

Annual Report 2019

Central Bank of the Republic of China (Taiwan)

Taipei, Taiwan

Republic of China

Foreword



Chin-Long Yang, Governor

In 2019, the global economy continued weaving through supply chain shocks arising from trade disputes among the world's largest economies. As challenging as it was to our exports, Taiwan was able to register steady growth in private consumption and investment. On that account, the pace of domestic economic growth picked up quarter after quarter to reach a six-quarter high of 3.31% in the final three months of 2019. For the year as a whole, the economy expanded by 2.71%, marginally lower than the 2.75% of 2018. With respect to inflation, the diminished cigarette tax hike effect, falling prices of oil and other imported raw materials for agriculture and industry, and decreased telecommunications rates combined to lead the CPI lower from the previous year's 1.35% to 0.56%, and the core CPI (excluding fruit, vegetables, and energy) from 1.21% to 0.49%.

In regard to monetary policy conduct, the policy rates were kept unchanged in the year, reflecting the Bank's assessment of lingering uncertainties over international economic and trade conditions, low and stable inflation and a mild inflation outlook domestically, and an interest rate level around the middle range compared to major economies. Overall, monetary and credit conditions were accommodative, and domestic economic and financial conditions remained healthy. The Bank also managed market liquidity through open market operations. The annual growth rates of bank loans and investments and of the monetary aggregate M2 were 4.71% and 3.46%, respectively. With both readings in excess of the same year's GDP growth, it indicated that the financial system had sufficient liquidity to support economic activity.

Meanwhile, the Bank announced a change in its monetary targeting approach, effective from the year 2020. In place of the approach of setting up an M2 growth range as the target for the coming year, a reference range would be adopted and, while remaining at 2.5%-6.5% for now, would not be reset on an annual basis. Nevertheless, M2 would continue playing a role in anchoring inflation expectations. Should persistent deviations from the reference range or structural changes occur in the future, the Bank will conduct assessments and make adjustments in a timely and appropriate fashion.

The Bank also made strides in another aspect of monetary policy, with expanded efforts in communicating with the public. Indeed, central bank communication has increasingly gained

traction in recent years, lauded as a helpful tool to fortify understanding of and trust in monetary policy, thereby bolstering monetary policy effectiveness. In Taiwan, we began reaching out to the general public via Facebook in 2019, posting about the Bank's policies and using educational pieces to promote financial awareness. We continued to upload more videos on the Bank's official website and mobile app as well as on the site of our Virtual Money Museum, and increased video exposure via the Executive Yuan's multimedia electronic billboards and terrestrial TV broadcasts with informative contents such as NT dollar banknote anti-counterfeit features and helpful guides on paper money preservation.

In 2019, the foreign exchange market broadly exhibited a trend of more supply than demand. The Bank conducted symmetrical smoothing operations, with a net buying of US\$5.5 billion, to sustain dynamic stability of the NT dollar. The Bank held US\$478.1 billion worth foreign exchange reserves, a year-on-year increase of US\$16.3 billion owing mainly to returns from foreign exchange reserves management. Moreover, in addition to greenlighting more bank applications to conduct forex transactions, the Bank reviewed the laws and regulations governing forex business as seen fit, to help authorized foreign exchange banks stay in the lead and their financial services on top form.

Efforts to improve financial infrastructure also carried on in 2019, with the aim of enhancing financial inclusion. One of the methods was by promoting the use of electronic payments. The Bank asked the Financial Information Service Co., Ltd. to further diversify ways to pay central government fees and fines by adding the options of smartphone app-based and QR code-based mobile payments. Moreover, the evolving trend of financial technology (fintech) development also prompted us to reconfigure the research team on digital finance, now comprising a task force on central bank digital currencies (CBDCs) to explore topics of CBDC, blockchain, electronic payments, etc., and a fintech working group for such fields as artificial intelligence, big data, and supervisory technology. They would be charged with the mission to study the feasibility of applying fintech to the Bank's operations or to develop proofs of concept.

At the time of writing, the world remains mired in uncertainties from the coronavirus woes, unresolved trade talks, extreme weather, and geopolitical risks, adding to strains in international financial markets and weighing down on global economic growth. In these extraordinary times, the Bank will continue to closely monitor economic and financial developments at home and abroad and to take action in accordance with its statutory mandates, including maintaining an orderly forex market and dynamic stability of the NT dollar while staying responsive by deploying monetary, credit, and foreign exchange policies where needed.

Finally, I would like to thank my colleagues for their hard work and dedication in producing this publication that reflects the Bank's efforts and economic and financial overviews for the year of 2019. Going forward, we remain devoted to fulfilling our duties and addressing the challenges.



