

5. Foreign Exchange Market

The NT Dollar Exchange Rate

At the end of 2016, the NT dollar appreciated against the US dollar, the euro, the RMB and the Korean won, but slightly depreciated against the Japanese yen when compared with the previous year end. The trade-weighted nominal effective exchange rate index of the NT dollar decreased by 0.69% 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.

During the course of the year, the NT dollar against the US dollar depreciated briefly and then appreciated before it weakened again in the fourth quarter. In January, the NT dollar depreciated against the US dollar, mainly because of the effect of the Fed's rate hike in December 2015, and the NT dollar hit a yearly low on January 21. As the US dollar was dampened by the less-than-expected US economic performance, combined with the Brexit issue, international capital flowed into emerging Asia including Taiwan, sending the NT dollar to a yearly high against the US dollar on August 10. Later, the US dollar strengthened because market participants expected the new US government under President Donald Trump would enact aggressive fiscal measures and urge firms to bring back manufacturing jobs to the US. The Fed's rate hike on December 14 also led the NT dollar to depreciate against the US dollar. At the end of 2016, the NT dollar appreciated by 2.44% 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 1.30% in 2016.

The NT dollar against the euro fluctuated in the first half of the year and appreciated steadily in the second half. Early in the year, as the international stock market slump and the Middle East geopolitical crisis led the euro to soar on safe-haven demand, the NT dollar against the euro fell to a yearly low on February 5. Then, anxiety over the Brexit referendum and investor worries about a deflationary risk in the euro area induced by the continued decline in oil prices combined to result in an NT dollar appreciation against the euro. In March, as the ECB cut rates and expanded QE with an indication that interest rates would remain low for some time, euro strength led to NT dollar depreciation against the euro. In the second half of the year, Brexit concerns, the banking crisis and failed referendum on constitutional reforms in Italy, and the ECB's decision to extend QE policy pushed the NT dollar against the euro to a yearly high on December 20. Compared with the end of the previous year, the NT dollar appreciated against the euro by 6.53% at the end of 2016. On a daily average basis, the NT dollar depreciated against the euro by 1.04%.

The NT dollar depreciated against the yen in the first three quarters and appreciated toward

the end of 2016. Early in the year, international stock market declines led the yen to soar on safe-haven demand, but the rally was reversed by the BOJ's announcement of the negative interest rate policy on January 29. The ECB's rate cut amid concerns of deflation, and the UK's decision to leave EU then caused the yen to soar on safe-haven demand again, and the NT dollar against the yen hit a yearly low on July 6. After that, the yen trended down on account of weak economic conditions in Japan. In November, as the BOJ announcement of an unlimited bond buying plan, the NT dollar against the yen continued to appreciate steadily. Late in December, the BOJ's QE remained unchanged and its growth forecasts for Japan were revised up; therefore, the NT dollar depreciated against the yen again. In sum, the NT dollar slightly depreciated by 0.35% against the yen at the end of 2016 compared with the previous year end. On a daily average basis, the NT dollar depreciated against the yen by 11.29%.

The NT dollar against the RMB generally appreciated in 2016 after dipping in January. Early in the year, owing to China's widened trade surplus and the People's Bank of China (PBOC) governor's comment that there was no basis for the persistent RMB depreciation, the NT dollar against the RMB fell to a yearly low on February 22. After that, because of a slowdown in Chinese economic growth, continued easing by the PBOC, and market concerns about China's exports to Europe shrinking after Brexit, the NT dollar appreciated against a softer RMB. After November, Donald Trump's election victory gave rise to market expectations that trade friction between China and the US could intensify, inducing in more capital flight out of China. As a result, the NT dollar against the RMB hit a yearly high on December 16. Afterwards, China tightened capital controls to stem RMB weakness, and the NT dollar against the RMB depreciated. The NT dollar appreciated against the RMB by 9.63% between end-2015 and end-2016. On a daily average basis, the NT dollar appreciated by 5.31% against the RMB when compared with the previous year.

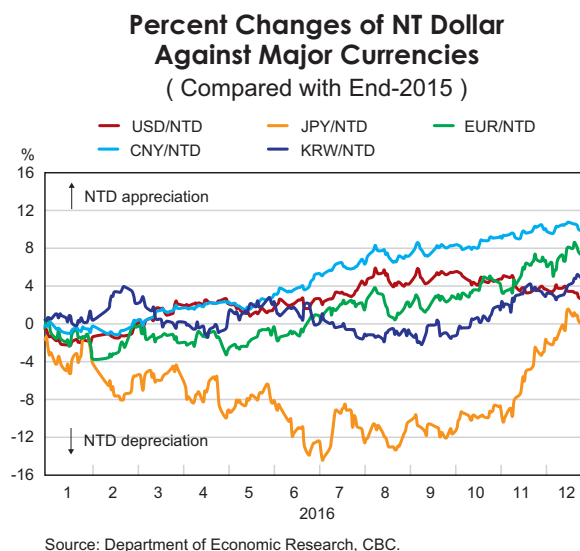
In 2016, the NT dollar appreciated against the Korean won in the first quarter, fluctuated in the second and third quarters, and appreciated in the fourth quarter. Early in the year, slower economic growth in South Korea and rising tensions on the Korean Peninsula led the NT dollar to appreciate

