearly high on April 14. In May, the euro area's CPI rose, and German factory orders increased more than anticipated and the GDP growth rate was revised up; therefore, the consequent euro strength led the NT dollar to depreciate against the euro. Later in June, Greece defaulted on its International Monetary Fund (IMF) loans and conducted a bailout referendum on July 5, sending the euro down against the NT dollar. On August 11, the PBOC devalued the RMB exchange rate against the US dollar, leading most major Asian currencies to fall, and the NT dollar turned into depreciation against the euro. After late October, the continuous fall in international commodity prices and growing downside risks to economic growth posed bigger challenges to achieve the ECB's inflation target. These concerns built up expectations that the ECB would expand its monetary easing, and therefore the NT dollar appreciated against the euro. In December, the ECB cut the interest rate on the deposit facility and extended its asset purchase program, but kept its overall asset purchases unchanged. Against this backdrop, the NT dollar against the euro depreciated. Compared with the end of the previous year, the NT dollar appreciated against the euro by 6.69% at the end of 2015. On a daily average basis, the NT dollar appreciated against the euro by 13.89%.

The NT dollar appreciated against the yen in the first half year and rapidly depreciated in the second half of 2015. In the first half year, Japan revised down not only its economic growth rate of the last quarter of 2014 but also the outlook for economic growth and inflation, and the Bank of Japan (BOJ) maintained its monetary easing policy stance. The NT dollar against the yen reached a yearly high on June 2. On June 10, the BOJ governor's comments that the real exchange rate of the yen was low enough and further depreciation would not improve the economic situation sent the yen higher. Moreover, the Greek default crisis and China's slowdown also led the yen to soar on safe-haven demand. In turn, the NT dollar against the yen hit a yearly low on September 24. After that, the yen trended down on account of weak economic conditions. In December, with international commodity and oil prices staying low, capital flowed into the yen, and the NT dollar against the yen depreciated. In sum, the NT dollar depreciated by 3.47% against the yen at the end of 2015 compared with the previous year end. On a daily average basis, the NT dollar appreciated against the yen by 8.77%.

In 2015, the NT dollar appreciated against the RMB in the first half year and depreciated in the second half. Early in the year, downside risks to China's growth remained significant, weighing down on domestic demand and exports. With the CPI and the PPI rising less than anticipated, the PBOC lowered its reserve requirement ratio in February and April, and cut RMB benchmark loan and deposit interest rates in March and May. As a result, the NT dollar against the RMB reached a yearly high on May 22. On August 11, the PBOC devalued the RMB exchange rate against the US dollar, and major Asian currencies thus fell following a weaker RMB. After that, the PBOC cut its reserve

Annual Changes of NTD Exchange Rate Against Major Currencies

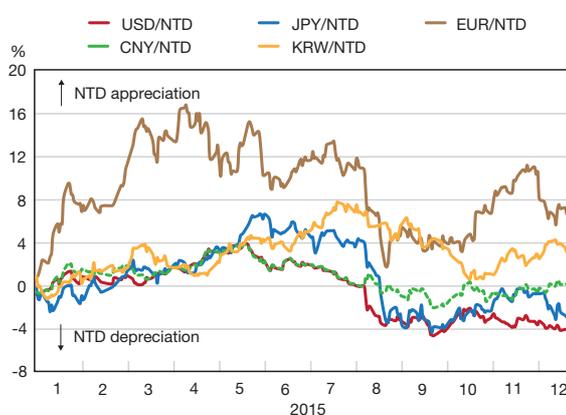
	NTD/USD	NTD/EUR	NTD/JPY	NTD/CNY	NTD/KRW
Exchange Rate (2015/12/31)	33.066	36.131	0.2747	5.0921	0.0281
Exchange Rate (2014/12/31)	31.718	38.550	0.2652	5.1125	0.0291
Annual Change	-4.08%	6.69%	-3.47%	0.40%	3.42%
Average Exchange Rate (2015)	31.898	35.377	0.2635	5.1222	0.0282
Average Exchange Rate (2014)	30.368	40.290	0.2866	4.9431	0.0288
Annual Change	-4.80%	13.89%	8.77%	-3.50%	2.27%

