

## 5. Foreign Exchange Market

### Appreciation of the NT Dollar

In 2013, the NT dollar depreciated against most major international currencies, but significantly appreciated against the yen. As a result, the trade-weighted nominal effective exchange rate index of the NT dollar, on a daily average basis, increased by 2.79 percent. The exchange rate movements of the NT dollar against the US dollar, the euro, the Japanese yen, the renminbi (RMB), and the Korean won are analyzed as follows.

Early in the year, as the US Fed continued with its quantitative easing monetary policy, international capital flowed into emerging market economies in Asia, leading the NT dollar to appreciate, and the NT\$/US\$ exchange rate soared to a yearly high of 29.039 on January 11. Hereafter, international investors expected Asian currencies to weaken in response to the Bank of Japan's aggressive monetary stimulus, dragging the NT dollar down to 30.060 on April 8. In mid-May, US labor market conditions improved and the increased possibility that the Fed may start tapering its stimulus package weakened the NT\$/US\$ exchange rate to a yearly low of 30.350 on June 24. After the Fed announced in September to maintain the pace of its bond-buying program, coupled with an unclear US economic outlook, the NT dollar rebounded to a nine-month high of 29.425 on October 23. In December, the NT dollar weakened as the market reacted to the Fed's decision to scale back its bond-buying program from US\$85 billion to US\$75 billion per month, effective in January 2014. Compared with the end of 2012, the NT dollar depreciated by 2.72 percent against the US dollar at the end of 2013. On a daily average basis, the NT\$/US\$ exchange rate depreciated by 0.52 percent in 2013.

As the euro depreciation continued into 2013, the NT dollar against the euro strengthened to a yearly high of 37.884 on January 4. Soon after the success of Spanish and Italian government bond auctions, low bond yields pushed the euro up, and the NT dollar went down. In February, the

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

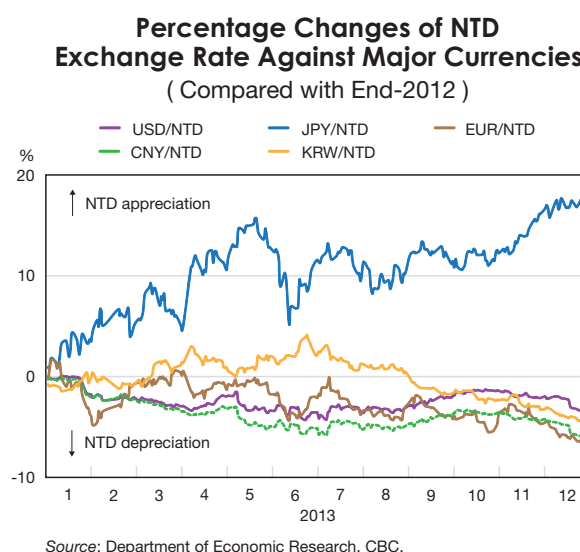
	NTD/USD	NTD/EUR	NTD/JPY	NTD/CNY	NTD/KRW
Exchange Rate (2013/12/31)	29.950	41.288	0.2853	4.9472	0.0284
Exchange Rate (2012/12/28)	29.136	38.610	0.3375	4.6741	0.0272
Percentage Change	-2.72%	-6.49%	18.31%	-5.52%	-4.10%
Average Exchange Rate (2013)	29.770	39.527	0.3050	4.8049	0.0272
Average Exchange Rate (2012)	29.614	38.050	0.3711	4.6914	0.0263
Percentage Change	-0.52%	-3.74%	21.67%	-2.36%	-3.32%

Source: Department of Economic Research, CBC.