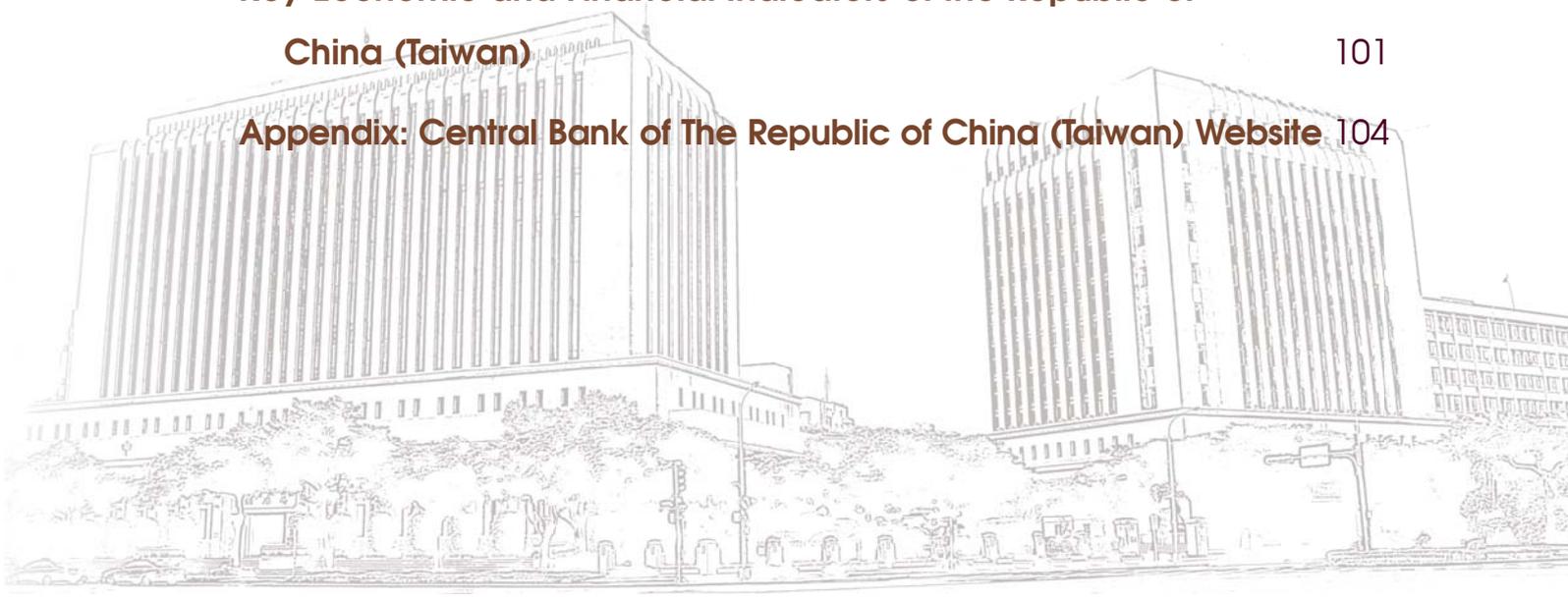
Chin-Long Yang
Governor
April 2020

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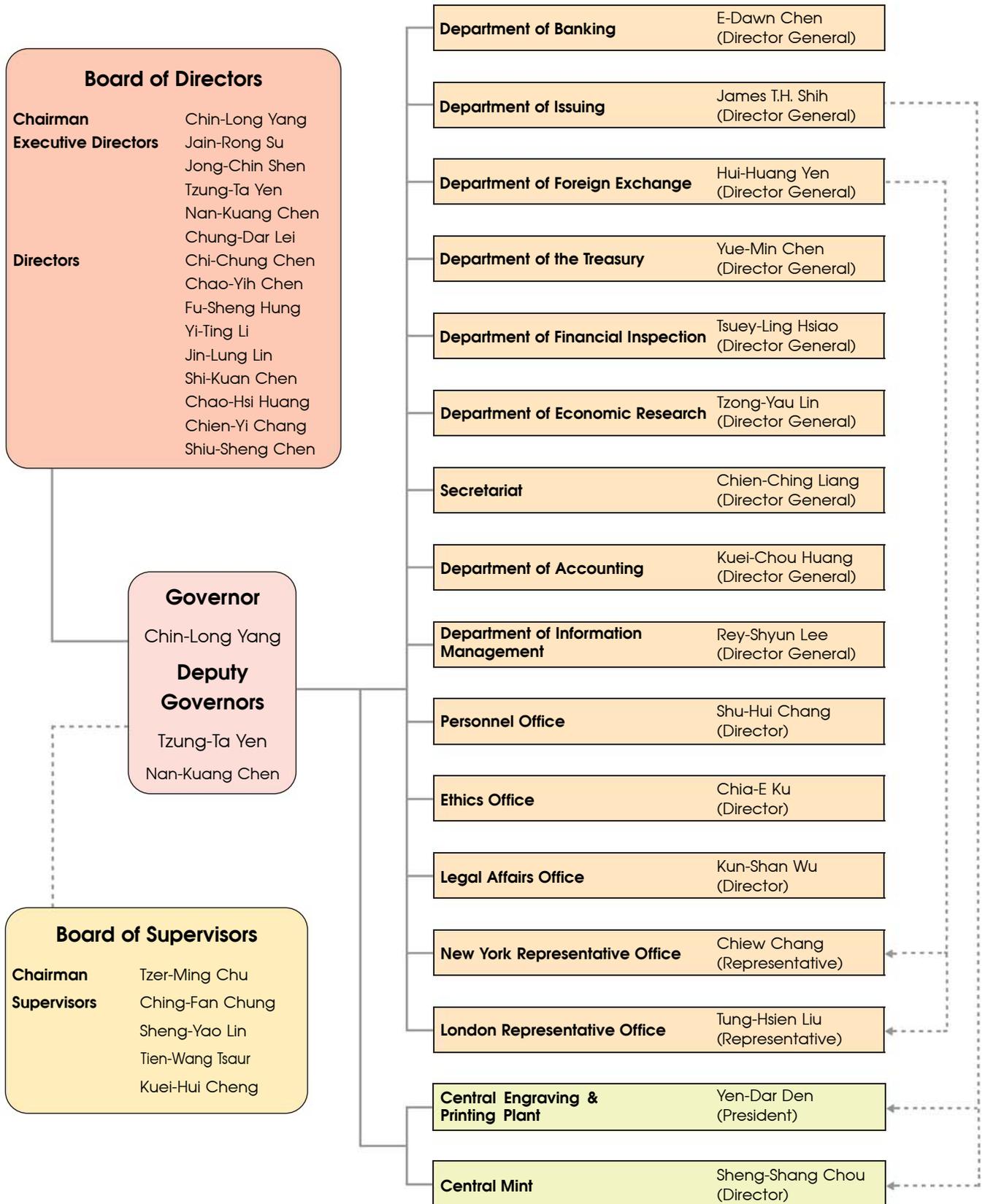
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Organization and Management of the CBC



