

Financial Developments

II. Financial Developments

1. Overview

In 2021, the domestic economy continued to rebound in the first half of the year and corporate demand for funds was strong, leading to faster growth in loans and investments of banks. As a result, for the year as a whole, the annual growth rate of the monetary aggregate M2 rose.

The Bank's policy rates remained unchanged and deposit rates and the base lending rate offered by banks stayed steady, while the weighted average interest rate on deposits and the rate on loans slightly moved downward. Owing to ample market liquidity, the interbank overnight call loan rate remained stable; bills market rates and the average 10-year government bond yield declined over the previous year, albeit with a mid-year rebound.

In regard to the exchange rate, as the Fed maintained an easy monetary policy stance in the first half of the year and Taiwan's exports showed robust growth, the NT dollar largely held strong against the US dollar. At the end of 2021, the NT dollar appreciated against the US dollar compared with a year earlier; on a daily average basis, the NT dollar also appreciated against the US dollar in 2021 compared with the previous year.

In the stock market, the Taiwan Stock Exchange Capitalization Weighted Stock Index, the TAIEX, swung up to a historical high before the end of the year. The daily average transaction value also hit a record high in 2021.

M2 and Bank Loans and Investments Grew Faster

The annual growth rate of bank loans and investments increased from 6.79% at the end of 2020 to 8.39% at the end of 2021. The increase was due to enterprises' stronger demand for funds as economic growth continued to pick up throughout the year. With faster growth in bank loans and investments boosting demand for money, the monetary aggregate M2 (measured on a daily average basis) recorded an annual growth rate of 8.72% in 2021. This was higher than the 5.84% registered in 2020 while also exceeded the Bank's 2.5% to 6.5% reference range for the year.

Both Deposit and Loan Rates Declined

The Bank's policy rates remained unchanged and, as a result, the posted interest rates on deposits of banks stayed steady. At the end of 2021, the average fixed rate on one-year time deposits of the five major domestic banks was 0.77%, the same as a year earlier, and their average base lending rate was 2.442%, also the same as the year before. Meanwhile, the weighted average

rate on their newly-extended loans was 1.200% in 2021, declining by 0.073 percentage points over the previous year.

For domestic banks as a whole, the weighted average interest rate on deposits was 0.36%, declining by 0.09 percentage points over the previous year. The reasons for the decline included some funds shifted from higher-rate time deposits to lower-rate demand deposits, lower interest rates were applied to maturing time deposits at renewal, and some banks reduced their posted deposit rates. Meanwhile, the weighted average interest rate on loans was 1.60%, declining by 0.08 percentage points owing to an increase in low-interest loans to local governments and interest rate cuts on loans by some banks to boost lending business.

Bills Market Rates Went Up After Declining

As the Bank continued to conduct open market operations to maintain market liquidity at an appropriate, easy level in 2021, the weighted average overnight call loan rate was steady between 0.079% and 0.082% during the first eight months of the year. It slightly increased to 0.086% in September owing to greater demand for funds during the Mid-Autumn Festival holidays as well as an end-of-quarter effect, and stayed between 0.082% and 0.083% for the rest of the year. With regard to the bills market, money market rates first declined and then went up during the year, while their yearly average rates were all lower than those of the previous year amid ample market liquidity. The average 1-30 day commercial paper rate in the secondary market was 0.22% in 2021, declining by 0.12 percentage points over the previous year.

10-Year Government Bond Yield Came Lower than Last Year, Albeit with a Broad Uptrend

In 2021, higher inflation led the yields on US government bonds to increase, while the yields on Taiwanese government bonds did not rise as sharply thanks to ample market liquidity. The turnover-weighted average of the yield on the benchmark 10-year government bond declined by five basis points over the previous year as transaction in the secondary government bond market showed a downtrend in the recent years. However, government bond yields broadly went up during the year. In terms of issuance, as the Central Government Debt Service Fund renewed maturing government bonds and increased issuance to meet budget needs, the total amount of government bonds increased by NT\$82.0 billion over the previous year.

NT Dollar Held Strong and Average Exchange Rate Appreciated

In 2021, the NT dollar exchange rate against the US dollar broadly appreciated. At the beginning of the year, the NT dollar appreciated against the US dollar on the back of the Fed's continuous easing and Taiwan's robust export growth. In March, the NT dollar weakened against the US dollar following US President Biden's signing of the US\$1.9 trillion relief package and market

optimism of a US economic recovery. In April, the NT dollar appreciated against the US dollar because the Fed reiterated its easy monetary policy stance and continued to dismiss inflation risks as transitory. In the second half of the year, persistently higher inflation led most Fed officials to predict an earlier rate hike, and the Fed decided in late September to begin tapering by the end of the year, bolstering the US dollar and thus weakening the NT dollar. From late October onwards, the NT dollar appreciated against the US dollar owing to continuous net selling of the US dollar by local exporters. At the end of 2021, the NT dollar appreciated by 2.95% year on year against the US dollar. On a daily average basis, the NT dollar appreciated against the US dollar by 5.55% in 2021.

Stock Index and Turnover Hit Historical Highs

In 2021, the TAIEX generally swung upwards. During the months of May, July to August, and September to October, the TAIEX declined significantly owing to domestic COVID-19 outbreaks, deferred policy decision related to the day trading tax cut, the Evergrande default crisis and tighter energy controls in China, and inflation and debt ceiling concerns in the US. For the other months, however, it was supported by factors including domestic infections coming under control, US stock indices renewing record highs, and Taiwan's listed companies reporting good earnings and exports showing strength. Therefore, the TAIEX went on an uptrend from the yearly low at the beginning of the year to an all-time high of 18,248 points on December 29. The TAIEX stood at 18,219 points at the end of the year, increasing by 23.7% compared with a year earlier. The daily average transaction value reached a record amount of NT\$378.2 billion with a significant increase of 103.0% over the previous year.

2. Banking Sector

Number of Monetary Financial Institutions

At the end of 2021, the number of monetary financial institutions (defined hereafter in this chapter as excluding the central bank) increased to 404. The number of domestic banks increased by one with the opening of LINE Bank. The number of foreign and Mainland Chinese banks increased by one as PT Bank Rakyat Indonesia (Persero) Tbk. set up its branch in Taiwan. As for money market mutual funds, the number remained zero after the last remaining fund was liquidated in May 2017. The numbers of the other types of monetary financial institutions all stood unchanged.

In addition to monetary financial institutions, the number of financial holding companies was 16, the same as 2020.

Number of Monetary Financial Institutions by Type

Types of Institutions	End of 2021	End of 2020	Annual Change
Total Number of Main Offices	404	402	2
Domestic Banks	39	38	1
Foreign and Mainland Chinese Banks	30	29	1
Credit Cooperatives	23	23	0
Credit Departments of Farmers' and Fishermen's Associations	311	311	0
Chunghwa Post	1	1	0
Total Number of Branches	6,098	6,090	8
Local Branches	5,887	5,885	2
Overseas Branches	152	146	6
Offshore Banking Units	59	59	0

Sources: 1. *Financial Statistics Monthly* (February 2022), CBC.
2. Department of Financial Inspection, CBC.

Market Shares of Deposits and Loans

At the end of 2021, domestic banks maintained a dominant role in the deposit market, with the market share rising further to 80.55%. Such a phenomenon was primarily due to a more sizeable increase in the deposits of domestic banks, resulting from continued credit growth and ample market liquidity, as well as inward remittances of firms' overseas sales revenues. By contrast, the deposit market shares shrank for most of the other types of monetary institutions, with the departments of savings and remittances of Chunghwa Post taking up a share of 12.56%, the credit departments of farmers' and fishermen's associations 4.08%, credit cooperatives 1.52%, and branches of foreign and Mainland Chinese banks 1.29%.

In terms of loans, the market share of domestic banks rose to 90.53%, owing to stronger funding needs of enterprises fueled by the global economic recovery and Taiwan's robust exports, along with sustained growth in the housing market. Furthermore, public enterprises increased borrowing from domestic banks to facilitate their efforts in line with the national energy transition plan. In contrast, foreign and Mainland Chinese banks' market share declined to 3.99%. For the other institution types, Chunghwa Post's market share remained at 0.02%. For

credit departments of farmers' and fishermen's associations and credit cooperatives, which tend to have higher lending rates, their market shares continued to drop to 3.80% and 1.66%, respectively.

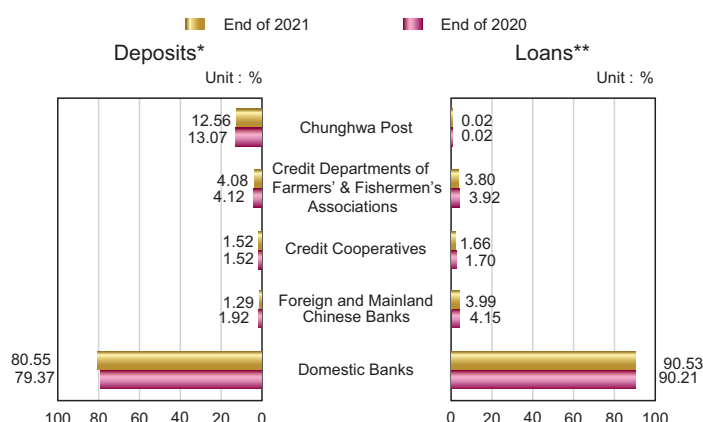
Main Sources and Uses of Funds in Monetary Financial Institutions

At the end of 2021, the total amount of funds in monetary financial institutions was NT\$60,130 billion, increasing by NT\$3,748 billion compared to the end of 2020. The combined share of transaction and nontransaction deposits was around 85%. Against a backdrop of abundant market liquidity, the balances of transaction deposits and nontransaction deposits kept growing, posting annual growth rates of 11.92% and 4.30%, respectively.

In the case of fund uses, bank loans still accounted for over 50% of total uses of funds at the end of 2021. Owing to strong export growth bolstered by a global economic upturn as well as an increasing funding need among public and private enterprises, the year-end loan balance of monetary financial institutions expanded by 7.99%, or NT\$ 2,479 billion, over the previous year end, picking up to a rate faster than the 7.18% of 2020. As for net foreign assets, owing to active deposit absorption by their overseas branches, the foreign liabilities of monetary financial institutions increased, causing the annual growth rate of net foreign assets to fall sharply from 23.87% at the end of the previous year to 0.96%.

Portfolio investments by monetary financial institutions measured on a cost basis showed an annual growth rate of 10.66% in 2021. As for banks' purchases of certificates of deposit issued by the central bank, its annual growth rate decreased significantly from 16.60% at the end of the previous year to 3.59%, but its share of funds used remained stable at about 16%.

Market Shares of Deposits and Loans by Category of Monetary Financial Institutions



Notes: * Excluding the values of the host contracts of structured products issued by banks.

** Including data for securities acquired under reverse repurchase agreements.

Source: *Financial Statistics Monthly* (February 2022), CBC.

