

## 4. Foreign Exchange Market

### The NT Dollar Exchange Rate

At the end of 2017, the NT dollar appreciated against the US dollar, the euro, the Japanese yen, the renminbi (RMB), and the Korean won when compared with the previous year end. The trade-weighted nominal effective exchange rate index of the NT dollar increased by 6.94% on a daily average basis. The exchange rate movements of the NT dollar vis-à-vis each of the above foreign currencies are analyzed as follows.

During the course of the year, the NT dollar against the US dollar appreciated slightly. In the first half of 2017, the US dollar was dampened by President Donald Trump's remarks that a strong US dollar would hurt the US economy. As a result, combined with an improvement in Taiwan's exports and inflows of foreign capital into Taiwan's financial markets, the NT dollar appreciated against the US dollar. In June, international capital flowed out of emerging Asia because the Fed announced a rate hike and its balance sheet reduction plan, leading the NT dollar to depreciate slightly against the US dollar. Later, as market participants expected the Fed would slow down the pace of interest rate hikes and Taiwan recorded net foreign capital inflows, the NT dollar climbed to a yearly high against the US dollar on December 28. At the end of 2017, the NT dollar appreciated by 8.14% against the US dollar compared with the end of the previous year. On a daily average basis, the NT dollar appreciated against the US dollar by 6.17% in 2017.

The NT dollar against the euro appreciated in the first quarter and depreciated toward the end of 2017. Early in the year, as the ECB's QE policy remained unchanged and the UK government initiated the Brexit procedure, the euro weakened, leading the NT dollar against the euro to rise to a yearly high on April 13. Then, as the euro area economic recovery heightened market expectations of ECB tapering, the NT dollar against the euro turned to depreciate. On October 26, the ECB announced an extension to its bond-buying program, and the NT dollar appreciated slightly against the euro as a result. Later, because of the euro area's positive economic performance, the NT dollar depreciated against the euro. Compared with the end of the previous year, the NT dollar depreciated against the euro by 4.93% at the end of 2017. On a daily average basis, the NT dollar appreciated against the euro by 4.22%.

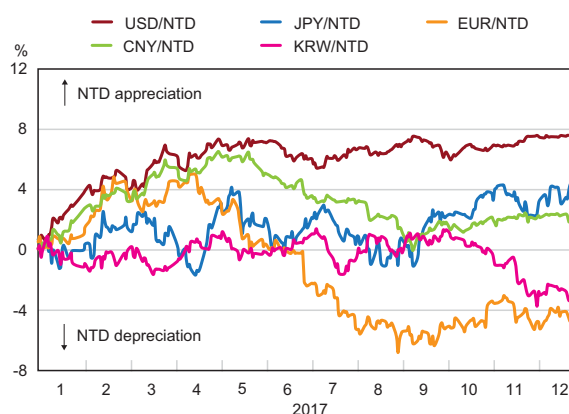
The NT dollar against the yen fluctuated and broadly appreciated in 2017. Early in the year, the yen was dampened because the BoJ decided to buy an unlimited amount of bonds at a fixed rate, and the NT dollar appreciated against the yen. In April, North Korea's missile launch caused the yen to soar on safe-haven demand, and the NT dollar against the yen hit a yearly low on April

17. After that, in addition to capital outflows amid monetary policy divergence between the US and Japan, the BoJ offered unlimited bond buying to curb rising yields, and Prime Minister Shinzo Abe's party won parliamentary elections. The developments led investors to expect that the BoJ's QE would remain unchanged, leading the NT dollar to generally appreciate against the yen. In sum, the NT dollar appreciated by 4.05% against the yen at the end of 2017 compared with the previous year end. On a daily average basis, the NT dollar appreciated against the yen by 9.46%.