—— direct reporting - - - - supervision

As of February 2020



Chairman
Board of Directors
Governor
Chin-Long Yang



Executive Director
Jain-Rong Su



Executive Director
Jong-Chin Shen



Executive Director
Deputy Governor
Tzung-Ta Yen



Executive Director
Deputy Governor
Nan-Kuang Chen



Executive Director
Chung-Dar Lei



Director
Chi-Chung Chen



Director
Chao-Yih Chen



Director
Fu-Sheng Hung



Director
Yi-Ting Li



Director
Jin-Lung Lin



Director
Shi-Kuan Chen



Director
Chao-Hsi Huang



Director
Chien-Yi Chang



Director
Shiu-Sheng Chen



Chairman
Board of Supervisors
Tzer-Ming Chu



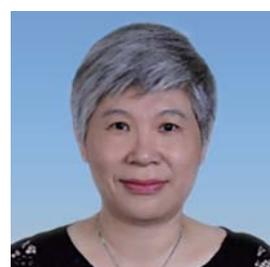
Supervisor
Ching-Fan Chung



Supervisor
Sheng-Yao Lin



Supervisor
Tien-Wang Tsaur



Supervisor
Kuei-Hui Cheng

Developments in the Real Economy



I. Developments in the Real Economy

1. Overview

In 2019, Taiwan's economy continued to gain its momentum primarily from domestic demand, as external demand was hampered by world trade conflicts (see Box 1 for more). For the year as a whole, the annual GDP growth rate was 2.71%, only marginally lower than that of the previous year by 0.04 percentage points. A continued current account surplus and a net asset increase in the financial account pointed to a healthy balance of payments. The consumer price index rose by 0.56%, as fuels and lubricants price declines and communication fee reductions partially offset the increases in four group fees and fruit and vegetables prices. The average unemployment rate edged up by 0.02 percentage points to 3.73%, the second lowest rate since 2001. Meanwhile, monthly real earnings per non-farm worker averaged NT\$52,323 for the year, representing a 1.82% rise that led it to a historical high.

Steady Economic Growth

Over the course of 2019, Taiwan's economic growth accelerated further each quarter, spurred by mild private consumption growth, stronger private investment momentum as semiconductor firms stepped up high-end process development and information and communication (infocom) companies augmented production capacity in Taiwan, and moderate export expansion. Benefitting from the uptrend, the annual GDP growth rate reached 3.31% in the fourth quarter and registered 2.71% for the year as a whole, only slightly below the 2.75% of the previous year.

Among the GDP expenditure components, private investment grew steadily and fixed capital formation expanded further. Domestic demand growth thus gathered pace to 2.62%, making a significant contribution of 2.33 percentage points to overall GDP growth. Despite strains from international trade conflicts, exports were able to attain modest growth thanks to domestic capacity expansion by infocom firms and a trade diversion effect. As a result, net external demand contributed 0.39 percentage points to GDP growth.

In terms of the excess saving ratio, it decreased from the previous year's 13.23% to 11.62% owing to a greater increase in gross domestic investment than that in gross national saving.

Healthy BOP Surplus

Taiwan continued to post a healthy balance of payments. The current account registered a surplus of US\$64,350 million, the financial account had a net asset increase of US\$52,857 million, and the Bank's reserve assets recorded an increase of US\$16,658 million.