Annual Changes of NTD Exchange Rate Against Major Currencies

	NTD/USD	NTD/EUR	NTD/JPY	NTD/CNY	NTD/KRW
Exchange Rate (2016/12/30)	32.279	33.917	0.2757	4.6448	0.0268
Exchange Rate (2015/12/31)	33.066	36.131	0.2747	5.0921	0.0281
Annual Change	2.44%	6.53%	-0.35%	9.63%	4.81%
Average Exchange Rate (2016)	32.318	35.749	0.2971	4.8639	0.0279
Average Exchange Rate (2015)	31.898	35.377	0.2635	5.1222	0.0282
Annual Change	-1.30%	-1.04%	-11.29%	5.31%	1.24%

Source: Department of Economic Research, CBC.

against the won. During the second quarter, international capital flowed into emerging Asia including Taiwan and South Korea, leading both the NT dollar and the won to rise. The NT dollar against the won fluctuated and reached a yearly low on September 10. In the fourth quarter, as the won was affected by Korea's political scandal and downward revision of economic outlook by the Bank of Korea, the NT dollar against the won hit a yearly high on December 28. Compared with the end of 2015, the NT dollar appreciated by 4.81% against the won at the end of 2016. On a daily average basis, the NT dollar also appreciated by 1.24% against the won in 2016.

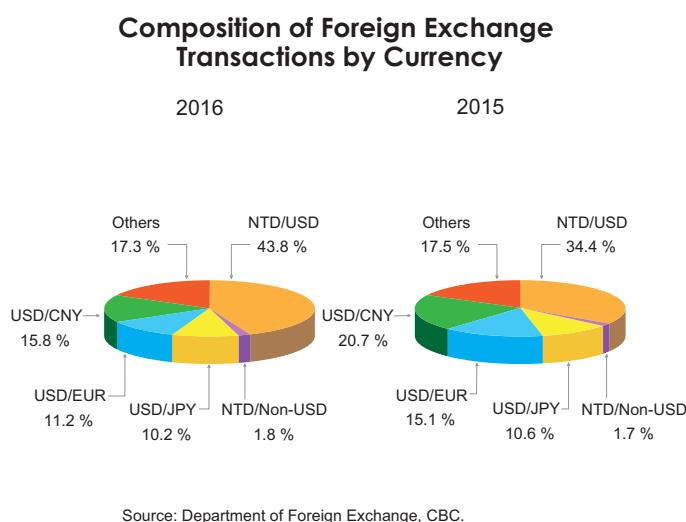


Lower Turnover in Foreign Exchange Market

Trading in the Taipei foreign exchange market decreased in 2016. Total net trading volume for the year was US\$7,113.8 billion, representing a year-on-year growth rate of -13.3%. This was due to a higher base in 2015 when major foreign currencies fluctuated wildly and the turnover was thus higher than usual. The daily average turnover was US\$28.9 billion in 2016.

In terms of trading partners, transactions between banks and non-bank customers accounted for 28.8% of the total turnover, while interbank transactions made up 71.2%, including 23.7% for transactions among local banks and 47.5% for those between local banks and overseas banks.

As far as traded currencies were concerned, NT dollar trading against foreign currencies accounted for 45.6% of the total trading volume, of which trading against the US dollar (USD) made up a dominant 43.8%. Transactions in third currencies contributed to 54.4% of

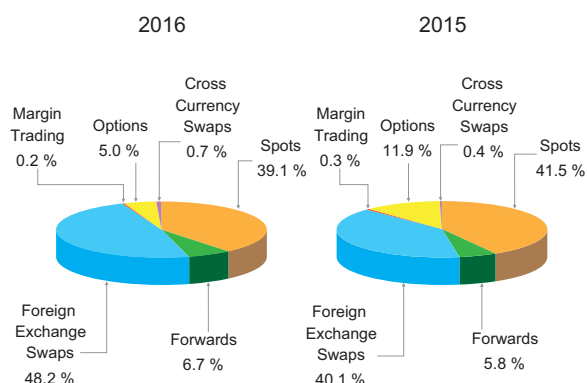


the total trading volume, with trading in currency pairs of USD-RMB, USD-euro and USD-yen accounting for respective shares of 15.8%, 11.2% and 10.2%. Compared with 2015, NT dollar trading against foreign currencies increased by 9.7%. Transactions in third currencies decreased by 26.3%.