The NT dollar against the RMB appreciated in the first three quarters and depreciated toward the end of 2017. Early in the year, although China's capital outflows slowed under tightened capital controls, international capital flowed into Taiwan, sending the NT dollar against the RMB to a yearly high on May 2. After that, the China Foreign Exchange Trade System (CFETS) considered introducing a "counter-cyclical factor" to the way it calculates the RMB's daily midpoint rate to dampen the market's "herd instinct," leading the NT dollar to depreciate against the RMB. Later, as another international credit rating agency downgraded China's sovereign credit rating, and the People's Bank of China (PBoC) conducted reverse repurchase agreements, the NT dollar strengthened against the RMB. Overall, the NT dollar appreciated against the RMB by 1.34% between end-2016 and end-2017. On a daily average basis, the NT dollar appreciated by 8.00% against the RMB when compared with the previous year.

In 2017, the NT dollar against the Korean won fluctuated and broadly depreciated. Owing to tensions on the Korean Peninsula, the NT dollar against the won fluctuated in the first three quarters. During the fourth quarter,

**Percent Changes of NT Dollar Against Major Currencies**  
( Compared with End-2016 )



Source: Department of Economic Research, CBC.

**Annual Changes of NTD Exchange Rate Against Major Currencies**

	NTD/USD	NTD/EUR	NTD/JPY	NTD/CNY	NTD/KRW
Exchange Rate (2017/12/29)	29.848	35.674	0.2649	4.5835	0.0279
Exchange Rate (2016/12/30)	32.279	33.917	0.2757	4.6448	0.0268
Annual Change	8.14%	-4.93%	4.05%	1.34%	-3.81%
Average Exchange Rate (2017)	30.439	34.302	0.2714	4.5037	0.0269
Average Exchange Rate (2016)	32.318	35.749	0.2971	4.8639	0.0278
Annual Change	6.17%	4.22%	9.46%	8.00%	3.43%

Source: Department of Economic Research, CBC.

bright economic prospects of South Korea and easing tensions on the Korean Peninsula led the NT dollar against the won to a yearly low on December 29. Compared with the end of 2016, the NT dollar depreciated by 3.81% against the won at the end of 2017. On a daily average basis, the NT dollar appreciated by 3.43% against the won in 2017.

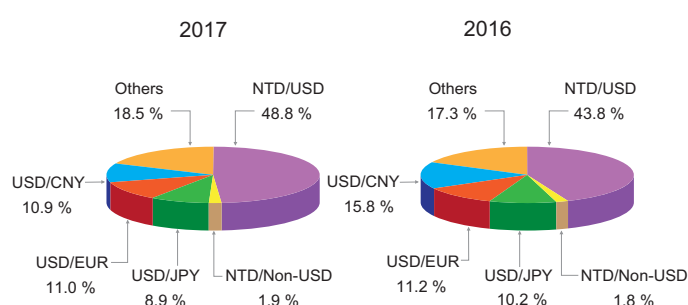
### Lower Turnover in Foreign Exchange Market

Trading in the Taipei foreign exchange market decreased in 2017. Total net trading volume for the year was US\$7,098.8 billion, representing a 0.2% year-on-year decrease. The daily average turnover was US\$28.6 billion in 2017.

In terms of trading partners, transactions between banks and non-bank customers accounted for 32.2% of the total turnover, while interbank transactions made up 67.8%, including 24.5% for transactions among local banks and 43.4% for those between local banks and overseas banks.

As far as traded currencies were concerned, NT dollar trading against foreign currencies accounted for 50.7% of the total trading volume, of which trading against the US dollar (USD) made up a dominant 48.8%. Transactions in third currencies contributed to 49.3% of the total trading volume, with trading in currency pairs of USD-euro, USD-RMB and USD-yen accounting for respective shares of 11.0%, 10.9% and 8.9%. Compared with 2016, NT dollar trading against foreign currencies increased by 11.0%. Transactions in third currencies decreased by 9.6%.

#### Composition of Foreign Exchange Transactions by Currency Pair



Source: Department of Foreign Exchange, CBC.