In terms of the current account, the goods trade surplus shrank to US\$57,753 million because of a larger decline in exports than in imports; notwithstanding, it remained the largest source of the current account surplus. The services account deficit narrowed to US\$5,184 million, mainly owing to increases in travel receipts and income from professional and management consulting services. Meanwhile, an increase in domestic bank interest receipts and a decrease in direct investment income payments to nonresidents combined to bolster the primary income surplus to US\$14,663 million. The secondary income deficit decreased to US\$2,902 million. For the year as a whole, the ratio of current account surplus to GDP dropped from the 11.6% of the previous year to 10.5%.

In terms of the financial account, portfolio investment showed a net asset increase of US\$46,288 million. Among the components, portfolio investment abroad by residents expanded by a net amount of US\$54,764 million, mainly because onshore funds and domestic insurers built up greater positions of foreign securities. Local portfolio investment by nonresidents returned to positive territory with a net increase of US\$8,476 million as foreign investors increased local stock holdings. In terms of direct investment, which recorded a net asset increase of US\$3,648 million, the amount of residents' direct investment abroad shrank to US\$11,861 million while inbound direct investment by nonresidents rose further to the second highest record at US\$8,213 million. In terms of other investment, it posted a net asset increase of US\$420 million, mainly because banks' deposits with overseas branches and lending to foreign banks both increased.

Mild Inflation

In 2019, global economic growth was disrupted by US-China trade friction, and international prices of crude oil and other raw materials trended lower. Against this backdrop, the wholesale price index fell by 2.27% year on year.

The consumer price index (CPI) went up by 0.56% on average for 2019 as a whole. This was because rises in tour group fees, rent, fruit and vegetables prices, and away-from-home food prices were partially offset by reductions in domestic fuels and lubricants prices amid an international oil price slump and continuously lower communication fees. The core CPI (excluding fruit, vegetables, and energy items) rose by 0.49%. In sum, domestic inflation was mild in 2019.

Slightly Higher Unemployment Rate; Slower Wage Growth

Labor market conditions were stable in 2019. By month, seasonal factors, including employees changing jobs after the Lunar New Year and graduates entering the job market, drove the unemployment rate up in February and June through August. However, in the other months of the year, the unemployment rate dropped. It averaged 3.73% for the year as a whole, only slightly higher compared to the previous year's 3.71% and the second lowest since 2001. The average labor force participation rate ticked up by 0.18 percentage points to 59.17%.

On average, employment reached 11.50 million persons in 2019, increasing by 66 thousand or 0.58%. The services sector accounted for the most of this increase, with an additional hiring of 59 thousand persons or 0.87%. Industrial employment increased the second most, by nine thousand or 0.21%, whereas agricultural employment shed two thousand persons, or 0.20%.

In terms of wages, average non-farm (industrial and services sectors) monthly earnings per employee gained by 2.39% to NT\$53,657. It did not grow as fast as the previous year's 3.82% mainly because reduced corporate profits led to slower growth in non-regular earnings such as bonuses. Meanwhile, real monthly earnings (adjusted for inflation) rose by 1.82% to NT\$52,323, the highest in history. Labor productivity indices of the industrial sector and the manufacturing industry edged down by 0.06% and 0.15%, respectively. Unit labor costs increased by 0.87% in the industrial sector and 0.95% in the manufacturing sector, reflecting an increase in total earnings relative to a decrease in production.

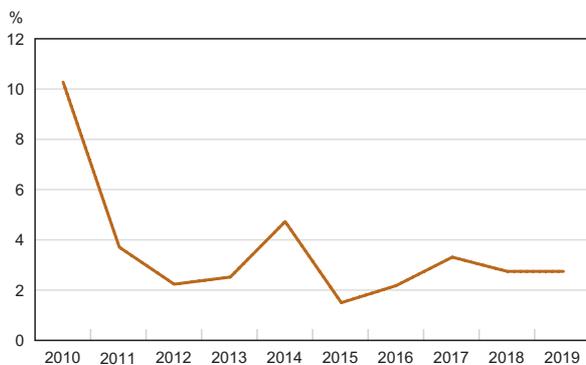
2. National Output and Income

In 2019, Taiwan's economy expanded at an annual rate of 2.71%, slightly lower than the 2.75% of the previous year. Domestic demand continued to serve as the leading force for economic expansion and contributed 2.33 percentage points to real GDP growth. This was in part due to a steady increase in private consumption as well as a remarkable expansion in fixed capital formation. In terms of external demand, despite weak global demand and escalating trade tensions, net exports grew mildly and contributed 0.39 percentage points to real GDP growth. In the meantime, nominal GNI (gross national income, in US dollars) rose by 0.63% and per capita GNI increased from US\$26,376 to US\$26,528 over the year 2019.

In the first quarter, real GDP experienced the lowest level of growth over the year at 1.84%. Private consumption grew moderately and private investment expanded at a solid pace because of higher demand for machinery and equipment investment. Government consumption, on the contrary, contracted owing to a higher base effect resulting from the public sector wage increase in the previous year. Meanwhile, a gradual global economic slowdown weighed on export growth, thereby posing a headwind to domestic economic growth. In the second quarter, real GDP growth picked up from its lowest point and reached 2.60%. Although government consumption remained constricted, private investment continued to gain growth momentum from machinery and equipment investment. Growth in private consumption and exports provided additional support to real GDP growth.