European Union (EU) revised down the euro area's economic growth forecast, international investors worried about a relapse of the European debt crisis, dragging the euro down, and the NT dollar rebounded. Afterwards, while the EU extended the maturities of Portugal's and Ireland's loans and agreed to bail out Cyprus with the International Monetary Fund, the NT\$/€ exchange rate fluctuated between 38.277 and 40.253 from March to June. Thereafter, as economic indicators for the euro area improved more than expected, the euro was able to hold its strength, despite renewed tension in the Middle East in September and the effect of the European Central Bank's rate-cut in November. As a result, the NT\$/€ exchange rate edged down to a yearly low of 41.328 on December 27. Compared to the end of the previous year, the NT dollar depreciated against the euro by 6.49 percent. On a daily average basis, the NT dollar depreciated against the euro by 3.74 percent.

The NT dollar appreciated against the yen for the most part of the year. At the beginning of this year, the Bank of Japan (BOJ) announced a massive expansionary monetary policy package in order to resolve its chronic economic stagnation and deflation; in turn, the NT\$/¥ exchange rate soared from a yearly low of 0.334 on January 2 all the way to a period high of 0.291 on May 21. Afterwards, because the BOJ neither released new monetary stimulus measures nor boosted government bond purchases, the yen bounced back, and the NT\$/¥ exchange rate depreciated to 0.320 on June 13. From July onwards, owing to an upturn in Japan's economy, the NT\$/¥ exchange rate hovered between 0.297 and 0.311. On October 1, Japan's Prime Minister Shinzo Abe announced that the consumption tax rate would increase from April 1, 2014, leading the market to expect another BOJ policy expansion to alleviate possible backlash; consequently, the NT dollar rallied, and the NT\$/¥ exchange rate reached a yearly high of 0.285 on December 30. Between end-2012 and end-2013, the NT dollar appreciated by 18.31 percent against the yen. On a daily average basis, the NT\$/¥ exchange rate strengthened by 21.67 percent.

During 2013, the fact that Mainland China's exports and economy grew at a moderate pace, coupled with spillover effects of quantitative easing in major developed countries that induced massive foreign capital inflows, led the RMB up from a yearly low of 6.244 against the US dollar on February 19 to a period high of 6.113 on August 15, following which it fluctuated in a narrow band. In October, owing to Mainland China's widened trade surplus, the RMB further appreciated to an annual high of 6.054 against the US dollar on December 31.



The NT dollar against the RMB depreciated by 5.52 percent between end-2012 and end-2013. On a daily average basis, the NT dollar depreciated by 2.36 percent against the RMB when compared with the previous year.

In 2013, the NT dollar strengthened against the Korean won in the early half of the year, but dropped toward the year end. At first, in the context of rising tensions on the Korean Peninsula in March and April, the slowdown of South Korea's export growth in May, and a rate cut by the Bank of Korea, the NT dollar soared to a yearly high of 0.026 against the won on June 25. Thereafter, as the tremendous current account surplus and strong fiscal health of South Korea attracted foreign capital inflows, the won surged along with Korean stock indices, and the NT dollar fell to a yearly low of 0.285 against the won on December 28. Compared with the end of 2012, the NT dollar depreciated by 4.10 percent against the won at the end of 2013. On a daily average basis, the NT dollar also depreciated by 3.32 percent against the won in 2013.

### Flourishing Foreign Exchange Market

Trading in the Taipei foreign exchange market expanded in 2013. Total net trading volume for the year reached US\$7,174.1 billion, representing a growth rate of 21.7 percent. The daily average turnover was US\$28.9 billion. The increase in turnover reflects not only Taiwan's sustained growth in external trade but also the rise of hedging demands due to a greater volatility in major foreign currencies.

In terms of trading partners, transactions between banks and non-bank customers accounted for 24.8 percent of the total turnover, while interbank transactions made up 75.2 percent, including 23.7 percent for transactions among local banks and 51.5 percent for those between local banks and overseas banks.