Main Sources and Uses of Funds in Monetary Financial Institutions¹

Unit: NT\$ billion

	End of 2021			End of 2020			Annual Change	
	Amount	Share (%)	Annual Growth Rate (%)	Amount	Share (%)	Annual Growth Rate (%)	Amount	Share (%)
Sources:								
Transaction Deposits ²	22,318	37.12	11.92	19,940	35.37	17.67	2,378	1.75
Nontransaction Deposits ³	28,902	48.07	4.30	27,710	49.14	5.17	1,192	-1.07
NT Dollar Deposits	21,495	35.75	2.29	21,015	37.27	1.05	480	-1.52
Foreign Currency Deposits ⁴	7,407	12.32	10.63	6,695	11.87	20.63	712	0.45
Government Deposits	1,285	2.14	13.22	1,135	2.01	6.18	150	0.13
Other Items	7,625	12.67	0.36	7,597	13.48	10.19	28	-0.81
Total	60,130	100.00	6.65	56,382	100.00	10.00	3,748	0.00
Uses:								
Net Foreign Assets ⁴	5,174	8.60	0.96	5,125	9.09	23.87	49	-0.49
Loans	33,492	55.70	7.99	31,013	55.00	7.18	2,479	0.70
NT Dollar Loans	32,415	53.91	7.96	30,026	53.25	6.99	2,389	0.66
Foreign Currency Loans ⁴	1,077	1.79	9.10	987	1.75	13.23	90	0.04
Portfolio Investments ⁵	7,508	12.49	10.66	6,784	12.03	5.81	723	0.46
Purchases of CDs Issued by CBC	9,391	15.62	3.59	9,065	16.08	16.60	326	-0.46
Deposits with CBC	4,565	7.59	3.87	4,395	7.80	9.92	170	-0.21

Notes: 1. Monetary Financial Institutions include Domestic Banks, Local Branches of Foreign and Mainland Chinese Banks, Credit Cooperatives, Credit Departments of Farmers' and Fishermen's Associations, Chunghwa Post and Money Market Mutual Funds.

2. Including checking accounts, passbook deposits and passbook savings deposits.

3. Including time deposits, time savings deposits, foreign currency deposits, postal savings deposits, non-residents' NT dollar deposits, repurchase agreements and money market mutual funds.

4. Excluding valuation changes in the exchange rate of the NT dollar against foreign currencies.

5. Measured at original costs.

Source: Financial Statistics Monthly (February 2022), CBC.

Deposits

Because of the continued growth in domestic credit, an abundance of market capital, and the inward remittances of overseas sales revenues by some companies, as of year-end 2021, the deposit balance of monetary financial institutions was NT\$52.5 trillion, an increase of NT\$3.5 trillion compared with the previous year end. However, because of a year-on-year increase in net resident capital outflow and a higher base effect, the annual growth rate of deposits decreased from 9.22% at year-end 2020 to 7.19% at year-end 2021.

In terms of transaction deposits, its annual growth rate decreased from 17.67% at year-end 2020 to 11.92% at year-end 2021 because of a slowdown in the growth of passbook savings deposits.

The aforementioned slowdown was partly due to a higher comparison base in 2020 as many people opted to keep money in more-liquid forms of accounts such as passbook savings deposits in view of the pandemic's impact. Moreover, in 2021, there was a decrease in the balance of securities giro accounts as Taiwan's stock market was dampened by a domestic COVID-19 flare-up, the Evergrande default crisis and China's energy control tightening, and market fears of elevated

US inflation. These developments combined to slow down the growth in passbook savings deposits.

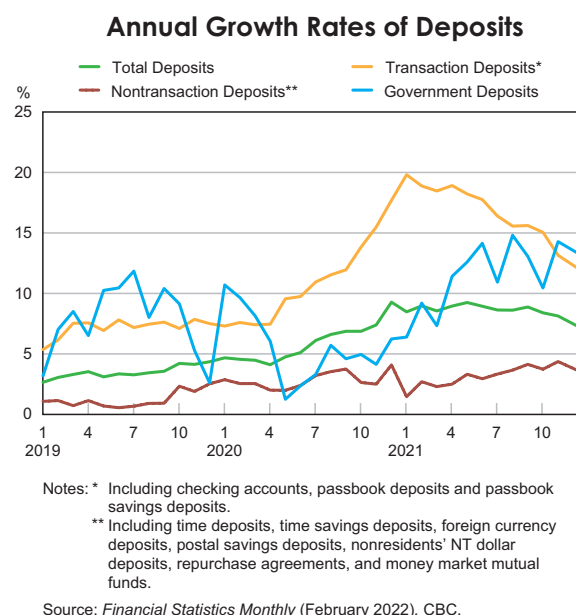
Although the annual growth rate decreased, transaction deposits as a share of total deposits increased to 42.51% at the end of 2021.

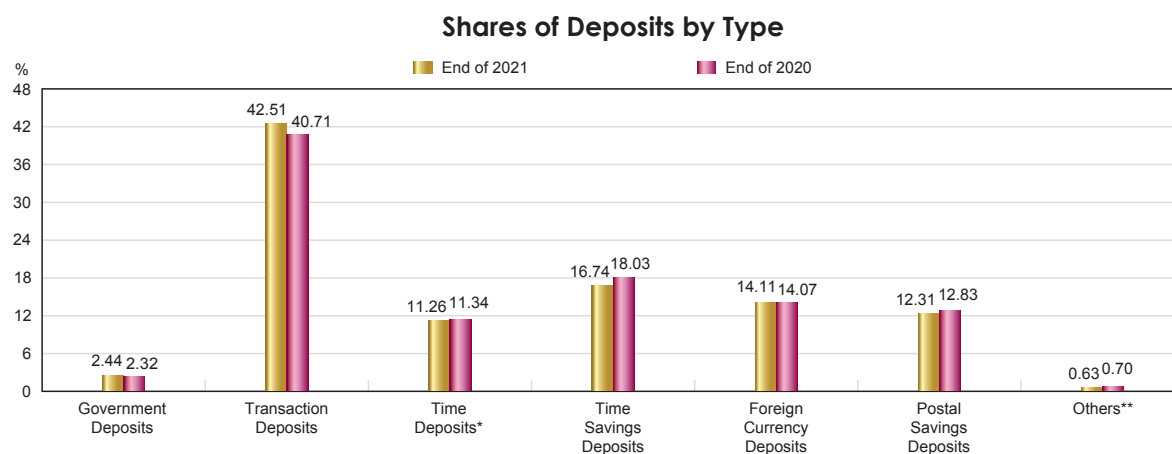
In terms of nontransaction deposits, its annual growth rate decreased from 4.01% at year-end 2020 to 3.56% at year-end 2021 because the growth of foreign currency deposits in 2021 was less than that in 2020. Its share in total deposits also shrank from 56.97% at year-end 2020 to 55.05% at year-end 2021.

The annual growth rate of foreign currency deposits showed a significant decrease in the first half of the year owing to an increase in overseas investment by residents and pension funds, as well as the paying off of foreign loans by some companies. By contrast, the annual growth rate increased slightly in the second half of 2021 owing to an increase in inward remittances of overseas sales revenues. At the end of 2021, the annual growth rate of foreign currency deposits decreased from 14.23% the year before to 7.46%, whereas foreign currency deposits as a share of total deposits grew from 14.07% a year ago to 14.11%.

In 2021, the annual growth rate of time deposits (including negotiable certificates of deposit) increased and then decreased. In the beginning of the year, the amount of pension funds saved as time deposits increased; during mid-2021, many companies delayed cash dividend payments as shareholders' meetings were postponed amid the domestic COVID-19 flare-up and saved the money temporarily as time deposits. As a result, the annual growth rate of time deposits reached a peak of 11.47% in August. Later, as companies began to pay their cash dividends and a financial holding company used the funds in its time deposits to purchase the shares of a life insurance company, the annual growth rate of time deposits slightly decreased. At the end of 2021, time deposits grew faster year-on-year from the previous year's 5.62% to 6.42%, whereas its share in total deposits shrank from 11.34% at year-end 2020 to 11.26% at year-end 2021.

The annual growth rate of time savings deposits continued to decrease in 2021 but at a slower pace. The decrease slowed primarily because of an expansion in 2021 from pension funds moving a part of their money into time savings deposits based on fund scheduling strategies, as well as a lower





Notes: * Including NCDs.

** Including repurchase agreements, nonresidents' NTD deposits and money market mutual funds.

Source: *Financial Statistics Monthly* (February 2022), CBC.

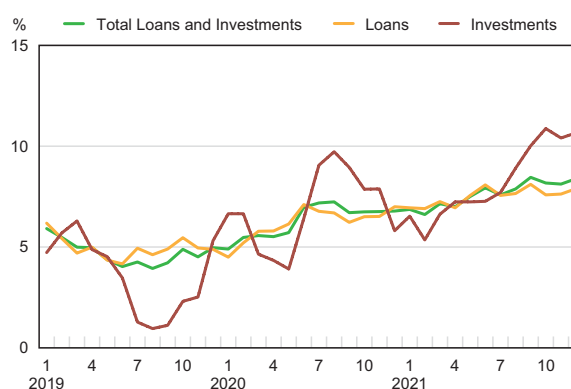
comparison base in 2020 when many savers chose to park their money in highly-liquid passbook savings deposits amid the pandemic as a precaution. Consequently, the annual growth rate of time savings deposits rose from -2.31% the previous year to -0.45%. Regarding postal savings, their annual growth rate increased from 2.00% at year-end 2020 to 2.85% at year-end 2021. At the end of 2021, time savings and postal savings as a share of total deposits decreased from the previous year's 18.03% to 16.74%, and from 12.83% to 12.31%, respectively.

With regard to government deposits, several factors contributed to a broad upswing. Because of an increased public need for relief packages during a domestic pandemic flare-up, the total amount of government bonds issued was higher than that of the previous year. Furthermore, revenue from profit-seeking enterprise income tax and from securities transaction tax both increased significantly, as the provisional tax payment exempted in 2020 as a pandemic relief measure was included by companies in their 2021 payment and transactions in the stock market surged on the back of robust earnings of listed companies. As a result, the annual growth rate of government deposits broadly trended upwards, reaching 13.22% at the end of the year from the 6.18% one year before. Government deposits as a share of total deposits also grew from 2.32% to 2.44%.

Bank Loans and Investments

The annual growth rate of loans and investments of monetary financial institutions was 8.39% at the end of 2021, up from 6.79% at the end of 2020. Growth in loans increased to an annual pace of 7.89% at the end of

Annual Growth Rates of Loans and Investments



Source: *Financial Statistics Monthly* (February 2022), CBC.

2021 from 7.00% at the end of the previous year, while growth in portfolio investment accelerated to 10.66% at the end of 2021 from 5.81% a year earlier.

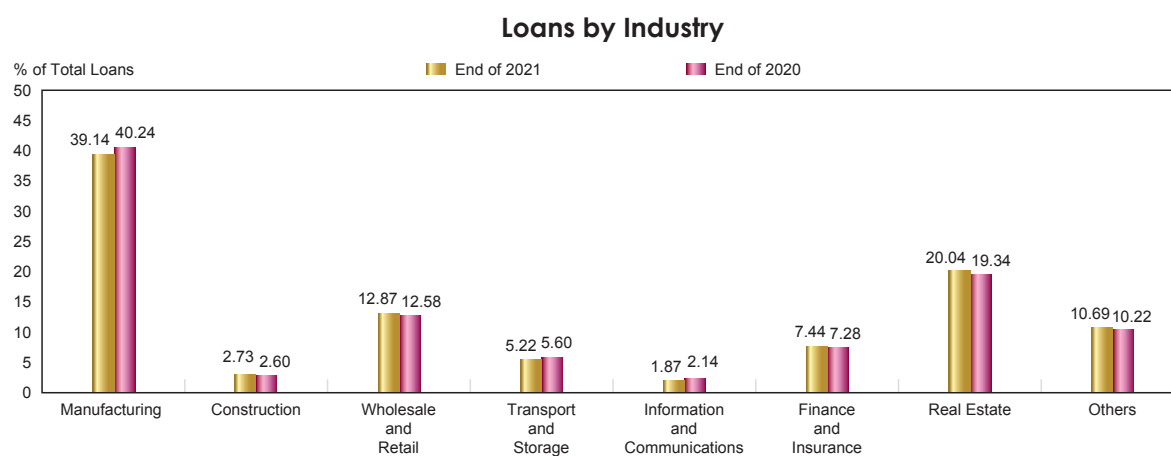
Loans by Sector

The annual growth rate of private sector loans extended by banks (defined in the following paragraphs as including domestic banks and local branches of foreign and Mainland Chinese banks) climbed to 8.27% at the end of 2021 from 7.70% a year earlier. The upturn was mainly due to strong exports and sustained growth in housing loans. The annual growth rate of loans to government enterprises recorded a surge of 27.00% at the end of 2021, a sharp upturn from the 22.38% decline at the end of 2020, as Taiwan Power Company and CPC Corporation increased borrowing from banks to finance energy transition. In contrast, the annual growth rate of loans to government agencies slid from 9.94% to 1.92% at the end of 2021, as the government collected more tax revenues and issued more bonds, leading to a reduction in borrowing from banks.