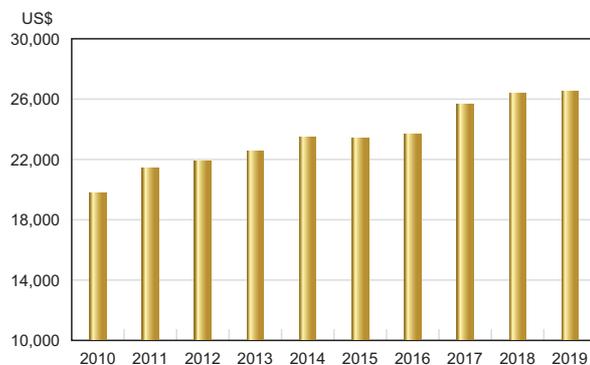
In the third quarter, real GDP expanded at an annual rate of 3.03%. Of note, government consumption exhibited positive growth after two consecutive quarters of contractions. Private consumption growth was buoyed by an increase in vehicle sales and higher demand for overseas

Real Growth Rate of GDP



Source: *Statistical Abstract of National Income*, DGBAS, Executive Yuan, February 2020.

Per Capita GNI



Source: *Statistical Abstract of National Income*, DGBAS, Executive Yuan, February 2020.

travel. Growth in private investment was relatively soft, reflecting slower build-ups of construction investment and machinery and equipment investment. Exports suffered from weak global demand and fell slightly from the previous year. In the fourth quarter, a number of positive factors emerged, pushing real GDP growth to the highest level over the year at 3.31%. Higher vehicle sales and stock trading volumes bolstered private consumption growth; an expansion in machinery and equipment investment resulted in another quarter of strong growth for private investment; the enhancement of production capacity in the IT sector helped prop up export growth.

Expenditure Components of GDP

All expenditure components of GDP recorded positive growth in 2019. Among all the components, gross fixed capital formation was the primary source of economic growth and contributed 1.99 percentage points to real GDP growth for the year. Private consumption, on the other hand, contributed 1.12 percentage points to real GDP growth. Meanwhile, exports of goods and services and government consumption contributed to real GDP growth by 0.83 and 0.02 percentage points, respectively. With respect to shares of GDP, exports of goods and services accounted for the largest share of GDP at 64.10%, followed by private consumption at 52.22% and gross fixed capital formation at 23.44%.

GDP by Expenditure

Unit: %

	2019			2018		
	Share	Real Growth Rate	Contribution to Real Growth Rate of GDP*	Share	Real Growth Rate	Contribution to Real Growth Rate of GDP*
Private Consumption	52.22	2.13	1.12	52.39	2.04	1.06
Government Consumption	13.99	0.11	0.02	14.30	4.03	0.56
Gross Fixed Capital Formation	23.44	9.13	1.99	21.76	2.95	0.62
Change in Inventory	-0.14	-	-0.80	0.46	-	0.78
Exports of Goods and Services	64.10	1.24	0.83	66.62	0.69	0.46
(Less : Imports of Goods and Services)	53.61	0.79	0.44	55.52	1.37	0.74
Expenditure-based GDP	100.00	2.71	2.71	100.00	2.75	2.75

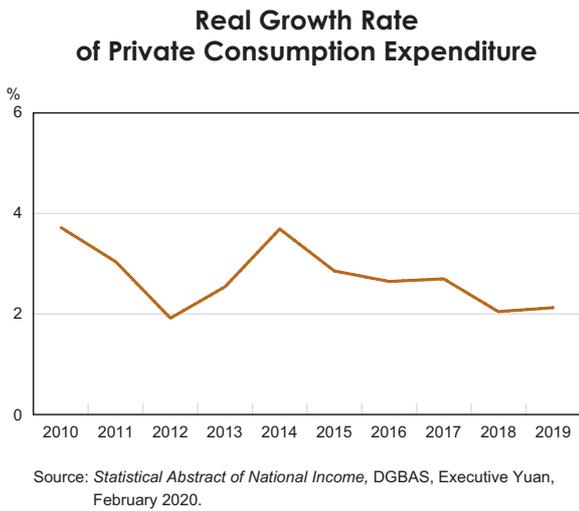
Note: * Percentage point.

Source: *Statistical Abstract of National Income*, DGBAS, Executive Yuan, February 2020.

(1) Steady Growth in Private Consumption

In general, growth in private consumption was weak in the beginning of the year, but improved significantly in the second half of 2019. For the year as a whole, private consumption posted an annual growth rate of 2.13%, slightly higher than the 2.04% of 2018, and contributed 1.12 percentage points to real GDP growth.

