

## 4. Foreign Exchange Market

### The NT Dollar Exchange Rate

In 2018, on a daily average basis, the NT dollar appreciated slightly against the US dollar but depreciated against the euro, the Korean won, the renminbi (RMB) and the Japanese yen. The trade-weighted nominal effective exchange rate index of the NT dollar decreased by 0.60% 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.

At the beginning of 2018, the US dollar was dampened by the US Treasury Secretary's remarks that a weak US dollar would benefit the US economy. As a result, the NT dollar appreciated against the US dollar. In April, because of the US-China trade conflict and rising US government bond yields, the NT dollar depreciated against the US dollar. Later, the US and China imposed fresh tariffs on each other's exports. The flare-up in US-China trade tensions caused international capital to flow out of emerging Asia, leading the NT dollar to depreciate against the US dollar and to fall to a yearly low on October 11. At the end of 2018, the NT dollar depreciated by 2.88% 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 0.94% in 2018.

At the beginning of 2018, the NT dollar depreciated against the euro as the euro area's update on 2017 GDP growth data pointed to the fastest expansion in a decade. Later, owing to the euro area's weaker-than-anticipated economic performance and political unrest in Italy, market participants expected the ECB would postpone its policy rate hikes, leading to euro weakness, and therefore the NT dollar against the euro rose to a yearly high on May 29. In the second half of 2018, the euro was dampened by Turkey's currency crisis, Italy's budget issue, and Brexit uncertainty, making the NT dollar against the euro fluctuate and broadly appreciate. Compared with the end of the previous year, the NT dollar appreciated against the euro by 1.34% at the end of 2018. On a daily average basis, the NT dollar depreciated against the euro by 3.63%.

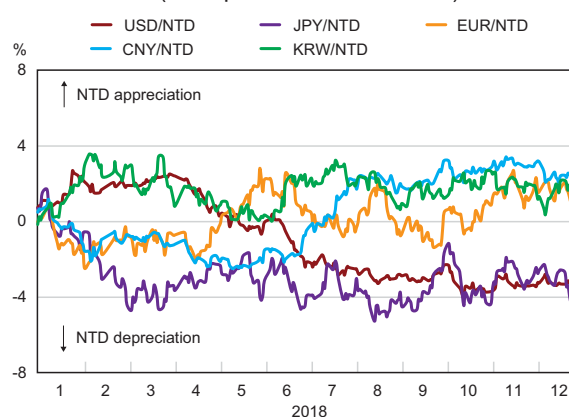
In 2018, the NT dollar depreciated against the yen in the first quarter and fluctuated in the following three quarters. Early in the year, the BoJ announced it would taper bond purchases and start thinking about how to exit its massive monetary stimulus program around the fiscal year starting in April 2019. In addition to the BoJ's plan, market concerns about the US-China trade conflict drove the yen higher on safe-haven demand, sending the NT dollar against the yen to a yearly low on August 13. Late in September, the BoJ decided to keep its interest rate policy unchanged, and thus the yen weakened, leading the NT dollar against the yen to appreciate. At the end of the year, uncertainty over Brexit talks and US-China trade friction caused the yen to rebound on safe-haven

demand, and the NT dollar depreciated against the yen as a result. In sum, the NT dollar depreciated by 4.83% against the yen at the end of 2018 compared with the previous year end. On a daily average basis, the NT dollar depreciated against the yen by 0.63%.

The NT dollar against the RMB depreciated in the first half of 2018 and appreciated toward the end of the year. Early in the year, as China tightened capital controls and the People's Bank of China raised the interest rates for open market operations, the NT dollar depreciated against the RMB. In the second half of 2018, a worsening US-China trade conflict and a slowdown in Chinese economic growth combined to send the NT dollar gradually higher to hit a yearly high against the RMB on November 8. Overall, the NT dollar appreciated against the RMB by 2.40% between end-2017 and end-2018. On a daily average basis, the NT dollar depreciated by 1.19% against the RMB when compared with the previous year.

The NT dollar against the Korean won appreciated in the first quarter, depreciated in the second quarter, and generally fluctuated toward the end of the year. Owing to South Korea's capital outflows induced by its stock market slump, the NT dollar appreciated against the won and reached a yearly high on February 6. Then, won strength, bolstered by the plan of an inter-Korean summit in April, led the NT dollar to depreciate against the won. During the latter half of 2018, amid rising US-China trade tensions and the Fed's interest-rate hikes, the NT dollar against the won fluctuated. Compared with the end of 2017, the NT dollar appreciated by 1.22% against the won at the end of 2018. On a daily average basis, the NT dollar depreciated by 1.73% against the won in 2018.

**Percent Changes of NT Dollar  
Against Major Currencies**  
( Compared with End-2017 )



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 (2018/12/28)	30.733	35.203	0.2784	4.4762	0.0275
Exchange Rate (2017/12/29)	29.848	35.674	0.2649	4.5835	0.0279
Annual Change	-2.88%	1.34%	-4.83%	2.40%	1.22%
Average Exchange Rate (2018)	30.156	35.595	0.2731	4.5580	0.0274
Average Exchange Rate (2017)	30.439	34.302	0.2714	4.5037	0.0269
Annual Change	0.94%	-3.63%	-0.63%	-1.19%	-1.73%

Source: Department of Economic Research, CBC.