In terms of loan composition, loans extended to the private sector and to government enterprises accounted for 93.90% and 1.68% of total loans at the end of 2021, respectively, higher than the 93.87% and 1.43% recorded at the end of 2020. Loans extended to government agencies accounted for 4.43% at the end of 2021, lower than 4.70% at the end of the previous year.

Loans by Industry

Broken down by industry sector, bank loans to the manufacturing sector continued to account for the largest portion, at 39.14% at the end of 2021 compared to 40.24% at the end of 2020, with its annual growth rate up from 1.18% to 5.52%. This was mainly attributable to an increase in loans extended to computers, electronic and optical products manufacturing spurred by rapid growth of exports in 2021. Meanwhile, the share of loans extended to the construction industry continued to



Note: Figures include the data of domestic banks and local branches of foreign and Mainland Chinese banks but exclude their data on securities acquired under reverse repurchase agreements.

Source: *Financial Statistics Monthly* (February 2022), CBC.

rise, with its annual growth rate up from 13.23% to 13.78% at the end of 2021, reflecting solid demand for public infrastructure projects, and construction for residential property and new plants.

The share of loans extended to the real estate industry expanded; however, its annual growth rate contracted as a result of soft demand and a higher base effect. In contrast, both the share and the annual growth rate of loans extended to the wholesale and retail industry continued to rise on account of stabilizing consumer demand and robust exports. Meanwhile, the share and the annual growth rate of loans to the finance and insurance industry increased, as a buoyant stock market and rising margin debt drove up demand for bank loans to boost working capital.

Consumer loans

The annual growth rate of consumer loans extended by banks increased from 8.96% at the end of 2020 to 9.00% at the end of 2021. Among them, house-purchasing loans grew by NT\$760.7 billion, or 9.46%, in 2021 mainly because major economies maintained an accommodative monetary policy stance owing to the COVID-19 pandemic and funds repatriation by overseas Taiwanese firms. As for the shares of various types of consumer loans, house-purchasing loans remained the largest component, with its share increasing from 84.13% at the end of 2020 to 84.48% at the end of 2021. Car loans accounted for 1.74%, decreasing from 1.78%, mainly because of the chip and car parts shortage caused by the pandemic. Meanwhile, house-repairing loans, revolving credit for credit cards, employee welfare loans, and other consumer loans accounted for 0.52%, 0.96%, 0.51%, and 11.78%, respectively.

Portfolio Investment

Owing to valuation changes, portfolio investment by monetary financial institutions, measured at fair value, recorded a year-on-year increase of NT\$743.9 billion, while the increase was smaller, at NT\$723.4 billion, when measured on a cost basis.

Portfolio investment by monetary financial institutions, measured on a cost basis, grew at a higher rate of 10.66% in 2021, mainly bolstered by major economies' accommodative monetary policy stances as they were watchful of uncertainties relating to the COVID-19 pandemic and ample liquidity in the domestic financial system.

In terms of tool types, banks and the Department of Savings and Remittances of Chunghwa Post invested more in corporate securities in 2021 as they adjusted their asset allocations, seeking to increase returns on investment amid persistently low interest rates. Government bonds accounted for a share of 51.63%, lower than the 54.96% registered a year ago. At the end of 2021, commercial paper accounted for a share of 20.43%, higher than a year ago. Corporate bonds accounted for a share of 18.76%, increasing from the end of 2020.

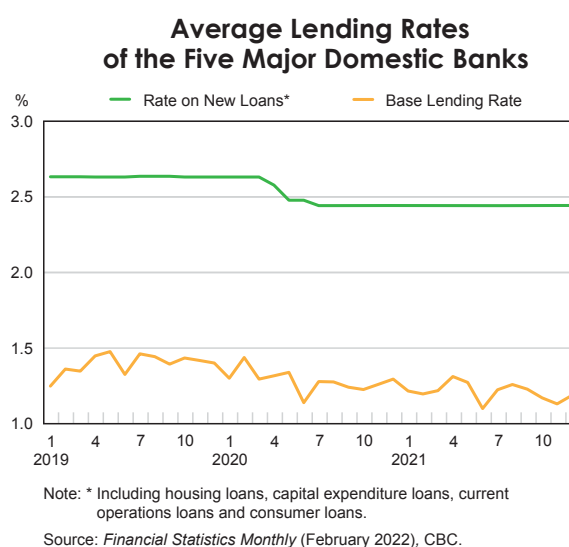
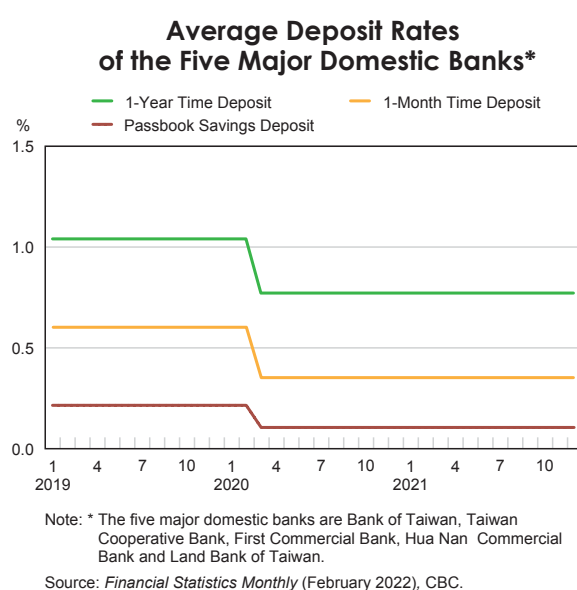
Bank Interest Rates

As the Bank kept policy rates unchanged in 2021, domestic bank interest rates remained steady. Regarding the interest rates of the five major domestic banks, their average fixed rates on one-month and one-year time deposits, respectively, remained at 0.35% and 0.77% at the end of 2021.

In addition, the Bank announced in the December 2021 Board Meeting that if domestic price inflation remains high, the industries affected by the COVID-19 pandemic have recovered steadily, and interest rates in major economies are rising, the Bank will adjust its monetary policy as necessary to meet its statutory obligations.

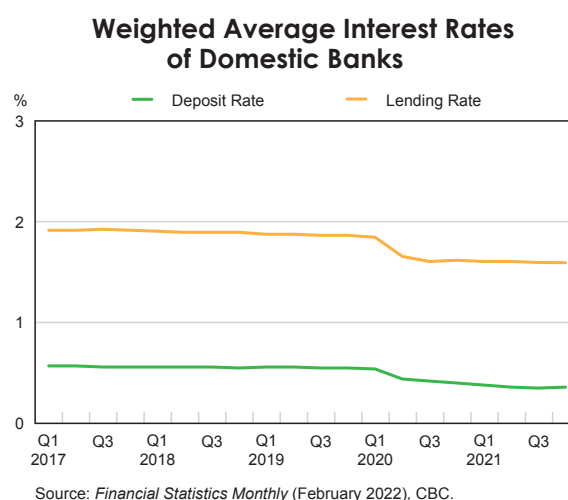
The weighted average rates on deposits and loans of domestic banks generally showed a slightly downward trend in 2021. In the third quarter of 2021, the deposit rate declined to 0.35% from 0.40% in the fourth quarter of the previous year, mainly owing to the increase in the share of transaction deposits in total deposits and the reduction in the posted interest rate on deposits by some banks. In the fourth quarter, the rate rose to 0.36% as some banks offered higher rates to attract savers and some raised the rates for retiree-oriented deposit programs. On the whole, the weighted average interest rate on total deposits of domestic banks was 0.36% in 2021, which was 0.09 percentage points lower than that recorded in the previous year.

As banks' rates on current operations loans declined in 2021, the weighted average interest rate on new loans of the five major domestic banks decreased from 1.273% in the previous year to 1.200% in 2021, down by 0.073 percentage points. Excluding central government loans, the weighted average interest rate on new loans decreased from 1.302% in the previous year to 1.258% in 2021, down by 0.044 percentage points. Meanwhile, the average base lending rate remained at 2.442% at the end of 2021.



In the third quarter of 2021, owing to the increase in lower-rate borrowings from local governments and the introduction of competitive rate loans by some banks to reduce excess funds, the weighted average interest rate on total loans of domestic banks fell from 1.62% in the fourth quarter of the previous year to 1.60%. In the fourth quarter, the share of government borrowings with lower interest rates declined, but several banks also launched low lending rate offers; consequently, the weighted average rate remained unchanged after taking into account the weight of lending size. For the year as a whole, the weighted average interest rate on loans of domestic banks was 1.60%, which was 0.08 percentage points lower than that recorded in the previous year.

Because the decrease in the average deposit rate was more than that in the average lending rate, the average interest rate spread between deposits and loans widened to 1.24 percentage points in 2021, which was 0.01 percentage points more than that recorded in the previous year.



3. Money Market

For the year 2021, the total turnover in the interbank call loan market and short-term bills market increased by 12.78% and 1.66%, respectively, over the previous year. With respect to money market rates, as the Bank kept policy rates on hold during the year, the interbank overnight call loan rate fluctuated in a narrow range and bills market rates broadly displayed a downtrend before moving up later in the year.

Growth in Interbank Call Loans

With the global economy gradually recovering in 2021, exports registered solid growth and private investment showed robust expansion. Against this backdrop, bank loans and investments continued expanding year on year, leading to stronger demand for interbank call loans. Total annual turnover of interbank call loans stood at NT\$31,684.2 billion, increasing by NT\$3,591.1 billion or 12.78% over the previous year.

In terms of borrowers, domestic banks still made the largest contribution to total transactions with a share of 81.52%, followed by bills finance companies, foreign and Mainland Chinese banks, and Chunghwa Post, with shares of 8.92%, 6.84%, and 2.71%, respectively.

The amount borrowed by domestic banks grew by NT\$3,993.7 billion or 18.29% from the year before. The increase was mainly because banks' demand for interbank borrowing grew as they tried to meet liquidity management needs against a backdrop of uneven distribution of funds despite ample liquidity in the banking system.

On the other hand, as corporations and banks had greater demand for bills, bill transactions increased, thereby reducing bills finance companies' demand for funds. The amount borrowed by bills finance companies recorded a year-on-year decrease of NT\$738.8 billion or 20.72%.

Meanwhile, the amount borrowed by foreign and Mainland Chinese banks dropped by NT\$113.4 billion or 4.97% over the previous year owing to their softer funding needs. The amount borrowed by Chunghwa Post rose substantially by NT\$449.6 billion or 109.51% compared with the previous year because of a lower base effect.

With respect to lenders, domestic banks remained the largest supplier of funds, contributing to 67.19% of total transactions in 2021. Foreign and Mainland Chinese banks came in second with a share of 31.44%, followed by Chunghwa Post and bills finance companies making up 1.25% and 0.13% of total transactions, respectively.

To channel excess available funds at hand resulting from surging deposits boosted by continued growth in exports, domestic banks increased interbank lending by NT\$2,680.5 billion or 14.41% over the previous year.

As foreign and Mainland Chinese banks often carry out the custodian business for foreign investors, the resulting net foreign capital inflows created a sufficient source of funds. Therefore, the amount of call loans made by this group went up by NT\$1,648.4 billion or 19.83% over the previous year.

On the contrary, the amount of call loans made by Chunghwa Post fell by NT\$744.9 billion or 65.36% from a year before. The decrease was primarily because its investments in short-term bills or bonds with higher yields led to less available funds at hand.