### Turnover of Major Products in the Taipei Foreign Exchange Market

Unit: US\$ Million

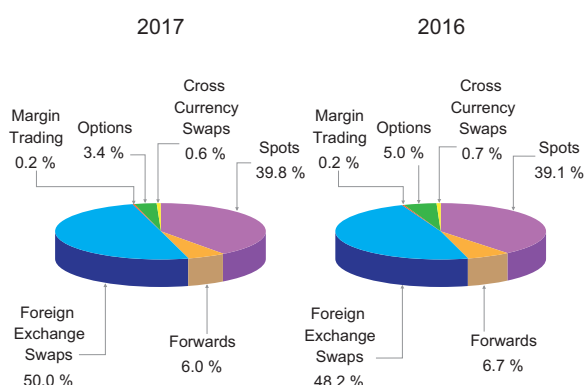
Year	Spots	Forwards	Forex Swaps	Margin Trading	Options	Cross Currency Swaps	Total
2013	2,681,798	373,006	2,991,819	21,730	1,072,740	32,983	7,174,076
2014	2,869,175	408,770	3,352,584	20,379	1,134,172	37,365	7,822,445
2015	3,405,177	475,473	3,292,799	25,055	973,082	33,023	8,204,608
2016	2,780,002	477,036	3,430,524	17,437	358,694	50,109	7,113,802
2017	2,826,236	423,119	3,550,558	12,402	242,537	43,934	7,098,786
2016-2017 Growth Rate (%)	1.7	-11.3	3.5	-28.9	-32.4	-12.3	-0.2

Source: Department of Foreign Exchange, CBC.

With respect to types of transactions, the major types were foreign exchange swaps and spots, accounting for 50.0% and 39.8% of total turnover, respectively. Compared with 2016, the trading volumes of spots and foreign exchange swaps increased, whereas those of 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\$181.6 billion. Of this amount, interest rate-related derivatives accounted for the lion's share with US\$177.8 billion, or 97.9%, with its turnover increasing markedly by 79.5% from the previous year. Interest rate futures accounted for the majority of this increase, up by US\$65.7 billion.

### Composition of Foreign Exchange Transactions by Type of Product



Source: Department of Foreign Exchange, CBC.

### Turnover of Other Products in the Taipei Foreign Exchange Market

Unit: US\$ Million

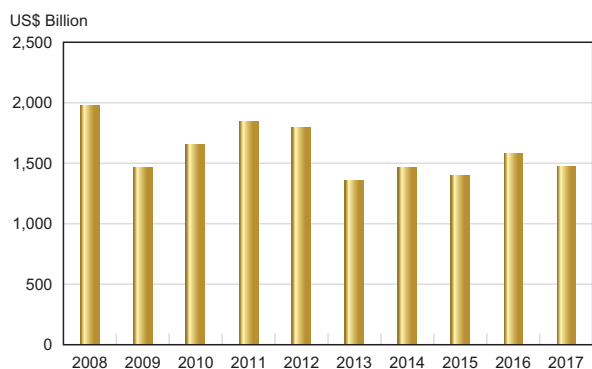
Year	Interest Rate-Related Products					Commodity-Related Products Commodity Options	Stock Index Options	Credit Derivatives	Total
	Forward Rate Agreements	Interest Rate Swaps	Interest Rate Options	Foreign Currency Interest Rate Futures	Subtotal				
2013	523	37,042	3,040	115,636	156,240	5,488	1,758	1,517	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
2017	0	49,453	11,412	116,911	177,776	2,802	121	857	181,556
2016-2017 Growth Rate (%)	-100.0	17.9	98.7	128.2	79.5	-8.2	-16.5	-8.2	76.0

Source: Department of Foreign Exchange, CBC.