## Foreign Exchange Market

Trading in the Taipei foreign exchange market increased in 2018. Total net trading volume for the year was US\$7,987.6 billion, representing a 12.5% year-on-year increase. The daily average turnover was US\$32.1 billion in 2018.

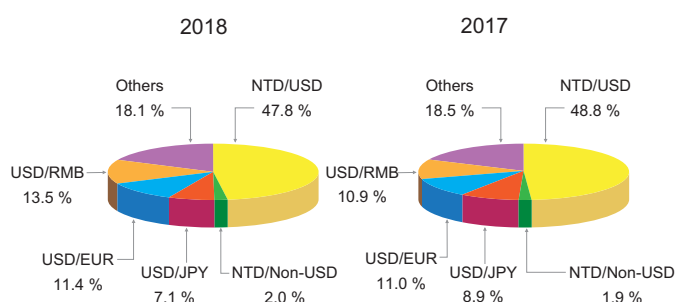
In terms of trading partners, transactions between banks and non-bank customers accounted for 31.9% of the total turnover, while interbank transactions made up 68.1%, including 24.0% for transactions among local banks and 44.1% for those between local banks and overseas banks.

As far as traded currencies were concerned, NT dollar trading against foreign currencies accounted for 49.8% of the total trading volume, of which trading against the US dollar (USD) made up a dominant 47.8%. Transactions in third currencies contributed to 50.2% of the total trading volume, with trading in currency pairs of USD-RMB, USD-euro, and USD-yen accounting for respective shares of 13.5%, 11.4%, and 7.1%.

Compared with 2017, NT dollar trading against foreign currencies increased by 10.5%. Transactions in third currencies increased by 14.6%.

With respect to types of transactions, the major types were foreign exchange swaps and spots, accounting for 50.0% and 39.0% of total turnover, respectively. Compared with 2017, the trading volume of margin trading decreased, whereas those of the other types increased.

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



Source: Department of Foreign Exchange, CBC.

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

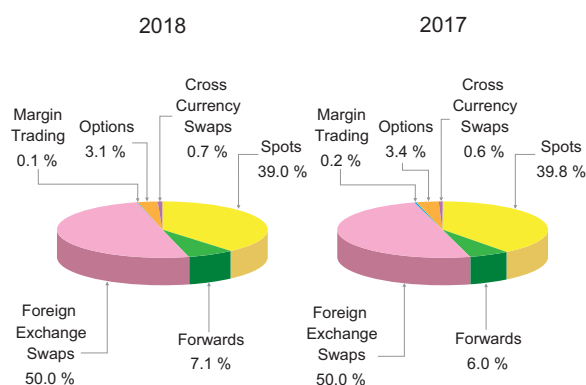
Unit: US\$ Million

Year	Spots	Forwards	Forex Swaps	Margin Trading	Options	Cross Currency Swaps	Total
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
2018	3,111,414	567,790	3,992,873	7,876	249,254	58,354	7,987,560
2017-2018 Growth Rate (%)	10.1	34.2	12.5	-36.5	2.8	32.8	12.5

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\$260.9 billion. Of this amount, interest rate-related derivatives accounted for the lion's share with US\$254.1 billion, or 97.4%, with its turnover increasing markedly by 43.0% from the previous year. Interest rate futures accounted for the majority of this increase, up by US\$32.4 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	Stock Index Options	Credit Derivatives	Total
	Forward Rate Agreements	Interest Rate Swaps	Interest Rate Options	Foreign Currency Interest Rate Futures	Subtotal	Commodity Options			
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	-	49,453	11,412	116,911	177,776	2,802	121	857	181,556
2018	-	78,848	25,974	149,310	254,132	3,524	403	2,861	260,920
2017-2018 Growth Rate (%)	-	59.4	127.6	27.7	43.0	25.8	232.9	233.7	43.7

Source: Department of Foreign Exchange, CBC.

### RMB Business

By the end of 2018, there were 66 domestic banking units (DBUs) and 58 offshore banking units (OBUs) engaging in RMB business. The balance of RMB deposits amounted to RMB298.4 billion; RMB remittances totaled RMB1,484.3 billion in 2018; RMB settlement through the Taipei Branch of the Bank of China totaled RMB4,398.6 billion.

RMB investment tools have become even more diversified during 2018. RMB investment business conducted by financial institutions as of the end of 2018 is shown in the following table.