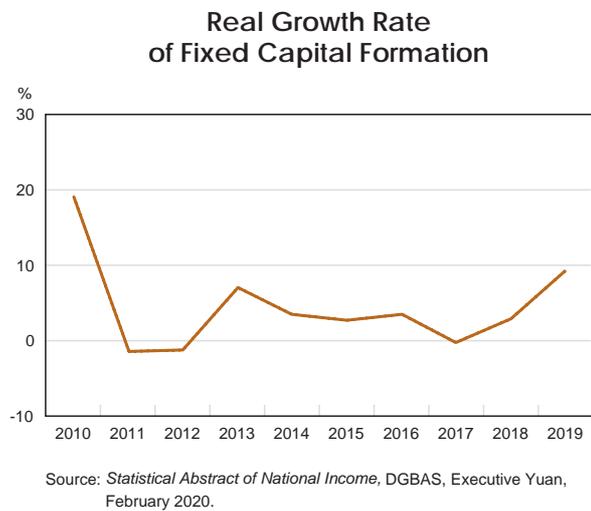
In the first half of the year, the US-China trade dispute led to high volatility in global financial markets, thereby adversely affecting consumer confidence. Private consumption growth was further restrained by a subpar performance in vehicle sales and a downturn in stock trading value. Yet, the employment condition remained stable and wages continued to rise steadily. Against this conflicting backdrop, private consumption grew at 1.75% and 1.61% in the first two quarters, respectively. In the second half of the year, the US-China trade dispute eased and the Taiwan stock market reached a 29-year high, thereby helping private consumption regain its growth momentum. Furthermore, vehicle sales improved over the second half of 2019, leading to stronger retail sales, and the number of outbound travelers also experienced notable growth, both providing an additional boost to private consumption. As a result, private consumption grew robustly at 2.52% and 2.63% in the third and fourth quarters, respectively.



(2) Robust Expansion in Fixed Capital Formation

Fixed capital formation grew at a solid rate of 9.13% for the entire year and contributed 1.99 percentage points to real GDP growth, the highest level of contribution since 2010. This marked expansion was attributed to a growing trend in manufacturing reshoring, the active development in offshore wind power, and an accelerating rate of investment growth in advanced process technologies in the semiconductor industry.

In the first and second quarters of 2019, fixed capital formation expanded by 6.55% and 11.44%, respectively, supported by an increase in machinery and equipment investment and a rise in transportation investment. However, as machinery and equipment investment cooled off in the third quarter, the growth rate of fixed capital formation slipped to 3.71%, the lowest level over the year. In the fourth quarter, imports of semiconductor equipment surged and construction and transportation investments both grew steadily; growth in fixed capital formation thus rebounded from the weak patch and reached 14.97%, the highest level over the year.



In terms of the type of capital formation, construction investment grew at a steady pace, with an annual growth rate of 1.93% in 2019. On the other hand, transportation investment shrank by 1.80% for the entire year owing to a higher base effect. A substantial expansion appeared in investment in machinery and equipment throughout the year, with each quarter growing at above 20%, except for the third quarter. As a result, machinery and equipment investment expanded by 23.80% for the entire year. Lastly, investment in intellectual property remained relatively stable and increased by 3.53% in 2019.

(3) Mild Upturn in Real Exports and Imports

In 2019, Taiwan's exports confronted some crosscurrents such as weak global demand and the US-China trade dispute, yet also benefitted from the resulting trade diversion effects. Overall, exports of goods and services increased at a mild pace of 1.24% and contributed 0.83 percentage points to real GDP growth.

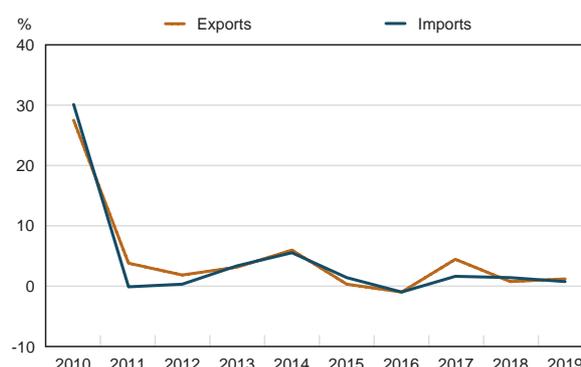
In the first quarter, influenced by a slowdown in global economic growth and a higher base effect, exports grew softly by 0.88%. In the second quarter, growth in exports increased to 1.42%, which was supported by the effects of production relocation and trade diversion. Export growth continued to be dampened by the US-China trade dispute in the third quarter and fell sharply to -0.03%. In the fourth quarter, benefiting from a number of favorable conditions, such as an easing of trade tensions, rising demand for 5G applications, and an improvement in production capacity, exports advanced by 2.64%, the highest growth over the year.

Turning to the imports of goods and services, a significant increase in imports of capital equipment mitigated the decline in export-derived demand and caused real imports to rise slightly by 0.79% for the entire year.

Moderate Decline in Excess Saving Ratio

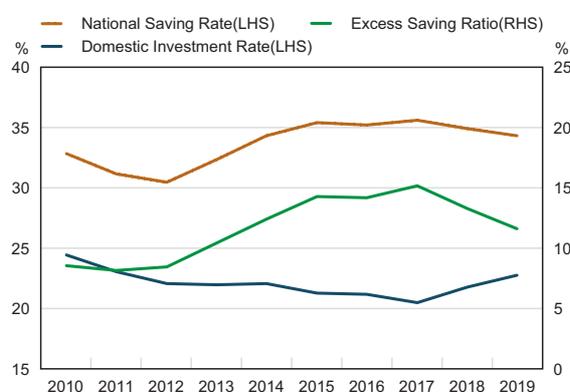
Domestic investment expanded on the back of a growing trend in manufacturing reshoring,

Real Growth Rates of Exports and Imports



Source: *Statistical Abstract of National Income*, DGBAS, Executive Yuan, February 2020.