### Decrease in Trading in Foreign Currency Call Loan Market

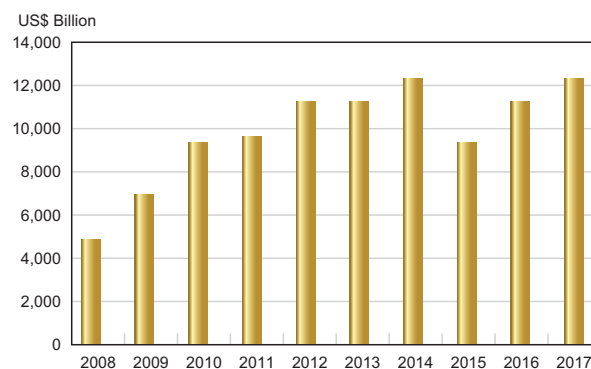
The transaction volume in the foreign currency call loan market in 2017 was US\$1,484.9 billion, a decrease of 6.8% over the previous year. Of this amount, US dollar transactions accounted for a dominant share with US\$1,376.4 billion, making up 92.7% of the total while decreasing by 8.7% from 2016. RMB transactions reached RMB655.0 billion in 2017, a share of 6.6% of the total with a year-on-year increase of 32.3% in volume. Japanese yen transactions reached ¥531.5 billion in 2017, a

### Transactions in the Taipei Foreign Currency Call Loan Market



Source: Department of Foreign Exchange, CBC.

### Transactions in the Foreign Currency Swap Market



Source: Department of Foreign Exchange, CBC.

small share of 0.3% of the total with a year-on-year rise of 33.5% in volume. The amount of euro transactions amounted to €0.4 billion, a modest share of 0.03%. Other currencies accounted for a combined 0.37% of the total transaction volume. The balance of foreign currency call loan transactions at the end of 2017 was US\$42.4 billion.

The volume of foreign currency-NTD swap transactions reached US\$1,241.4 billion, 9.8% more than 2016, while the balance was US\$237.8 billion at the end of 2017.

### Growing Assets of Offshore Banking Units

There were 61 offshore banking units (OBUs) at the end of 2017. Domestic banks operate 38 of these OBUs, while foreign banks run the other 23. The total assets of all OBUs increased to US\$203.0 billion at the end of the year, representing an increase of US\$26.5 billion or 15.0% from the previous year end owing to increasing securities investments. Domestic OBUs made up 88.0% of these combined assets with an amount of US\$178.7 billion, and the OBUs of foreign banks accounted for US\$24.3 billion, a 12.0% share of the total.

In terms of the uses of funds, discounts and loans, at US\$80.7 billion, represented the majority share of 39.8% of total OBU assets. Securities investments came in second place, accounting for 26.6% of total OBU assets. In terms of the destination for funds, Asia accounted for the majority with 54.0%, followed by America at 30.0%.

The OBUs' main source of funds was interbank transactions, making up 45.3% of total liabilities. Furthermore, deposits of non-financial institutions accounted for 38.0% of total liabilities. The main funding origin of OBUs was Asia, accounting for the majority with 65.0%, and America, with a share of 24.0%.

Forex trading turnover of all OBUs dropped by 17.6% to US\$563.4 billion, of which US\$359.7 billion went for spot transactions, US\$79.0 billion for forward transactions and US\$124.7 billion for forex swap transactions. Compared with the previous year, the growth rates of trading of spots, forwards and forex swaps were -24.5%, -22.1%, and 18.0%, respectively.

For OBUs, the total turnover of other derivatives products shrank to US\$278.5 billion, a decrease of 11.2% over the previous year. Of this amount, currency options transactions registered US\$126.9 billion, making up 45.6% 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
2013	80,869	22,019	42,853	22,225	167,966	51,191	98,527	351	17,896
2014	87,849	22,066	43,518	26,379	179,811	57,818	97,509	338	24,146
2015	81,198	29,547	43,932	18,388	173,065	66,137	88,228	0	18,700
2016	77,236	42,803	44,929	11,467	176,435	72,245	86,865	0	17,326
2017	81,074	53,819	58,336	9,717	202,946	77,144	106,712	0	19,090
2016-2017 Growth Rate (%)	5.0	25.7	29.8	-15.3	15.0	6.8	22.8	0.0	10.2

Source: Financial Statistics Monthly, CBC.