With respect to types of transactions, the major types were foreign exchange swaps and spots, accounting for 48.2% and 39.1% of total turnover, respectively. Compared with 2015, the trading volumes

of forwards, foreign exchange swaps and cross currency swaps increased, whereas the other types decreased.

Composition of Foreign Exchange Transactions by Product



Source: Department of Foreign Exchange, CBC.

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
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
2016	2,780,002	477,036	3,430,524	17,437	358,694	50,109	7,113,802
2015-2016 Growth Rate (%)	-18.4	0.3	4.2	-30.4	-63.1	51.7	-13.3

Source: Department of Foreign Exchange, CBC.

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			
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
2016	120	41,952	5,743	51,222	99,037	3,053	145	933	103,168
2015-2016 Growth Rate (%)	-97.6	-1.9	166.9	-8.7	-6.5	-24.8	-70.2	-16.8	-7.6

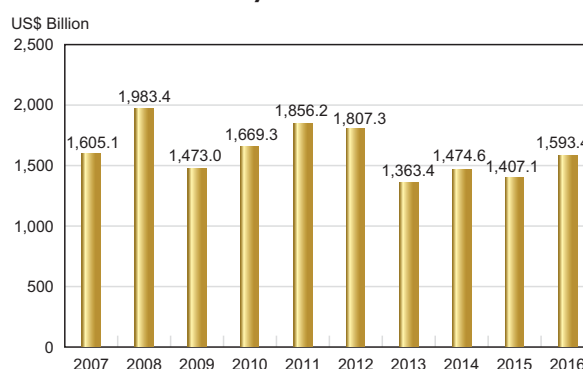
Source: Department of Foreign Exchange, CBC.

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\$103.2 billion. Of this amount, interest rate-related derivatives accounted for the lion's share with US\$99.0 billion, or 96.0%, with its turnover down by 6.5% from the previous year. Interest rate futures accounted for the majority of this decrease, down by US\$4.9 billion.

Increase in Trading in Foreign Currency Call Loan Market

The transaction volume in the foreign currency call loan market in 2016 was US\$1,593.4 billion, an increase of 13.2% over the previous year. Of this amount, US dollar transactions accounted for a dominant share with US\$1,507.2 billion, making up 94.6% of the total while increasing 13.7% from 2015. The increase was because some banks conducted more currency lending trades in response to flush foreign currency funds from growth in deposits.

Transactions in the Taipei Foreign Currency Call Loan Market



Source: Department of Foreign Exchange, CBC.

Japanese yen transactions reached ¥398.4 billion in 2016, a small share of 0.2% of the total with a year-on-year decline of 50.0% in volume. The amount of euro transactions amounted to €0.5 billion, a low share of 0.04%. Other currencies accounted for a combined 5.1% of the total transaction volume.

Growing Assets of Offshore Banking Units

There were 62 offshore banking units (OBUs) at the end of 2016. Domestic banks operate 38 of these OBUs, while foreign banks run the other 24. The total assets of all OBUs increased to US\$186.0 billion at the end of the year, representing an increase of US\$4.1 billion or 2.2% from the previous year end owing to increasing securities investments. Domestic OBUs made up 88.1% of these combined assets with an amount of US\$164.0 billion, and the OBUs of foreign banks accounted for US\$22.1 billion, a 11.9% share of the total.

In terms of the uses of funds, discounts and loans, at US\$77.0 billion, represented the majority share of 41.4% of total OBU assets. Securities investments came in second place, accounting for 23.0% of total OBU assets. In terms of the destination for funds, Asia accounted for the majority with 52.0%, followed by America at 31.0%.

The OBUs' main source of funds was interbank transactions, making up 41.1% of total liabilities.

Furthermore, deposits of non-financial institutions accounted for 38.8% of total liabilities. The main funding origins of OBUs were Asia, accounting for the majority with 59.0%, and America, with a share of 30.0%.

Forex trading turnover of all OBUs dropped by 36.0% to US\$683.5 billion, of which US\$476.3 billion went for spot transactions, US\$101.4 billion for forward transactions and US\$105.7 billion for forex swap transactions. Compared with the previous year, the growth rates of trading of spots, forwards and forex swaps were -36.8%, -19.4%, and -43.7%, respectively.

For OBUs, the total turnover of other derivatives products shrank to US\$313.6 billion, a decrease of 59.2% over the previous year. Of this amount, currency options transactions registered US\$207.2 billion, making up 66.1% of the total.

Balance Sheet of OBUs 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 & Equity	Deposits of Non-financial Institutions	Due to Financial Institutions	Securities Issued	Other Liabilities & Equity
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
2016	77,236	42,803	54,519	11,467	186,025	72,245	96,454	0	17,326
2015-2016 Growth Rate (%)	-4.9	44.9	3.3	-37.6	2.3	9.2	-0.7	0.0	-7.3

Source: *Financial Statistics Monthly*, CBC.