National Saving Rate, Domestic Investment Rate, and Excess Saving Ratio



Source: *Statistical Abstract of National Income*, DGBAS, Executive Yuan, February 2020.

the active development in offshore wind power, and an accelerating rate of investment growth in advanced process technologies in the semiconductor industry. As a consequence, domestic investment as a share of GNI moved upward by a small margin, from 21.73% in 2018 to 22.75% in 2019. Meanwhile, the national saving rate (the ratio of national saving to GNI measured at current prices) fell slightly from 34.96% in 2018 to 34.37% in 2019. Overall, the excess saving ratio, defined as the excess of gross national saving over gross domestic investment to GNI, slid from 13.23% in 2018 to 11.62% in 2019.

Box 1 Implications of US-China Trade Relations for Taiwan

1. Trade Diversion Effects Helped Temper the Impact of Soft External Demand

In 2019, most major Asian economies suffered negative export growth as the US-China trade conflict continued to flare and the global economy faltered. By contrast, Taiwan was able to benefit from companies' tariff mitigation strategies such as production relocations and order transfers, which cushioned the blow to external demand. As a result, Taiwan's exports, though contracting by 1.4% compared to 2018, did not decline as sharply as those in Singapore, South Korea, Japan, Malaysia, and Thailand.

Over the course of the trade war, new tariffs imposed by the Trump administration were added to an increasingly longer list of Chinese goods and drove up average import tariffs. One of the most drastic hikes took effect on May 10, 2019, raising the additional tariffs from 10% to 25% on approximately US\$200 billion worth Chinese goods that included information, communication, and audio-video products ranging from servers and routers, to memory modules. Given this escalation, Taiwanese information and communication product firms, who had manufactured 89.7% of their export orders in China and shipped more than 30% of them directly to the US, began to expedite production relocations to other countries.

In addition to the battle front of tariffs, the US and China also fought for technological supremacy and, around the world, information security was given greater priority. As a result, multinationals became keener on moving advanced technologies, products, and related supply chains out of China. This presented an opportunity for Taiwan, which boasts an integrated, comprehensive semiconductor industrial cluster with high-end product capabilities, to be the nexus of the reconfigured supply chains.

In 2019, the proportion of overseas production in total export orders increased modestly by 0.2 percentage points over the previous year. However, the fact that the share of information

and communication products manufactured overseas dropped 2.2 percentage points showed that domestic production was gaining ground. While Taiwan's total exports shrank by 1.4% in 2019, exports of information, communication, and audio-video products recorded a positive growth rate of 20.8%, with those bound for the US soaring by 59.5%, easing the shock from sluggish external demand.

2. Taiwanese Investment in China Fell and US Corporate Direct Investment in Taiwan Rose

In recent years, China's lure as a cost-effective production base has faded as its labor costs and tax burdens surged and environmental laws strengthened. Combined with the trade war effects, these considerations added to the catalysts for production relocation out of China. Investment in China by Taiwanese firms slid from US\$8.5 billion a year earlier to US\$4.17 billion in 2019, declining markedly by 50.9%. The manufacturing sector alone scaled down its China-bound investment by 59.7% year on year to US\$2.41 billion, with the largest cutback, of US\$1.22 billion, coming from the manufacturers of electronic parts and components.

Meanwhile, multinationals, especially US-headquartered corporations, stepped up their investment in Taiwan for emerging technologies such as 5G network, artificial intelligence, Internet of Things, and cloud computing and data storage. In 2019, US businesses invested US\$0.36 billion in Taiwan, a new high since 2014. If investment through establishments in third countries (e.g., Micron, through its Dutch subsidiary, and Google, via fund flows from British Virgin Islands) is included, Taiwan-bound investment by the US high-tech industry would exceed US\$3.0 billion in 2019, bolstering Taiwan's further involvement in the integration of software and hardware supply chains.

3. Despite the US-China "Phase One" Trade Deal, COVID-19 Impact on Trade Should Be Closely Monitored

While US-China trade tensions continued to heighten uncertainties over global investment and trade in 2019 with adverse implications for Taiwan's economy and trade, they also spurred high-tech corporate investment flows into Taiwan. Increased development of high-end processes and production, if carrying on, would strengthen the inter-industry linkage effects in Taiwan, thereby promoting exports and consumption, creating jobs, and boosting economic growth.

After the US and China signed a "phase one" trade deal on January 15, 2020, which took effect on February 14, it removed some of the uncertainties over the global economy and trade. Before breathing a reprieve, the world took another hit with the coronavirus (COVID-19) pandemic breaking out in China in January and spreading to the world, wreaking havoc on economic growth where it struck. In this view, it would be crucial to remain watchful of China's follow-up efforts in keeping its trade deal promises and to monitor the potential implications for Taiwan.