As far as traded currencies were concerned, NT dollar trading against foreign currencies accounted for 41.1 percent of the total trading volume, of which trading against the US dollar (USD)

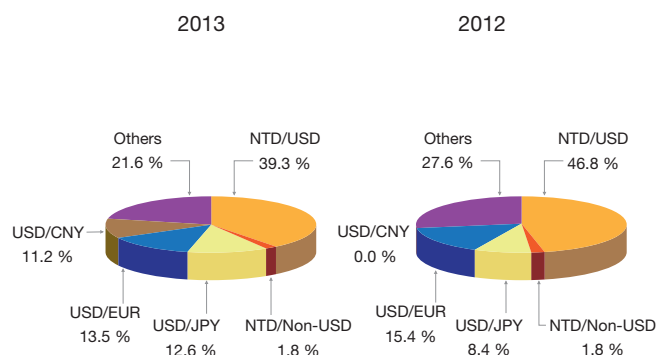
### Turnover of Major Products in the Taipei Foreign Exchange Market

Unit: US\$ Million

Year	Spots	Forwards	Forex Swaps	Margin Trading	Options	Cross Currency Swaps	Total
2009	1,841,951	283,233	1,627,020	20,809	311,353	26,927	4,111,293
2010	2,192,719	290,075	2,166,897	18,295	423,261	23,848	5,115,095
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
2012-2013 Growth Rate (%)	19.2	-8.3	16.9	11.9	70.8	6.4	21.7

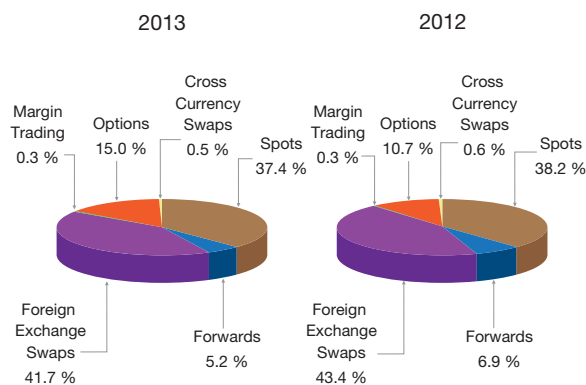
Source: Department of Foreign Exchange, CBC.

### 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.

made up a dominant 39.3 percent. Transactions in third currencies contributed to 58.9 percent of the total trading volume, with trading in currency pairs of USD-euro, USD-yen and USD-RMB accounting for respective shares of 13.5 percent, 12.6 percent and 11.2 percent. Compared with 2012, NT dollar trading against foreign currencies slightly increased by 3.0 percent, and transactions in third currencies tremendously increased by 39.5 percent. The main reasons for the latter increase were domestic banking units (DBUs) began to offer RMB business in February 2013 after the cross-strait currency clearing mechanism was established, and the US and Japan's expansionary monetary policies changed pace relative to the other, leading the US dollar-yen turnover to increase.

With respect to types of transactions, the major types were foreign exchange swaps and spots, accounting for 41.7 percent and 37.4 percent of total turnover. Compared with 2012, except for a decrease in forwards, the trading volume in the total turnover of all the other types of transactions increased.

### 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			
2009	5,715	469,003	4,999	208,566	688,283	18,360	51	3,312	710,006
2010	842	125,541	6,043	392,368	524,794	18,060	105	10,126	553,085
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
2012-2013 Growth Rate (%)	-51.1	-28.6	-29.6	-18.7	-21.7	-64.5	84.2	-32.4	-24.4

Source: Department of Foreign Exchange, CBC.

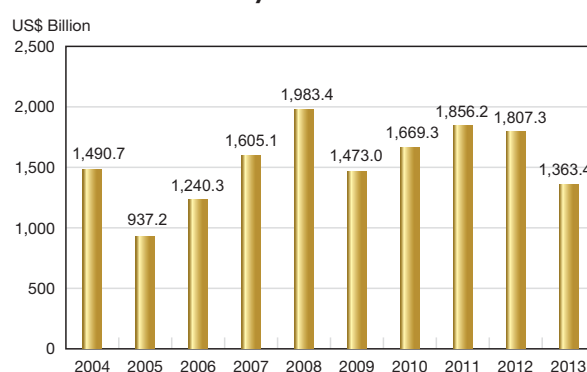
In 2013, the total turnover of forwards, swaps, and options based on foreign currency interest rates, stock price indices, commodity prices, and credit derivatives amounted to US\$165.0 billion. Of this amount, interest rate-related derivatives accounted for the lion's share with US\$156.2 billion, or 94.7 percent, with a negative annual growth rate of 21.7 percent. Interest rate futures accounted for the majority of this decline, with a decrease of US\$26.7 billion. The main reason was that most countries maintained a low interest rate environment, causing investor enthusiasm to cool on account of the contracted volatility of market interest rates.