As for bills finance companies, the amount lent by this group expanded by NT\$713.6 billion or 21.44% over the previous year on account of sufficient funds at their disposal.

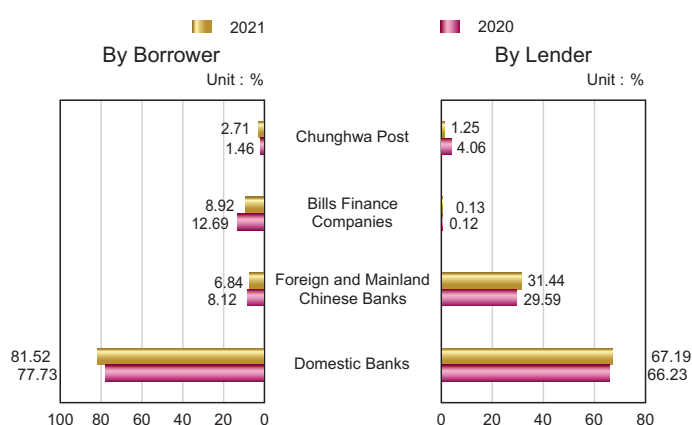
In terms of maturity, interbank overnight call loans remained the most actively traded instrument in the market with a predominant share of 51.82%, up by 11.42 percentage points from that of the previous year. The second were those with a maturity of one week, sliding by 6.02 percentage points to 33.98% over the previous year, while the share of loans with a two-week maturity also slipped by 2.91 percentage points to 10.22%.

Rise in Short-Term Bill Transactions

For the year 2021, newly issued short-term bills stood at NT\$17,254.0 billion. Commercial paper made up a dominant 93.35% of the new issues, followed by negotiable certificates of deposit (NCDs) with a share of 4.69%.

The growth in the volume of newly issued short-term bills was mainly attributable to increased issuance of commercial paper with an amount of NT\$1,282.8 billion because government

Composition of Interbank Call Loan Market by Participant



Source: *Financial Statistics Monthly* (February 2022), CBC.

enterprises and private enterprises issued commercial paper to raise funds amidst a persistently low interest rate environment. The second largest contributor were banker's acceptances with a rise of NT\$4.9 billion over the previous year.

However, issuance of NCDs contracted by NT\$22.2 billion from the previous year. This was because, when part of the NCDs reached maturity, some banks did not renew the issuance of NCDs after assessing their own funding conditions or corporate holders did not renew their purchases in order to free up funds for other purposes. Meanwhile, the amount of treasury bills shrank by NT\$16.6 billion from a year before, primarily on account of a decrease in issuance to support fiscal funding needs.

Overall, the amount of the total issuance of short-term bills was greater than that of the total repayments for short-term bills. Therefore, the outstanding of short-term bills reached NT\$2,911.2 billion as of the end of 2021, representing an increase of NT\$164.0 billion or 5.97% from that of the previous year end.

Short-Term Bills Market

Unit: NT\$billion

Year	Total		Treasury Bills		City Treasury Bills		Commercial Paper		Banker's Acceptances		Negotiable Certificates of Deposit	
	Issues	Year-End Outstanding	Issues	Year-End Outstanding	Issues	Year-End Outstanding	Issues	Year-End Outstanding	Issues	Year-End Outstanding	Issues	Year-End Outstanding
2012	8,187.7	1,454.0	265.0	195.0	-	-	7,311.6	1,023.6	24.2	4.3	586.9	231.1
2013	9,809.0	1,650.2	324.6	214.6	-	-	8,827.4	1,199.2	23.5	4.2	633.5	232.3
2014	10,840.6	1,641.2	244.9	130.0	10.0	0.0	9,919.5	1,306.8	24.1	4.3	642.2	200.2
2015	11,512.8	1,677.7	233.7	90.0	-	-	10,426.0	1,346.6	20.8	3.5	832.3	237.6
2016	12,778.5	1,873.5	217.3	90.0	-	-	11,371.3	1,480.1	18.3	4.1	1,171.6	299.4
2017	14,878.5	2,154.5	220.0	25.0	-	-	13,077.8	1,709.0	19.4	4.2	1,561.3	416.4
2018	14,971.9	2,223.1	160.0	30.0	-	-	12,965.0	1,760.6	18.5	4.0	1,828.5	428.5
2019	14,927.3	2,353.2	314.0	65.0	-	-	13,613.6	2,034.1	14.0	2.6	985.7	251.5
2020	16,005.2	2,747.2	336.6	125.0	-	-	14,824.7	2,344.3	13.0	2.8	830.9	275.1
2021	17,254.0	2,911.2	320.0	115.0	-	-	16,107.5	2,560.1	17.8	4.5	808.7	231.6

Source: *Financial Statistics Monthly* (February 2022), CBC.

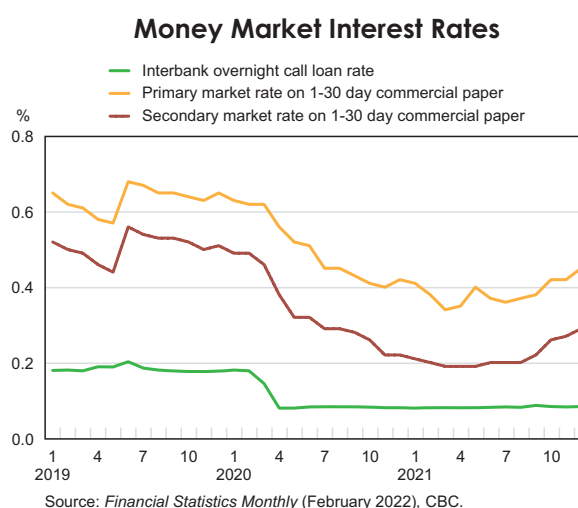
The total turnover of short-term bills in 2021 went up by NT\$731.3 billion or 1.66% to NT\$44,872.2 billion. Of the total transactions, commercial paper still made up the lion's share of 95.81%, up by 0.6 percentage points from a year earlier. The second were NCDs with a share of 3.51%, 0.48 percentage points lower than the previous year. As for market participants, private enterprises were still the largest player in the market with a dominant share of 47.59%, followed by banks and bills finance companies with shares of 28.15% and 14.32%, respectively.

Slightly Fluctuating in Money Market Rates

In 2021, the weighted average interbank overnight call loan rate remained at low levels, reflecting ample market liquidity. For the first eight months, the rate slightly fluctuated between 0.079% and 0.082%. In September, the Mid-Autumn Festival holidays and the quarter-end effect led to greater market demand for funds. The interbank overnight call loan rate modestly trended up to 0.086%.

From October onwards, the Double Tenth Day holidays and enterprises' dividend payouts pushed up funding needs, yet market liquidity remained sufficient, and foreign investors net bought on the Taiwan Stock Exchange (TWSE) for two consecutive months from November to December, leading to net capital inflows. Therefore, the weighted average interbank overnight call loan rate slightly fluctuated between 0.082% and 0.083% in the fourth quarter.

The primary market rate on commercial paper with a maturity of 1-30 days fell from 0.42% in December 2020 to 0.34% in March 2021, and later rebounded to 0.45% in December 2021. Meanwhile, the secondary market rate on commercial paper with a maturity of 1-30 days also slipped from 0.22% in December 2020 to 0.19% in March 2021, and rose back up to 0.29% in December 2021.



Slide in Money Market Funds

In the year 2021, the size of money market funds experienced volatile changes. This was because the TAIEX swung up, attracting more capital to flow into the TWSE. As a result, money market funds, where institutional investors used to park short-term capital, recorded a smaller size. At the end of 2021, there were a total of 36 money market funds in Taiwan and the total assets stood at NT\$851.4 billion with a decrease of NT\$169.6 billion or 16.61% from the end of the previous year.

In respect of portfolio composition, the largest use of funds was bank deposits with a share of 51.35% at the end of the year. Following bank deposits were short-term bills and repurchase agreements, accounting for 38.50% and 10.11% of the total money market funds, respectively.

Portfolio Composition of Money Market Funds

Unit: NT\$billion

Year/Month End	Total	Bank Deposits		Short-Term Bills		Repurchase Agreements		Bonds	
		Amount	Share (%)	Amount	Share (%)	Amount	Share (%)	Amount	Share (%)
2019	793.7	457.5	57.64	233.7	29.45	100.6	12.67	1.9	0.24
2020	1,021.0	556.1	54.47	346.4	33.93	117.1	11.47	1.4	0.14
2021	851.4	437.2	51.35	327.8	38.50	86.1	10.11	0.4	0.04
2021/ 1	1,081.7	569.5	52.65	386.3	35.71	124.4	11.50	1.5	0.13
2	1,096.9	574.6	52.38	393.2	35.85	127.3	11.60	1.8	0.16
3	1,072.6	574.7	53.59	393.6	36.70	102.7	9.58	1.5	0.14
4	1,089.8	602.1	55.25	383.0	35.14	102.9	9.44	1.9	0.17
5	1,007.2	581.8	57.77	340.8	33.84	82.2	8.17	2.3	0.22
6	957.5	556.6	58.13	318.2	33.23	80.8	8.44	1.9	0.20
7	984.7	551.6	56.02	340.3	34.56	90.9	9.23	1.9	0.19
8	994.5	557.6	56.07	346.8	34.87	89.1	8.96	1.0	0.10
9	920.4	534.4	58.06	316.1	34.35	69.0	7.49	0.9	0.10
10	877.0	499.8	56.99	298.0	33.97	78.9	8.99	0.4	0.04
11	869.7	477.6	54.92	309.4	35.58	82.3	9.46	0.4	0.04
12	851.4	437.2	51.35	327.8	38.50	86.1	10.11	0.4	0.04

Source: Securities Investment Trust & Consulting Association of the R.O.C.

4. Foreign Exchange Market

The NT Dollar Exchange Rate

On a daily average basis in 2021, the NT dollar depreciated slightly against the renminbi (RMB) but appreciated against the Japanese yen, the US dollar, the Korean won and the euro. The trade-weighted nominal effective exchange rate index of the NT dollar increased by 2.95% 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 broadly. Early in the year, Fed Chairman Powell's remarks of continued commitment to monetary accommodation and Taiwan's strong export performance combined to drive the NT dollar higher against the US dollar. As US President Biden signed the US\$1.9 trillion relief package into law on March 11 and rising market optimism regarding a US economic recovery gave a further boost to the US dollar, the NT dollar depreciated against the US dollar. In April, as the Fed reiterated that it would maintain an easy monetary policy stance with the policy rate near zero and continued to downplay inflation risk, the US dollar thus weakened and the NT dollar appreciated. Entering the second half of the year, rising inflation led most Fed officials to forecast an earlier rate hike, and late in September, the Fed decided to start tapering bond purchases later in 2021; this propelled the US dollar higher and the NT dollar weakened. However, from late October, the NT dollar appreciated against the US dollar as Taiwanese companies net sold US dollars. At the end of 2021, the NT dollar appreciated by 2.95% 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 5.55% in 2021.

Relative to the euro, the NT dollar broadly appreciated during 2021. Early in the year, the COVID-19 pandemic worsened in Europe, which led investors to worry that the pace of the economic recovery would moderate. Therefore, the ECB announced a faster pace of asset purchases under the Pandemic Emergency Purchase Programme in March. In the second half of the year, as economic growth in the euro area was hindered by the spread of new virus variants, the ECB maintained an easy monetary policy stance by keeping its policy rates unchanged in late October, and President Lagarde underscored that the possibility of a rate hike in 2022 was very low. Because the pace of monetary policy normalization was slower than expectation among investors, the euro continued on its downward trend, and the NT dollar appreciated continuously against the euro. Compared with the end of the previous year, the NT dollar appreciated against the euro by 11.86% at the end of 2021. On a daily average basis, the NT dollar appreciated against the euro by 1.93%.