Source: Department of Economic Research, CBC.

requirement ratio and RMB benchmark loan and deposit interest rates several times on concerns of slower economic growth, while Taiwan also experienced economic moderation. The NT dollar against the RMB dropped to a yearly low on September 25 and fluctuated toward the end of 2015. The NT dollar appreciated against the RMB by 0.40% between end-2014 and end-2015. On a daily average basis, the NT dollar depreciated by 3.50% against the RMB when compared with the previous year.

In 2015, The NT dollar slightly appreciated against the Korean won in the first half of the year but then trended down toward the end of the year. Early in 2015, as the Greek debt crisis and a weak euro led to international capital flows into emerging Asia, and South Korea posted robust export growth in December 2014, the NT dollar against the won fell to a yearly low on January 12. In March, the Bank of Korea (BOK) lowered the base rate, and South Korea's consumption growth was dampened by the spread of the Middle East Respiratory Syndrome (MERS) in the second quarter, leading to another BOK rate cut. The won weakened, and the NT dollar against the won soared to a yearly high on July 23. On August 11, the PBOC devalued the RMB exchange rate against the US dollar, leading the NT dollar and the won both to fall. The NT dollar against the won fluctuated between 0.0272 and 0.0281. After October, South Korea recorded net foreign capital outflows, and the NT dollar against the won turned into appreciation. As the Fed raised the federal funds rate in December and induced foreign capital outflows from South Korea, the won turned to depreciation. Compared with the end of 2014, the NT dollar appreciated by 3.42% against the won at the end of 2015. On a daily average basis, the NT dollar also appreciated by 2.27% against the won in 2015.

**Percent Changes of NT Dollar
Against Major Currencies**
(Compared with End-2014)



Source: Department of Economic Research, CBC.

Growing Foreign Exchange Market

Trading in the Taipei foreign exchange market expanded in 2015. Total net trading volume for the year reached US\$8,204.6 billion, representing a year-on-year growth rate of 4.9%. The daily average turnover was US\$33.4 billion. The increase in turnover reflected expanded trading by local banks with overseas banks as major foreign currencies fluctuated wildly.

In terms of trading partners, transactions between banks and non-bank customers accounted for 25.1% of the total turnover, while interbank transactions made up 74.9%, including 20.0% for transactions among local banks and 54.9% for those between local banks and overseas banks.

As far as traded currencies were concerned, NT dollar trading against foreign currencies accounted for 36.0% of the total trading volume, of which trading against the US dollar (USD) made up a dominant 34.4%. Transactions in third currencies contributed to 64.0% of the total trading volume, with trading in currency pairs of USD-RMB, USD-euro and USD-yen accounting for respective shares of 20.7%, 15.1% and 10.6%. Compared with 2014, NT dollar trading against foreign currencies decreased by 7.0%. Transactions in third currencies increased by 13.0% over a year earlier, mainly because local banks increased trading with overseas banks amid more volatile fluctuations of major foreign currencies.

With respect to types of transactions, the major types were spots and foreign exchange swaps, accounting for 41.5% and 40.1% of total turnover, respectively. Compared with 2014, the trading volumes of spots, forwards and margin trading increased, whereas the other types decreased.

For other foreign currency derivatives including forwards, swaps, and options based on foreign currency interest rates, stock price indices, commodity prices, and credit derivatives, the total turnover amounted to US\$111.6 billion. Of this amount, interest rate-related derivatives accounted for the lion's share with US\$105.9 billion, or 94.9%, with its turnover down by 36.6% from the previous year. Interest rate futures accounted for the majority of this decrease, down by US\$66.2 billion.