### RMB Business Conducted by Financial Institutions

Unit: RMB Billion

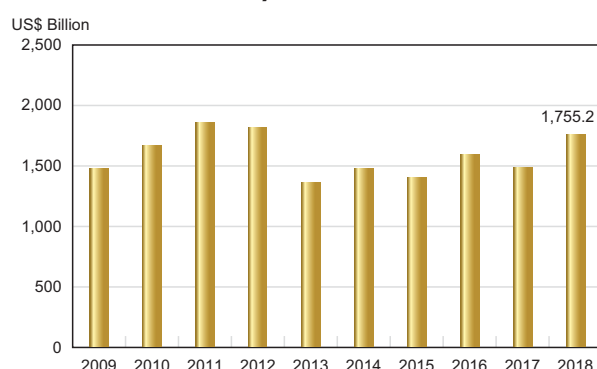
Business Items	Amount
Deposit balance (include NCDs, end of 2018)	298.4
Total remittances (February 2013 to December 2018)	9,706.3
Total settlement through the Taipei Branch of the Bank of China (February 2013 to December 2018)	23,106.2
Total value of 136 RMB-denominated bonds issued (up to the end of 2018)	93.4
Accumulated premium receipts from RMB-denominated investment-linked insurance business (up to the end of 2018)	13.6
Accumulated premium receipts from RMB-denominated traditional insurance business (up to the end of 2018)	4.2

Source: Department of Foreign Exchange, CBC.

### Foreign Currency Call Loan Market

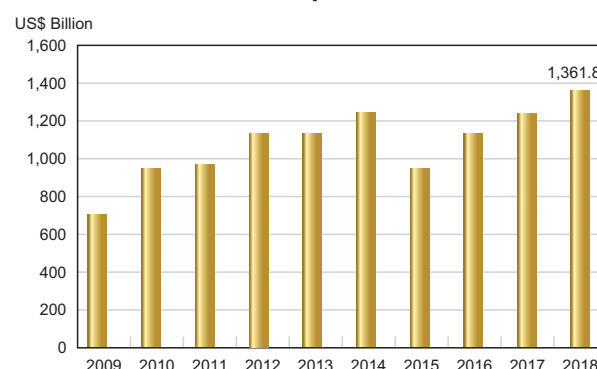
The transaction volume in the foreign currency call loan market in 2018 was US\$1,755.2 billion, an increase of 18.2% over the previous year. Of this amount, US dollar transactions accounted for a dominant share with US\$1,638.2 billion, making up 93.3% of the total while increasing by 19.0% from 2017. RMB transactions reached RMB650.2 billion in 2018, making up a share of 5.6% of the total but recording a year-on-year decrease of 0.7% in volume. Japanese yen transactions reached ¥1,197.0 billion in 2018, representing a small share of 0.6% of the total with a year-on-year rise of 125.2% in volume. The amount of euro transactions amounted to €0.6 billion, with a modest share of 0.04%. Other currencies accounted for a combined 0.46% of the total transaction volume. The balance

**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.

of foreign currency call loan transactions at the end of 2018 was US\$46.6 billion.

The volume of foreign currency-NTD swap transactions reached US\$1,361.8 billion, 9.7% more than 2017, while the balance was US\$263.9 billion at the end of 2018.

## OBU Assets

There were 60 OBUs at the end of 2018. Domestic banks operate 37 of these OBUs, while foreign banks run the other 23. The total assets of all OBUs decreased to US\$201.0 billion at the end of the year, representing a decrease of US\$2.0 billion or 1.0% from the previous year end owing to decreasing claims on financial institutions. Domestic OBUs made up 88.8% of these combined assets with an amount of US\$178.5 billion, and the OBUs of foreign banks accounted for US\$22.5 billion, or 11.2%, of the total.

In terms of the uses of funds, loans to non-financial institutions, at US\$82.2 billion, represented the majority share of 40.9% of total OBU assets. Securities investments came in second place, accounting for 29.4% 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 due to financial institutions, making up 48.1% of total liabilities and equity. Furthermore, deposits of non-financial institutions accounted for 39.2% of the total. The main funding origin of OBUs was Asia, accounting for the majority with 62.0%, followed by America, with a share of 24.0%.

Forex trading turnover of all OBUs rose by 12.9% to US\$636.2 billion, of which US\$348.6 billion went for spot transactions, US\$139.9 billion for forward transactions, and US\$147.7 billion for forex swap transactions. Compared with the previous year, the growth rates of trading of spots, forwards, and forex swaps were -3.1%, 77.2%, and 18.4%, respectively.

For OBUs, the total turnover of other derivatives products grew to US\$356.1 billion, an increase of 27.8% over the previous year. Of this amount, futures transactions registered US\$155.3 billion, making up 43.6% of the total.

## Balance Sheet of OBUs in Banking System

Unit: US\$ Million

Year/Month	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
2014/12	87,849	22,066	43,518	26,379	179,811	57,818	97,509	338	24,146
2015/12	81,198	29,547	43,932	18,388	173,065	66,137	88,228	0	18,700
2016/12	77,236	42,803	44,929	11,467	176,435	72,245	86,865	0	17,326
2017/12	81,074	53,819	58,336	9,717	202,946	77,144	106,712	0	19,090
2018/12	82,161	59,180	48,552	11,074	200,968	78,704	96,622	0	25,641
2017/12-2018/12 Growth Rate (%)	1.3	10.0	-16.8	14.0	-1.0	2.0	-9.5	0.0	34.3

Source: Financial Statistics Monthly, CBC.