During the course of 2021, the NT dollar appreciated against the yen. In the first half of the year, Japan's government declared a state of emergency several times in response to rising COVID-19 cases, and the BoJ continued to maintain its accommodative monetary policy. From August on, higher commodity prices led to Japan running a trade deficit. Against this backdrop, combined with sluggish consumption, the BoJ pledged to continue an extremely accommodative monetary policy in October, and projected an inflation rate at well below its 2% target for two more years. Late in December, BoJ Governor Kuroda reiterated that it was too early to move toward normalizing monetary policy and maintained that the recent yen depreciation had more positive effects on Japan's economy, thereby leaving the yen under downward pressure, which drove the NT dollar against the yen to a yearly high of 0.2406. In sum, the NT dollar appreciated by 14.94% against the yen at the end of 2021 compared with the previous year end. On a daily average basis, the NT dollar appreciated against the yen by 8.50%.

In 2021, the NT dollar appreciated against the RMB in the first three quarters and depreciated toward the year end. In early January, in an effort to dampen RMB strength, the PBoC raised the upper limit on domestic non-financial firms' overseas lending to encourage capital outflows and lowered the upper limit for non-financial firms' cross-border financing amid efforts to rein in capital inflows. On May 31, the PBoC announced it would raise the reserve requirement ratio on foreign currency deposits by 2 percentage points to manage forex liquidity and ease appreciation pressure on the RMB. Later, China's tightening of pandemic control measures amid a wave of locally transmitted infections and the expanded regulatory crackdown on technology businesses and other sectors combined to weaken the RMB, resulting in the appreciation of the NT dollar against the RMB. Later, the RMB reversed previous losses as China's exports exceeded expectations in October and rebounded further following positive news of the virtual summit between US and China's leaders; therefore, the NT dollar against the RMB veered to depreciation. In December, the PBoC reduced the reserve requirement ratio for banks by 0.5 percentage points and cut its lending benchmark loan prime rate (LPR) as it moved to stimulate a slowing economy that has been weighed down

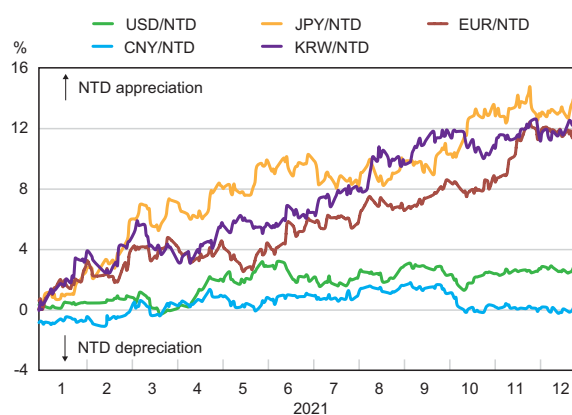
Annual Changes of NTD Exchange Rate Against Major Currencies

	NTD/USD	NTD/EUR	NTD/JPY	NTD/CNY	NTD/KRW
Exchange Rate (2021/12/30)	27.690	31.338	0.2406	4.3406	0.0233
Exchange Rate (2020/12/31)	28.508	35.056	0.2765	4.3592	0.0262
Annual Change	2.95%	11.86%	14.94%	0.43%	12.68%
Average Exchange Rate (2021)	28.022	33.143	0.2553	4.3452	0.0245
Average Exchange Rate (2020)	29.578	33.784	0.2770	4.2862	0.0251
Annual Change	5.55%	1.93%	8.50%	-1.36%	2.31%

Source: Department of Economic Research, CBC.

by sluggish consumption recovery and a prolonged property slump. In addition to dovish shifts, the PBoC raised the reserve requirement ratio on foreign currency deposits by 2 percentage points in an effort to stem RMB strength, leading the NT dollar to appreciate against the RMB. Overall, the NT dollar slightly appreciated against the RMB by 0.43% between end-2020 and end-2021. On a daily average basis, the NT dollar depreciated by 1.36% against the RMB when compared with the previous year.

**Percentage Changes of NT Dollar
Against Major Currencies**
(Compared with End-2020)



Source: Department of Economic Research, CBC.

During the course of the year, the NT dollar appreciated against the Korean won. Early in the year, the Korean economic outlook was clouded by a still-high COVID-19 case number. Lingering COVID-related risks also prompted the Bank of Korea (BoK) to stay accommodative, leading the NT dollar to appreciate against the Korean won. In May, the NT dollar continued to appreciate against the won as the Korean currency was weakened by large net foreign equity outflows. In the second half of the year, although two policy rate hikes by the BoK in August and November in order to stem the rapid rise in property prices and household borrowings bolstered the Korean won, supply shortages caused by China's export curbs of urea as well as the rapidly deteriorating local pandemic situation led the Korean won to weaken and maintained the NT dollar strength against the won. Compared with the end of 2020, the NT dollar appreciated by 12.68% against the Korean won at the end of 2021. On a daily average basis, the NT dollar appreciated by 2.31% against the won in 2021.

Foreign Exchange Trading

Trading in the Taipei foreign exchange market decreased in 2021. Total net trading volume for the year was US\$8,188.1 billion, representing a 1.0% year-on-year decrease. The daily average turnover was US\$33.0 billion in 2021.

In terms of trading partners, transactions between banks and non-bank customers accounted for 33.8% of the total turnover, while interbank transactions made up 66.2%, including 21.1% for transactions among local banks and 45.2% for those between local banks and overseas banks.

As far as traded currencies were concerned, NT dollar trading against foreign currencies accounted for 48.8% of the total trading volume, of which trading against the US dollar made up a dominant 47.1%. Transactions in third currencies contributed to 51.2% of the total trading

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
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
2019	3,079,471	661,954	4,007,094	6,430	213,734	45,308	8,013,990
2020	3,408,766	503,730	4,110,852	7,265	205,969	34,458	8,271,041
2021	3,584,473	507,641	3,839,404	4,733	222,705	29,134	8,188,090
2020-2021 Annual Growth Rate (%)	5.2	0.8	-6.6	-34.9	8.1	-15.5	-1.0

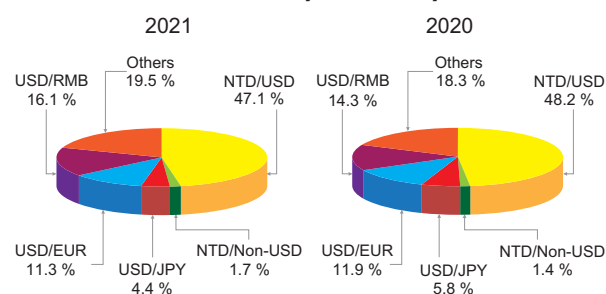
Source: Department of Foreign Exchange, CBC.

volume, with trading in currency pairs of USD-RMB, USD-euro, and USD-yen accounting for respective shares of 16.1%, 11.3%, and 4.4%. Compared with 2020, NT dollar trading against foreign currencies decreased by 2.7% while transactions in third currencies increased by 0.7%.

With respect to types of transactions, the major types were foreign exchange swaps and spots, accounting for 46.9% and 43.8% of total turnover, respectively. Compared with 2020, the trading volume of spots, forwards and options increased, whereas those of the other types decreased.

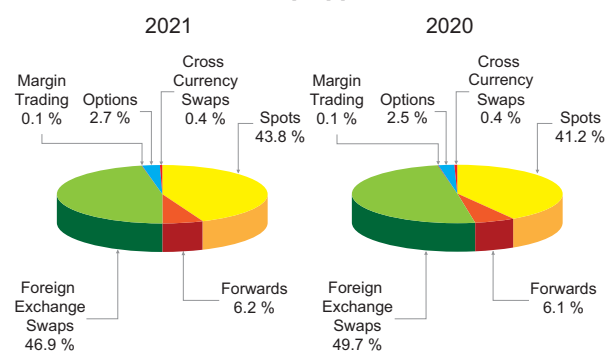
For other foreign currency derivatives, including forwards, swaps, and options based on foreign currency interest rates, stock price indices, commodity prices, and credit derivatives, total turnover amounted to US\$199.2 billion. Of this amount, interest rate-related derivatives accounted for the lion's share at 97.4% with US\$194.0 billion, increasing by 100.9% from the previous year. Interest rate futures accounted for the majority of this increase, up by US\$69.5 billion.

Composition of Foreign Exchange Transactions by Currency Pair



Source: Department of Foreign Exchange, CBC.

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
	Interest Rate Swaps	Interest Rate Options	Foreign Currency Interest Rate Futures	Subtotal	Commodity Options			
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
2019	70,809	12,429	96,751	179,989	3,771	384	969	185,113
2020	52,113	9,580	34,882	96,576	3,087	147	399	100,208
2021	78,981	10,716	104,342	194,040	4,143	437	618	199,238
2020-2021 Annual Growth Rate (%)	51.6	11.9	199.1	100.9	34.2	198.2	54.9	98.8

Note: "Forward Rate Agreements" is excluded from the table because the turnover has been 0 since 2017.

Source: Department of Foreign Exchange, CBC.

Renminbi Business

Renminbi investment tools became even more diversified during 2021. By the end of 2021, there were 65 domestic banking units (DBUs) and 57 offshore banking units (OBUs) engaging in renminbi business. The balance of renminbi deposits amounted to RMB231.9 billion; renminbi remittances totaled RMB1,835.7 billion in 2021; renminbi settlement through the Taipei Branch of the Bank of China totaled RMB5,291.0 billion.

Renminbi Business Conducted by Financial Institutions

Unit: RMB Billions

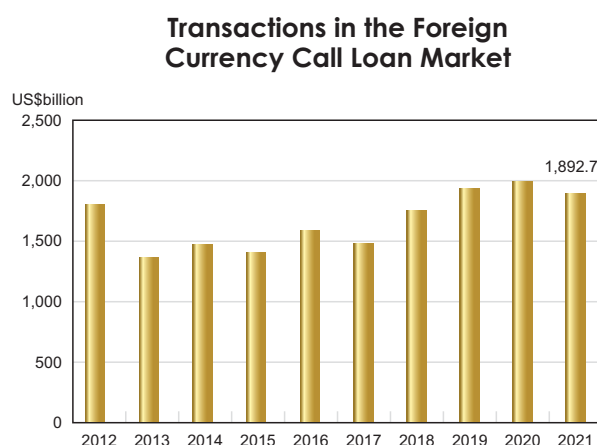
Business Items	Amount
Deposit balance (including NCDs, end of 2021)	231.9
Total remittances (February 2013 to December 2021)	14,838.5
Total settlement through the Taipei Branch of the Bank of China (February 2013 to December 2021)	37,936.0
Total value of 194 RMB-denominated bonds issued (as of the end of 2021)	132.7
Accumulated premium receipts from RMB-denominated investment-linked insurance business (February 2013 to December 2021)	21.2
Accumulated premium receipts from RMB-denominated traditional insurance business (April 2014 to December 2021)	8.4

Source: Department of Foreign Exchange, CBC.