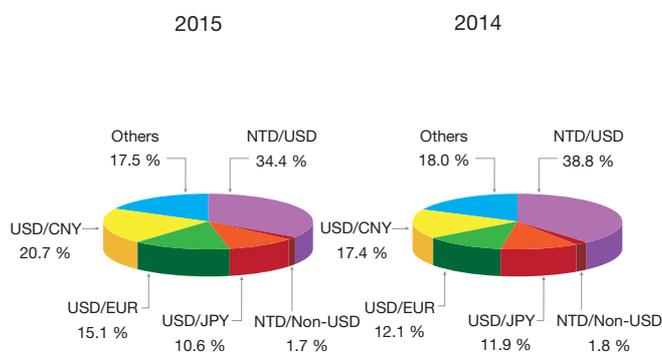
Turnover of Major Products in the Taipei Foreign Exchange Market

Unit: US\$ Million

Year	Spots	Forwards	Forex Swaps	Margin Trading	Options	Cross Currency Swaps	Total
2011	2,570,319	415,459	2,454,626	19,016	529,351	24,587	6,013,357
2012	2,249,684	406,831	2,558,288	19,419	627,958	30,993	5,893,172
2013	2,681,798	373,006	2,991,819	21,730	1,072,740	32,983	7,174,076
2014	2,869,175	408,770	3,352,584	20,379	1,134,172	37,365	7,822,445
2015	3,405,177	475,473	3,292,799	25,055	973,082	33,023	8,204,608
2014-2015 Growth Rate (%)	18.7	16.3	-1.8	22.9	-14.2	-11.6	4.9

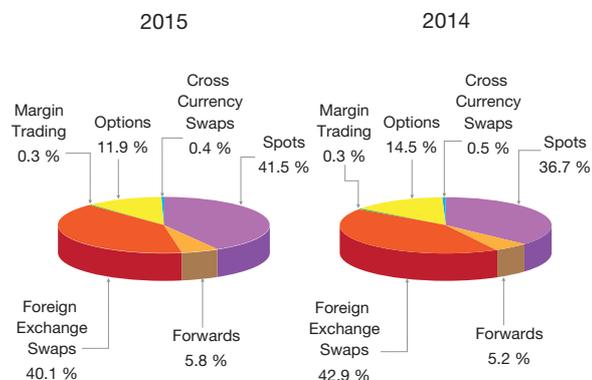
Source: Department of Foreign Exchange, CBC.

Composition of Foreign Exchange Transactions by Traded Currency



Source: Department of Foreign Exchange, CBC.

Composition of Foreign Exchange Transactions by Product



Source: Department of Foreign Exchange, CBC.

Decrease in Trading in Foreign Currency Call Loan Market

The transaction volume in the foreign currency call loan market in 2015 was US\$1,407.1 billion, a decrease of 4.6% over the previous year. Of this amount, US dollar transactions accounted for a dominant share with US\$1,325.5 billion, making up 94.1% of the total while decreasing 7.1% from 2014. In view of rising market expectations for the Fed's rate hike before the end of 2015, some banks increased long term currency lending and reduced short term trades, which caused the turnover rate to fall. Japanese yen transactions reached ¥872.1 billion in 2015, a small share of 0.5% of the total with a decline of 35.8% in the volume compared to the previous year. The amount of euro transactions totaled €0.5 billion, a low share of 0.1%. Other currencies accounted for a combined 5.2% of the total transaction volume.

Turnover of Other Products in the Taipei Foreign Exchange Market

Unit: US\$ Million

Year	Interest Rate-Related Products					Commodity-Related Products	Stock Index Options	Credit Derivatives	Total
	Forward Rate Agreements	Interest Rate Swaps	Interest Rate Options	Foreign Currency Interest Rate Futures	Subtotal	Commodity Options			
2011	902	76,153	3,569	254,703	335,327	22,728	421	5,204	363,681
2012	1,069	51,887	4,320	142,310	199,586	15,440	955	2,243	218,223
2013	523	37,042	3,040	115,636	156,240	5,488	1,758	1,517	165,004
2014	22	43,179	1,657	122,236	167,093	3,870	302	1,401	172,666
2015	4,928	42,763	2,152	56,088	105,930	4,058	486	1,122	111,596
2014-2015 Growth Rate (%)	22,609.2	-1.0	29.9	-54.1	-21.7	4.9	61.0	-20.0	-35.4

Source: Department of Foreign Exchange, CBC.