### Shrunk Trading in Foreign Currency Call Loan Market

The transaction volume in the foreign currency call loan market in 2013 was US\$1,363.4 billion, a decline of 24.6 percent over the previous year. Of this amount, US dollar transactions accounted for a dominant share with US\$1,334.0 billion, making up 97.8 percent of the total while decreasing 25.6 percent from 2012. The decrease was mainly because banks accepted plenty of foreign currency deposits, plus they raised long-term funds in response to Fed's QE tapering, thus reducing their demand for foreign currency call loans. Japanese yen transactions reached ¥1,311.6 billion in 2013, a small share of 1.0

percent of the total despite an increase of 50.5 percent in the volume compared to the previous year. The amount of euro transactions totaled €0.6 billion, a share of less than 0.1 percent. Other currencies accounted for 1.1 percent of the total transaction volume.

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



Source: Department of Foreign Exchange, CBC.

### Slight Reduction in Assets of Offshore Banking Units

There were 63 offshore banking units (OBUs) at the end of 2013. Domestic banks operate 38 of these OBUs, while foreign banks run the other 25. The total assets of all OBUs decreased to US\$169.6 billion at the end of the year, representing a decrease of US\$1.3 billion or 0.8 percent from the previous year end. Domestic OBUs made up 83.6 percent of these combined assets with an amount of US\$141.8 billion, and the OBUs of foreign banks accounted for US\$27.8 billion, or 16.4 percent of the total.

In terms of the uses of funds, loans to non-financial institutions, at US\$80.0 billion, represented the majority share of 47.2 percent of OBU total assets, mainly because many Taiwanese firms in Mainland China raised funds from the OBUs. Claims on financial institutions came in second place,

accounting for 14.5 percent of total OBU assets. In terms of the destination for funds, Asia accounted for the majority with 60.0 percent, followed by America at 27.0 percent.

The OBUs' main source of funds were interbank transactions, making up 44.5 percent of total liabilities. Furthermore, deposits of non-financial institutions rose sharply, accounting for 30.2 percent of total liabilities. Being the main funding resource of overseas Taiwanese firms, 65.0 percent of the OBUs' funds came from Asia and 21.0 percent from America.

Owing to the increased variety of RMB-related business, forex trading turnover of all OBUs in 2013 rose by 26.6 percent and registered US\$476.2 billion, of which US\$269.7 billion went for spot transactions, US\$118.9 billion for foreign exchange swap transactions and US\$87.6 billion for forward transactions. Compared with the previous year, the growth rates of the trading of spots and foreign exchange swaps were 39.4 percent and 42.7 percent, respectively, while the trading of forwards decreased 11.8 percent.

The total turnover of other derivatives products grew rapidly, amounting to US\$1,233.0 billion, 195.6 percent higher than 2012. Of this amount, currency options and RMB options transactions registered US\$974.1 billion, nearly fourfold the volume of the previous year.

### 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
2009	29,988	13,757	43,954	7,352	95,051	32,493	54,070	352	8,136
2010	40,752	15,952	55,878	10,348	122,930	35,587	75,270	364	11,709
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
2012-2013 Growth Rate (%)	17.9	20.7	-26.1	-6.3	-0.8	16.1	-0.3	-3.6	-31.3

Source: Financial Statistics Monthly, CBC.