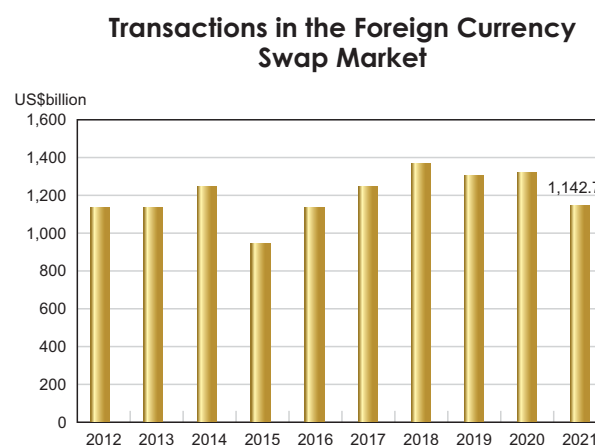
Foreign Currency Call Loan & Swap Markets

The transaction volume in the foreign currency call loan market in 2021 was US\$1,892.7 billion, a decrease of 5.0% over the previous year. Of this amount, US dollar transactions accounted for a dominant share with US\$1,774.7 billion, making up 93.8% of the total while decreasing by 7.2% from 2020. Renminbi transactions reached RMB561.2 billion in 2021, making up a share of 4.6% of the total and recording a year-on-year rise of 27.3% in volume. Japanese yen transactions reached ¥1,902.6 billion in 2021, representing a small share of 0.9% of the total with a year-on-year increase of 398.6% in volume. The amount of euro transactions amounted to around €1.7 billion, with a modest share of 0.1%. Other currencies accounted for a combined 0.6% of the total transaction volume. The balance of foreign currency call loan transactions at the end of 2021 was US\$60.1 billion.

The volume of foreign currency-NTD swap transactions reached US\$1,142.7 billion, 13.1% less than 2020, while the balance was US\$301.4 billion at the end of 2021.



Source: Department of Foreign Exchange, CBC.



Source: Department of Foreign Exchange, CBC.

OBU Assets

There were 59 OBUs at the end of 2021, with 36 of them operated by domestic banks and the other 23 by foreign banks. The total assets of all OBUs increased to US\$249.9 billion at the end of the year, representing an increase of US\$10.5 billion, or 4.4%, from the previous year end owing to increasing portfolio investments and growing claims on financial institutions. Domestic bank OBUs made up 90.8% of these combined assets with an amount of US\$227.0 billion, and the OBUs of foreign banks accounted for 9.2% of the total with US\$22.9 billion.

In terms of the uses of funds, portfolio investments, at US\$93.7 billion, represented the majority share of 37.5% of total OBU assets. Loans to non-financial institutions came in second place,

accounting for 31.4% of total OBU assets. In terms of the destinations for funds, Asia accounted for the majority with a share of 53.3%, followed by America at 30.4%.

The OBUs' main source of funds came from due to financial institutions, making up 50.0% of total liabilities and equity. Deposits of non-financial institutions accounted for 41.8% of the total. The main funding origin of OBUs was Asia, accounting for 64.8%, followed by America with a share of 25.2%.

Forex trading turnover of all OBUs increased by 7.8% to US\$721.0 billion, of which US\$441.3 billion went for spot transactions, US\$130.5 billion for forward transactions, and US\$149.2 billion for forex swap transactions. Compared with the previous year, the growth rates of trading of spots, forwards, and forex swaps were 7.8%, 3.2%, and 2.8%, respectively.

For OBUs, total turnover of other derivatives products increased by 26.4% to US\$310.8 billion over the previous year. Of this amount, options transactions registered a turnover of US\$142.7 billion, making up 45.9% of the total.

Balance Sheet of OBUs in Banking System

Unit: US\$million

Year / Month (End of 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
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
2019/12	80,227	72,195	58,407	11,026	221,855	86,680	110,843	0	24,332
2020/12	78,995	86,016	61,925	12,524	239,459	91,094	124,885	0	23,480
2021/12	78,497	93,686	68,244	9,495	249,922	104,518	125,056	0	20,348
2020/12-2021/12 Growth Rate (%)	-0.6	8.9	10.2	-24.2	4.4	14.7	0.1	0.0	-13.3

Sources: 1. *Financial Statistics Monthly* (February 2022), CBC.
2. Department of Foreign Exchange, CBC.

5. Stock Markets

The TAIEX experienced fluctuations around a broad uptrend in 2021. Major downswings were recorded in May, July, August, September, and October, mainly affected by a domestic flare-up in COVID-19 infections, a day-trading tax policy indecision, China's property giant default crisis and government "dual control" energy policy, and US inflation and debt ceiling concerns. In the other months of the year, the TAIEX was bolstered by successful containment of domestic COVID-19 cases, record-breaking US stock bull runs, strong earnings of TWSE-listed companies, and robust export growth, and swung up from a low at the start of the year to an all-year and all-time high of 18,248 points on December 29. The TAIEX closed the year at 18,219 points, rising by 23.7% over the end of the previous year.

Most of the categories saw share price rises. Shipping and Transportation stocks posted the largest gains of 168.6%, led by three major shipping companies whose profits doubled as global freight indices and shipping prices stayed high. The second best performer was the Iron and Steel category with a rise of 46.9% buoyed by international steel price upswings. Trading and Consumers' Goods shares came in third with a 45.5% increase as consumers increased spending amid a boost from the government's stimulus voucher scheme and a boom in online shopping. Overall, the

Major Statistics of the TWSE Market

Year/Month	Stock Price Index (end of period)	Daily Average Trading Value (NT\$billion)	Turnover Rate (%)	Market Capitalization (NT\$billion)	Net Buying Positions (NT\$billion)		
					Foreign Investors Net Buy/Sell	Securities Investment Trust Companies Net Buy/Sell	Securities Dealers Net Buy/Sell
2019	11,997.1	109.4	80.4	36,413.5	244.2	11.3	52.5
2020	14,732.5	186.3	123.3	44,903.8	-539.5	42.7	-169.6
2021	18,218.8	378.2	176.6	56,282.0	-454.1	70.1	-96.4
2021/ 1	15,138.3	353.8	15.3	46,130.8	-113.1	7.4	-9.7
2	15,953.8	330.1	8.8	48,626.6	-80.1	4.4	-7.1
3	16,431.1	306.7	13.5	50,160.4	-150.9	16.7	-4.8
4	17,566.7	433.9	15.4	53,642.0	57.4	-6.3	8.5
5	17,068.4	507.7	20.5	52,150.2	-59.1	17.8	-28.5
6	17,755.5	470.1	18.2	54,314.2	-51.0	-4.9	29.1
7	17,247.4	549.3	22.9	52,893.6	-122.1	-18.9	-16.3
8	17,490.3	358.0	14.7	53,645.5	7.9	6.2	-13.4
9	16,934.8	289.5	11.1	52,052.8	5.7	9.7	-33.4
10	16,987.4	283.6	10.9	52,279.4	-57.4	17.4	-5.4
11	17,427.8	349.7	14.3	53,669.4	21.8	-0.1	-11.6
12	18,218.8	285.5	11.2	56,282.0	86.7	20.7	-3.7

Source: Securities and Futures Bureau, FSC.

daily average trading value on the TWSE reached a historical high of NT\$378.2 billion in 2021 while surging sharply by 103.0% over the previous year.

Regarding trends in over-the-counter trading of securities, the Taipei Exchange Capitalization Weighted Stock Index (TPEX) rose by 29.0% at the end of 2021, compared to a year ago. Almost all categories posted year-on-year increases, except for Tourism Industry shares with a 3.6% decline. Shipping and Transportation shares gave the best performance with a rally of 66.7%, closely followed by Chemical shares with a 66.0% rise. In 2021, the daily average trading value on the Taipei Exchange (TPEX) amounted to a historical high of NT\$83.1 billion, rising by 68.4% from the previous year.

The TWSE Market

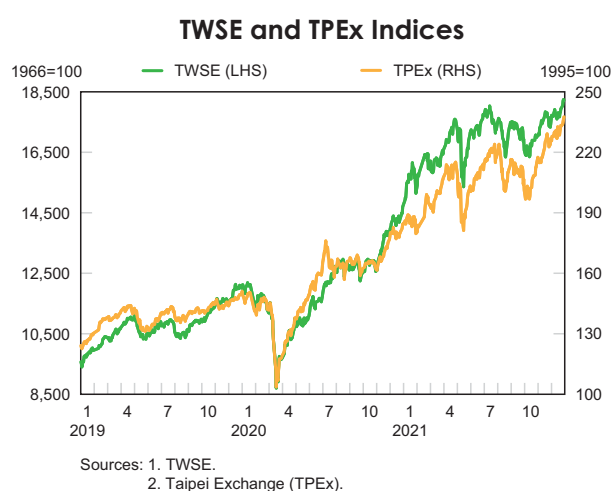
Listings and Capitalization Both Increased to Record Highs

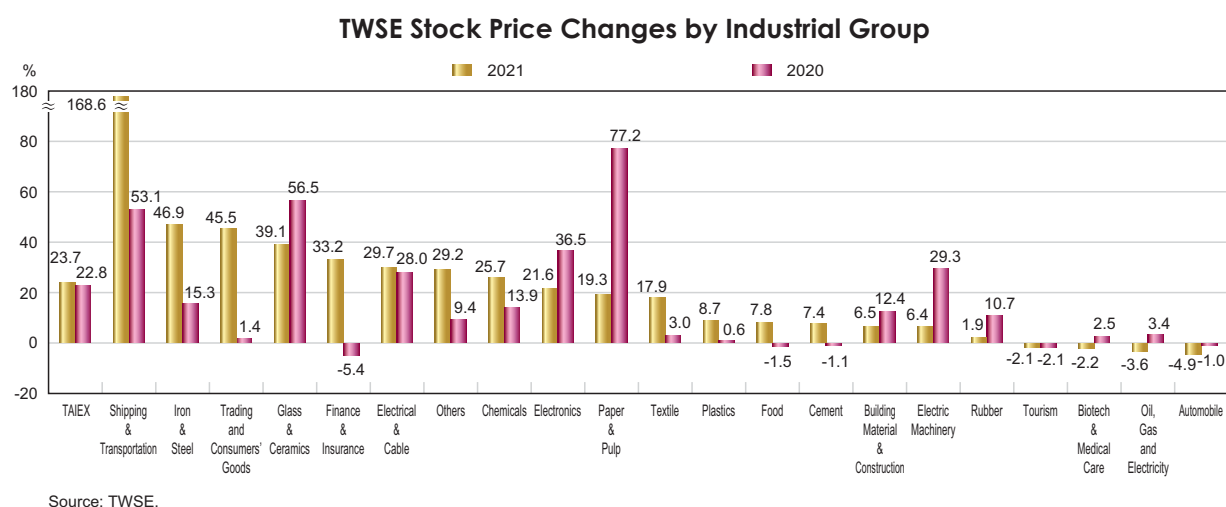
At the end of 2021, the number of TWSE listings increased by 11 over the previous year to a total of 959. The par value of total shares rose by 2.0% year on year to NT\$7.4 trillion, and total market capitalization soared by 25.3% to NT\$56.3 trillion. Meanwhile, the total number of Taiwan depositary receipts (TDRs) decreased to 11 with two delisting during the year.

TAIEX Reached Historical High in Broad Uptrend

In early 2021, the TAIEX swung upwards as the US stock indices climbed to repeated record highs, vaccination rates increased, TWSE-listed companies posted impressive earnings, and Taiwan's exports expanded strongly, which helped to send the TAIEX to 17,596 points on April 27. However, a surge in domestic COVID-19 infections and net stock selling by foreign investors caused the index to dive to 15,354 points on May 17. Given the support from strong growth in exports and corporate profits, the TAIEX quickly rebounded alongside a US market rally, hitting an intermediate peak at 18,034 on July 15.

Thereafter, the TAIEX faced downward pressures created by surging COVID-19 Delta variant cases, China's Evergrande default crisis and energy policy tightening, US inflation and debt ceiling problems, as well as a delayed decision to continue the day-trading tax incentive for the local stock markets, and swung lower towards an interim trough of 16,342 points on August 20 and another interim





trough of 16,348 points on October 13. However, bullish forces set in as the domestic coronavirus situation remained well under control, US technology stocks hit fresh record highs, Taiwan's statistical body upgraded the domestic GDP growth forecast, and foreign investors returned to the TWSE market with net buying, pushing the TAIEX towards an all-time high of 18,248 points on December 29. The index closed the year (on Dec. 30) at 18,219 points, up by 23.7% compared to 14,733 points at the end of 2020.