Slight Reduction in Assets of Offshore Banking Units

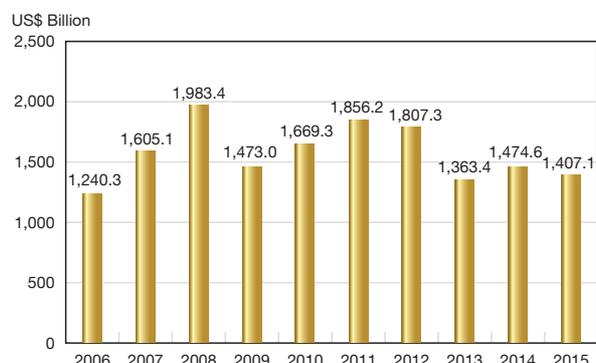
There were 62 offshore banking units (OBUs) at the end of 2015. Domestic banks operate 37 of these OBUs, while foreign banks run the other 25. The total assets of all OBUs decreased to US\$181.9 billion at the end of the year, representing a decline of US\$2.1 billion or 1.1% from the previous year end owing to lower lending to non-financial institutions. Domestic OBUs made up 86.4% of these combined assets with an amount of US\$157.2 billion, and the OBUs of foreign banks accounted for US\$24.7 billion, a 13.6% share of the total.

In terms of the uses of funds, loans to non-financial institutions, at US\$81.2 billion, represented the majority share of 44.6% of total OBU assets. Due from banks came in second place, accounting for 18.7% of total OBU assets. In terms of the destination for funds, Asia accounted for the majority with 59.0%, followed by America at 27.0%.

The OBUs' main source of funds was interbank transactions, making up 41.7% of total liabilities. Furthermore, deposits of non-financial institutions accounted for 36.4% of total liabilities. The main funding origins of OBUs were Asia, accounting for the majority with 60.0%, and America, with a share of 28.0%.

Since most major foreign currencies fluctuated more wildly in 2015, forex trading turnover of

Transactions in the Taipei Foreign Currency Call Loan Market



Source: Department of Foreign Exchange, CBC.

Consolidated Balance Sheet of Offshore Banking Units in Banking System

Unit: US\$ Million

End of Year	Loans to Non-financial Institutions	Portfolio Investment	Claims on Financial Institutions	Other Assets	Total Assets= Total Liabilities	Deposits of Non-financial Institutions	Due to Financial Institutions	Securities Issued	Other Liabilities
2011	58,976	15,760	56,900	13,465	145,101	37,645	91,662	370	15,424
2012	67,811	18,240	60,200	24,655	170,906	44,102	100,389	364	26,051
2013	79,981	22,019	44,459	23,113	169,572	51,191	100,133	351	17,896
2014	87,849	22,066	47,681	26,379	183,974	57,818	101,671	338	24,146
2015	81,198	29,547	52,790	18,388	181,924	66,137	97,087	0	18,700
2014-2015 Growth Rate (%)	-7.6	33.9	10.7	-30.3	-1.1	14.4	-4.5	-100.0	-22.6

Source: Financial Statistics Monthly, CBC.

all OBUs rose by 77.3% and registered US\$1,067.3 billion, of which US\$753.7 billion went for spot transactions, US\$187.9 billion for forex swap transactions and US\$125.8 billion for forward transactions. Compared with the previous year, the growth rates of trading of spots, forex swaps and forward transactions were 106.9%, 31.4%, and 32.8%, respectively.

The total turnover of other derivatives products decreased to US\$768.6 billion, a decrease of 17.2% over the previous year. Of this amount, currency options transactions registered an amount of US\$681.3 billion, making up 88.6% of the turnover.