Broken down by subcategory, most industrial groups rose from the previous year, except for four categories, namely Automobile, Oil, Gas & Electricity, Biotechnology & Medical Care, and Tourism. Among the gaining groups, Shipping and Transportation increased the most by 168.6%, as the unresolved problems of port congestion and container shortage continued to buoy international freight indices and shipping prices, thereby helping the TWSE's top three shipping heavyweights to record significant growth in profits and witness share price surges. Iron and Steel stocks had the second biggest increase by 46.9%, buttressed by an international steel price upswing. Trading and Consumers' Goods rose by 45.5% as the stimulus voucher scheme and online shopping boom spurred domestic consumption. Glass and Ceramic shares posted an increase of 39.1% with glass prices climbing. Finance and Insurance shares were 33.2% higher than the previous year, benefiting first from domestic banks making handsome profits as the government's SME guarantee fund helped sustained a sound lending business operation amid the pandemic, and also from a net buying by foreign investors.

Among the declining categories, Automobile shares dropped the most by 4.9% because car chip shortages caused new car delays and sales slumps. Oil, Gas and Electricity shares fell by

3.6%, mainly dented by the plunge in Formosa Petrochemical Corporation, one of the category's heavyweight stocks, after foreign investor selloffs. Biotechnology and Medical Care was down by 2.2%, attributable to the weak performance in the NASDAQ Biotechnology Index. In addition, Tourism stocks dropped for a second consecutive year by 2.1% as the pandemic continued to weigh on the industry.

Market Turnover Increased Significantly

Underpinned by ample liquidity and active participation (demonstrated by record high numbers of wholesale and retail investors and new portfolio accounts opened), the TWSE daily average trading value amounted to a historical high of NT\$378.2 billion, increasing by 103.0% from the previous year's NT\$186.3 billion. The turnover rate also rose from 123.3% to a new record high of 176.6%.

Foreign Investors Net Sold

In 2021, foreign investors net sold TWSE stocks by an amount of NT\$454.1 billion. Meanwhile, local securities investment trust companies posted a net purchase of NT\$70.1 billion, whereas local securities dealers posted a net sale of NT\$96.4 billion.

In the first three months into 2021, international stock markets dipped and US government bond yields trended up, leading foreign investors to post monthly net sales of TWSE shares, followed by a net purchase in April on the back of huge capital inflows as US bond yields fell lower. In the months from May to July, foreign investors turned net sellers again owing to a domestic COVID-19 flare-up and profit-taking trades. They net bought financial stocks in August and September, citing robust earnings reports by banks. In October, investor fears of an earlier-than-expected rate hike by the Fed to counter rising inflation pulled foreign capital out of the TWSE. Thereafter, a US tech rally towards new highs prompted foreign investors to also increase holdings of Taiwan's electronics shares, thus posting net purchases in both November and December.

Local securities investment trust companies were net sellers in April, June, and July through November, during which they offloaded shares to secure gains in order to meet fund redemption demand, to boost their financial statements, or to adjust portfolios at higher price levels. In the other months, they posted net purchases.

Local securities dealers, with inclination for short swing trading, net bought in April and June amid market uptrends. In the other months of the year, they net sold as a result of hedging or profit-taking strategies.

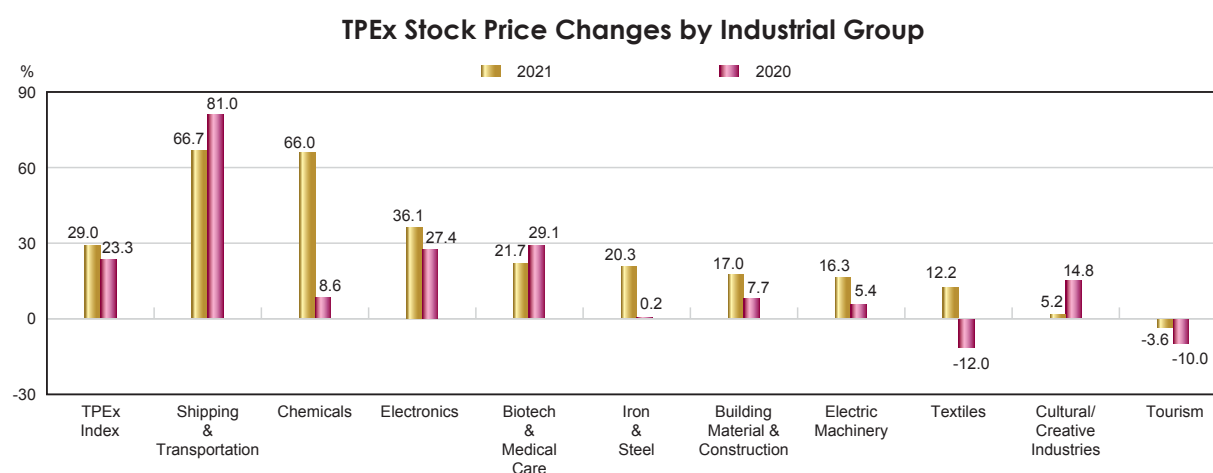
The TPEX Market

Listings and Capitalization Both Increased

At the end of 2021, the number of TPEX listings rose by 6 from the previous year to 788. The total par value increased by 2.5% to NT\$760.9 billion. The TPEX market capitalization, buoyed by rising stock valuations, increased to NT\$5.78 trillion with a surge of 32.9%.

TPEX Index Swung to Record High

In 2021, the TPEX market exhibited trends similar to those in the TWSE market. Except for May and August when the domestic virus flare-up and day-trading policy indecision pummeled the TPEX, the index was broadly on an uptrend from a low at the start of the year to an all-year, all-time high of 237.6 points at the end of 2021, rising by 29.0% from 184.1 points a year ago.



By category, all groups posted year-on-year gains, except for Tourism with a 3.6% drop as the pandemic brought this group another price decline for the second consecutive year. Among the top performers, Shipping and Transportation enjoyed a 66.7% gain thanks to elevated global freight rates and the persistent strength of the three major TWSE-listed shipping heavyweights. Chemical shares followed closely with a 66.0% increase as chemical products were bolstered by the international oil price upswing.

By type of institutional investor, foreign investors and local securities investment trust companies net bought TPEX securities worth NT\$23.5 billion and NT\$31.1 billion, respectively, while local dealers net sold NT\$1.8 billion.

With a record participation of 3.32 million active investor accounts in the year of 2021, the TPEX daily average trading value reached NT\$83.1 billion, a new record in market history while surging by 68.4% from the previous year's NT\$49.3 billion.

Key Measures for the Stock Markets

Key measures for Taiwan's stock markets in 2021 included the following:

- (1) March 12: The Financial Supervisory Commission (FSC) announced that securities firms would be allowed to provide sub-brokered business services that invest in foreign futures contracts linked to Taiwan's stock index (e.g., SGX FTSE Taiwan Index Futures).
- (2) May 4: The FSC announced that securities firms would be allowed to accept customer orders to trade foreign securities under a systematic investment plan, investing in foreign stocks and in exchange traded funds (ETFs) that do not have a leveraging or shorting effect.
- (3) July 20: The TPEX launched the Pioneer Stock Board (PSB) in the Emerging Stock Market. The PSB, whose trading mechanism is mostly identical to that in the TPEX main board market, is aimed at fostering the development of and facilitating the funding for innovative industries.
- (4) August 19: The Executive Yuan passed the amendment to the *Securities Transaction Tax Act*, extending the tax cut on day-trading transactions to keep the current 1.5‰ tax rate in place through December 31, 2024.
- (5) August 27: The TWSE introduced an alert mechanism to draw investors' attention to stocks involved with massive day trading activity. A security would be noted and announced as an "attention security" if (a) in the most recent six business days, its day trading volume as a percentage of its total trading volume exceeds 60%, and (b) in the current intraday trading session, its day trading volume as a percentage of its total trading volume also exceeds 60%.

6. Bond Market

For the year 2021, the total volume of bond issuance registered a marked decrease. New issues of bonds amounted to NT\$2,690.6 billion, decreasing by NT\$704.2 billion or 20.74% over the previous year. At the end of 2021, the total outstanding of bonds issued stood at NT\$15,946.7 billion, rising by NT\$1,162.0 billion or 7.86% from the previous year end.

To support debt refinancing operations of the Central Government Debt Service Fund and to raise funds for the central government general budget and special budget, issuance of central government bonds reached NT\$617.0 billion for 2021, an increase of 15.33% from the previous year.

Issuance of corporate bonds and bank debentures in the year fell by 14.11% and 29.58% to NT\$723.7 billion and NT\$135.2 billion, respectively. The decreases were mainly because an upswing in benchmark government bond yields amid robust domestic economic growth brought up market rates, leading corporations and banks to reduce the volume of bond issuance.

In 2021, NT dollar-denominated foreign bonds issued in Taiwan by foreign institutions stood at NT\$10.6 billion, representing a substantial decrease of 50.77% over the previous year. As for foreign currency-denominated international bonds issued in Taiwan by foreign institutions, the volume of issuance posted a year-on-year decrease of 35.49% to NT\$1,137.5 billion.

In the secondary market, the yield on 10-year government bonds averaged 0.436% for the entire year, five basis points lower than the previous year. Nevertheless, annual average yields on bonds with different maturities displayed a broad uptrend in 2021, in contrast to the downtrend in the previous year.

In addition, annual transactions totaled NT\$36,138.8 billion, contracting significantly by 31.17% compared to the previous year, mainly reflecting a less vibrant bond market because of narrowing profits from spread trading.

Rise in Government Bond Issuance

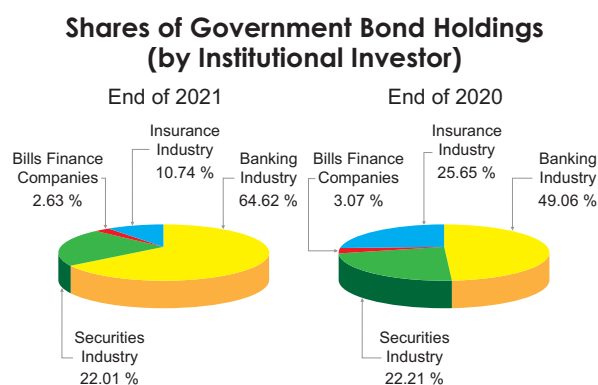
Central government bond issuance recorded a year-on-year increase of NT\$82.0 billion or 15.33% to NT\$617.0 billion in the year 2021. The growth was to support debt refinancing operations of the Central Government Debt Service Fund and to raise funds for the central government general budget and special budget.

Among the total volume of government bonds issued by the Ministry of Finance, 10-year bonds made up the lion's share with NT\$210.0 billion, followed by 5-year bonds with NT\$120.0 billion. 2-year,

7-year, 20-year, and 30-year government bonds recorded issuance of NT\$60.0 billion, NT\$32.0 billion, NT\$130.0 billion, and NT\$65.0 billion, respectively.

Broken down by institutional investor, bonds held by the banking industry (including Chunghwa Post) accounted for the largest share at 64.62% primarily on account of an increase in demand for government bonds by Chunghwa Post. The securities industry came in second with a share of 22.01%, similar to that in the previous year. Meanwhile, the insurance industry made up a share of 10.74%, smaller than the previous year because the insurance industry increased its external investment position owing to a larger yield spread between the US and Taiwan government bonds.

As of the end of 2021, the total outstanding of central government bond issuance stood at NT\$5,674.5 billion, rising by NT\$150.0 billion or 2.72% from the previous year end.



Source: Department of the Treasury, CBC.

With respect to bonds issued by governments of special municipalities, new bonds issued by the government of Taipei Special Municipality and the government of Kaohsiung Special Municipality in 2021 reached NT\$30.0 billion and NT\$36.6 billion, respectively, with a combined amount of NT\$66.6 billion. At the end of the year, the outstanding amount of bonds issued by the governments of all special municipalities stood at NT\$164.9 billion, expanding considerably by NT\$64.9 billion or 64.89% from the previous year end.

Decrease in Corporate Bond Issuance

Corporate bonds refer to NT dollar- or foreign currency-denominated bonds issued in Taiwan by domestic corporations. In 2021, the issuing amount of corporate bonds stood at NT\$723.7 billion, sliding by NT\$118.8 billion or 14.11%. The decrease was mainly because an uptick in benchmark government bond yields sent market rates higher, thereby slightly reducing corporations' demand for bond issuance.

In terms of bond maturities, 5-year corporate bonds accounted for a dominant share of the issuance at 50.92%, while 7-year bonds came in second with a share of 26.40%. At the end of 2021, the outstanding amount of corporate bonds grew by NT\$390.7 billion or 15.07% to NT\$2,983.5 billion from the previous year end.

Issues and Outstanding Values in Bond Market by Category

Unit: NT\$ billion

Year/ Month	Total		Central Government Bonds		Local Government Bonds*		Corporate Bonds		Bank Debentures		Beneficiary Securities**		Foreign Bonds		Int'l Bonds	
	Issues	Outstanding	Issues	Outstanding	Issues	Outstanding	Issues	Outstanding	Issues	Outstanding	Issues	Outstanding	Issues	Outstanding	Issues	Outstanding
2019	1,808.3	13,872.3	410.0	5,483.3	33.8	67.7	402.8	2,113.4	162.2	1,313.7	5.3	8.4	17.5	26.7	776.5	4,859.2
2020	3,394.9	14,784.7	535.0	5,524.5	40.5	100.0	842.5	2,592.8	192.0	1,255.7	0.0	5.3	21.5	44.6	1,763.3	5,261.8
2021	2,690.6	15,946.7	617.0	5,674.5	66.6	164.9	723.7	2,983.5	135.2	1,234.0	0.0	5.3	10.6	51.6	1,137.5	5,833.0
2021/ 1	362.0	15,086.7	70.0	5,594.5	10.0	110.0	36.0	2,609.1	3.0	1,243.3	0.0	5.3	0.6	45.0	242.4	5,479.5
2	219.0	15,125.7	65.0	5,599.5	0.0	110.0	1.2	2,606.5	9.3	1,247.6	0.0	5.3	0.0	44.8	143.5	5,512.1
3	138.4	14,999.5	25.0	5,514.5	0.0	110.0	29.6	2,622.0	3.0	1,221.1	0.0	5.3	0.0	44.4	80.9	5,482.2
4	265.6	15,160.1	30.0	5,544.5	22.9	132.9	63.3	2,655.0	7.8	1,209.6	0.0	5.3	0.0	44.3	141.6	5,568.5
5	244.8	15,287.0	60.0	5,574.5	0.0	132.9	91.8	2,723.7	22.4	1,219.5	0.0	5.3	0.5	44.8	70.2	5,586.4
6	249.4	15,338.0	55.0	5,569.5	0.0	132.9	98.4	2,767.6	3.0	1,206.9	0.0	5.3	0.0	44.4	93.1	5,611.5
7	216.6	15,465.4	30.0	5,599.5	0.0	132.9	45.2	2,767.0	2.5	1,206.9	0.0	5.3	0.3	44.6	138.5	5,709.2
8	237.9	15,651.0	97.0	5,696.5	0.0	132.9	99.0	2,839.2	14.1	1,215.3	0.0	5.3	0.0	44.1	27.8	5,717.7
9	224.0	15,699.8	65.0	5,654.5	0.0	132.9	101.4	2,915.2	10.5	1,207.8	0.0	5.3	0.0	43.9	47.2	5,740.2
10	215.4	15,829.5	30.0	5,654.5	20.0	151.2	51.3	2,944.9	14.6	1,215.6	0.0	5.3	2.1	45.7	97.4	5,812.3
11	119.0	15,815.8	30.0	5,614.5	13.7	164.9	27.2	2,942.3	18.3	1,229.2	0.0	5.3	1.1	46.6	28.6	5,813.0
12	198.4	15,946.7	60.0	5,674.5	0.0	164.9	79.4	2,983.5	26.8	1,234.0	0.0	5.3	6.0	51.6	26.3	5,833.0

Notes: * Referring to bonds issued by governments of special municipalities.

** Including those purchased back by originators for credit enhancement.

Sources: 1. *Financial Statistics Monthly* (February 2022), CBC.

2. Banking Bureau, Financial Supervisory Commission.

3. Department of Foreign Exchange, CBC.

Reduction in Bank Debenture Issuance

In 2021, domestic banks issued bank debentures in support of their funding needs, with an issuance amount of NT\$135.2 billion, down by NT\$56.8 billion or 29.58% over the previous year. The contraction was largely because market rates went up owing to rising benchmark bond yields, leading to reduced senior bank debenture issuance by banks.

In respect of the maturity of new issues, perpetual debentures made up the largest share of total issuance at 40.47%, while 7-year, 5-year, and 10-year debentures accounted for 20.81%, 19.70%, and 16.47%, respectively. Debentures of the other maturity ranges made up a marginal share of 2.94%.

At the end of the year, the outstanding amount of bank debentures totaled NT\$1,234.0 billion, representing a year-on-year decrease of NT\$21.7 billion or 1.73%.

Asset Securitization Products Remained Unchanged

New issues of asset securitization products were nil in 2021 and no principal was repaid for existing asset securitization products. The outstanding amount of asset securitization remained at NT\$5.3 billion from the previous year end.

Slide in Foreign Bond Issuance

Foreign bonds are defined as NT dollar-denominated corporate bonds issued in Taiwan by foreign enterprises. For the year 2021, foreign bond issuance dropped substantially by NT\$10.9 billion or 50.77% from a year before to NT\$10.6 billion. The decrease mostly reflected a higher base effect resulting from the NT\$15.0 billion worth of green bonds issued in Taiwan by a Danish energy company, Ørsted, in the previous year. At the end of the year, the outstanding amount of foreign bonds reached NT\$51.6 billion, increasing by NT\$7.0 billion or 15.64% over the previous year end.

Drop in International Bond Issuance

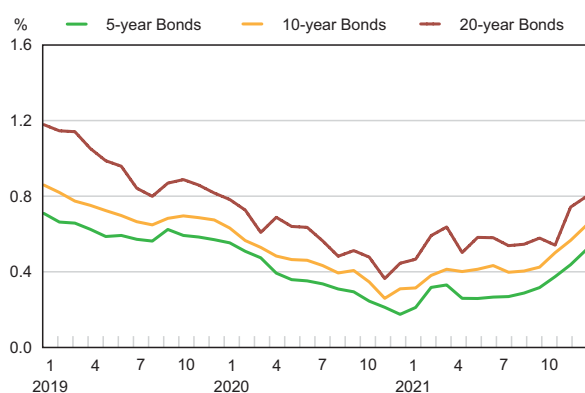
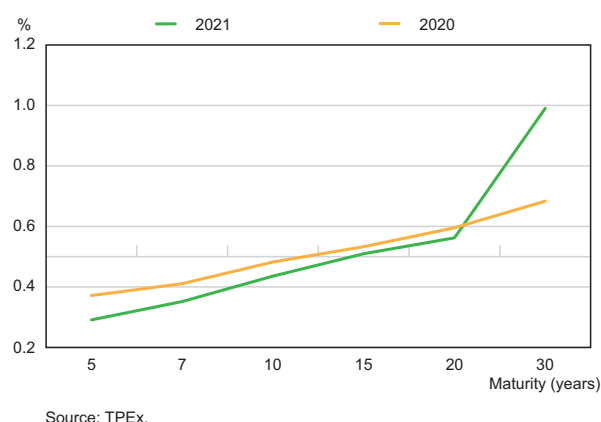
International bonds currently refer to foreign currency-denominated corporate bonds issued in Taiwan by foreign institutions. During 2021, issuance of international bonds fell by NT\$625.8 billion or 35.49% from a year before to NT\$1,137.5 billion. The contraction was primarily because a rebound in US Treasury yields led to a decrease in US dollar-denominated bond issuance. At the end of the year, the outstanding amount of international bonds stood at NT\$5,833.0 billion, representing a year-on-year increase of NT\$571.2 billion or 10.86%.

Uptrend in Average Government Bond Yields and Decline in Transactions

Despite a surge in US inflation bringing up US Treasury yields, Taiwan government bond yields recorded a smaller increase than US bond yields owing to ample domestic liquidity. Government bond yields, in contrast to the downtrend in the previous year, displayed a broad uptrend in 2021, whereas the trading volume of the secondary government bond market for the past two years trended downward. Looking at the volume-weighted average yields, the 10-year government bond yield modestly slid and averaged 0.436%, five basis points lower than the 0.483% of the previous year.

Among government bonds of the other maturity ranges, average yields on 5-year, 7-year, 15-year, and 20-year bonds in the year moved down by eight, six, two, and three basis points, respectively, over the previous year.

On the other hand, the average yield on 30-year bonds in 2021 went up by 31 basis points compared to the previous year. This was because 30-year bonds were mainly issued in the primary market. However, the issuance of 30-year bonds during the year only occurred in February and December. An uptrend in market rates in the year brought the 30-year bond yield of December markedly higher than that of February. In addition, the trading volume of December was also larger than that of February. As a result, when looking at the volume-weighted average yields, the average yield on 30-year bonds in 2021 was higher than the previous year.

Yields on Central Government Bonds with Different Maturities**Yield Curve of Central Government Bonds**

In terms of transaction volume, annual transactions fell by NT\$16,366.0 billion or 31.17% to NT\$36,138.8 billion for the entire year as narrower yield spreads led to a less vibrant domestic bond market.

By type of bonds, the majority of total bond transactions went for corporate bonds with a share of 47.47% and an annual trading volume of NT\$17,155.4 billion. The second most actively traded were government bonds, contributing to 43.05% of total transactions with an annual trading volume of NT\$15,557.9 billion. Bank debentures came in third, accounting for a smaller share of 5.60% with an annual trading volume of NT\$2,024.9 billion.

Turnover in Bond Market by Category

Unit: NT\$billion

Year/ Month	Total	Government Bonds	Corporate Bonds		Bank Debentures	Beneficiary Securities	Foreign Bonds	Int'l Bonds
			Nonconvertible	Convertible				
2019	57,888.5	35,896.7	17,103.2	1,051.9	2,713.1	17.7	168.4	937.5
2020	52,504.7	28,776.6	17,254.7	1,297.6	2,891.9	2.1	434.9	1,846.9
2021	36,138.8	15,557.9	15,807.2	1,348.2	2,024.9	0.5	393.0	1,007.0
2021/ 1	3,632.9	1,870.7	1,274.8	103.9	176.1	0.0	29.0	178.4
2	2,562.7	1,227.8	902.5	76.3	141.9	0.0	22.2	191.9
3	3,455.1	1,673.4	1,339.4	112.6	191.9	0.0	31.1	106.8
4	2,834.9	1,215.8	1,216.3	115.9	163.7	0.0	33.5	89.6
5	2,904.0	1,166.7	1,317.8	126.6	185.3	0.0	34.2	73.4
6	2,803.7	1,130.6	1,326.5	101.3	161.0	0.0	25.4	58.9
7	2,791.5	1,122.6	1,311.6	109.4	165.5	0.0	32.1	50.4
8	3,152.2	1,365.6	1,424.0	112.5	167.7	0.0	31.6	50.7
9	3,057.3	1,263.2	1,438.5	105.1	159.0	0.0	31.1	60.4
10	3,014.6	1,302.9	1,345.2	109.7	158.3	0.0	37.0	61.5
11	2,870.9	1,099.9	1,378.1	146.8	176.3	0.0	35.3	34.5
12	3,059.0	1,118.8	1,532.4	128.1	178.2	0.5	50.5	50.4

Source: TPEX.