Finally, it is worth noting that the trade war could add to the challenge of trade-related talks between Taiwan and the US. For one thing, Taiwan's current account surplus to GDP ratio exceeded the 2% threshold set by the US Treasury in determining currency manipulation of its trading partners, which was because of a chronically large excess of saving. For another, trade diversion as a result of the US-China trade spat also caused an increase in Taiwan's exports to the US. According to US Customs statistics, the US ran a trade deficit of US\$23.04 billion with Taiwan in 2019, also above the US Treasury's threshold of US\$20 billion. These developments alongside the trade war could in turn lead pressures to mount for Taiwan in its trade-related talks with the US.

3. Balance of Payments

In 2019, Taiwan's current account surplus shrank to US\$64,350 million, which accounted for 10.5% of nominal GDP, down from 11.6% in the previous year. The financial account posted a net asset increase of US\$52,857 million. The reserves and related items recorded a surplus of US\$16,658 million, which was reflected in the increase in foreign reserve assets held by the Bank.

Balance of Payments

Unit: US\$ Million

	(1) 2019	(2) 2018	(1)-(2)
A. Current Account	64,350	70,843	-6,493
Goods: credit (exports)	330,910	345,495	-14,585
Goods: debit (imports)	273,137	278,461	-5,324
Balance on Goods	57,773	67,034	-9,261
Services: credit (exports)	51,811	50,209	1,602
Services: debit (imports)	56,995	56,831	164
Balance on Services	-5,184	-6,622	1,438
Primary income: credit	39,114	39,051	63
Primary income: debit	24,451	25,299	-848
Balance on primary income	14,663	13,752	911
Secondary Income: credit	8,239	7,643	596
Secondary Income: debit	11,141	10,964	177
Balance on secondary income	-2,902	-3,321	419
B. Capital Account	-3	63	-66
C. Financial Account	52,857	54,220	-1,363
Direct investment: assets	11,861	18,058	-6,197
Equity and investment fund shares	10,834	17,431	-6,597
Debt instruments	1,027	627	400
Direct investment: liabilities	8,213	6,998	1,215
Equity and investment fund shares	8,087	7,195	892
Debt instruments	126	-197	323
Portfolio investment: assets	54,764	68,853	-14,089
Equity and investment fund shares	-2,584	2,376	-4,960
Debt securities	57,348	66,477	-9,129
Portfolio investment: liabilities	8,476	-15,175	23,651
Equity and investment fund shares	8,114	-14,385	22,499
Debt securities	362	-790	1,152
Financial derivatives: assets	-15,490	-16,748	1,258
Financial derivatives: liabilities	-17,991	-18,386	395
Other investment: assets	7,417	-20,082	27,499
Other investment: liabilities	6,997	22,424	-15,427
D. Net Errors and Omissions	5,168	-4,187	9,355
E. Reserves and Related Items*	16,658	12,499	4,159

Note: * Excluding valuation changes in exchange rates.
Source: *Balance of Payments*, CBC, February 2020.

Narrowing Current Account Surplus

The current account consists of four major items, namely goods, services, primary income, and secondary income.

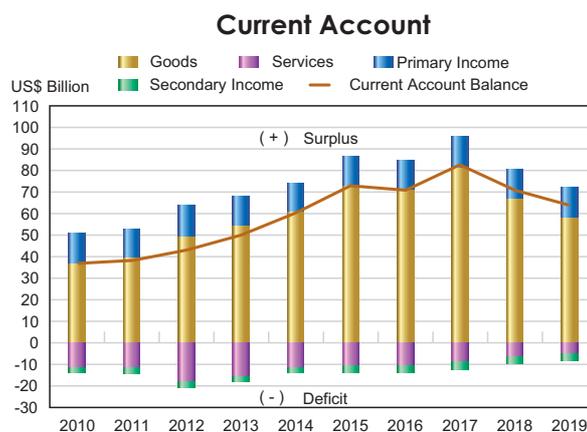
(1) Goods

Because of slower global economic growth and lower international raw material prices, Taiwan's external merchandise trade experienced a slowdown in 2019, with the value of exports, on a BOP basis, decreasing by 4.2% to US\$330,910 million from 2018. Among its components, net exports of goods under merchanting declined by 5.1% to US\$10,803 million. The value of imports decreased by 1.9% to US\$273,137 million. Overall, as the decrease in exports exceeded that in imports, the trade surplus narrowed from US\$67,034 million to US\$57,773 million in the year. The top five trading partners of Taiwan in 2019 were Mainland China including Hong Kong (hereafter in this chapter referred to as Mainland China), ASEAN,¹ the US, Europe, and Japan.

In terms of Taiwan's trade with Mainland China, the value of exports amounted to US\$132,228 million in 2019, 4.1% lower than the previous year. As a manufacturing center of the world, Mainland China remained Taiwan's largest export market, though its share of total exports shrank to 40.2%. Among major export products, plastics and rubber and articles thereof and chemicals contributed the most to this negative growth in Taiwan's exports to Mainland China, owing to a broad downtrend in international raw material prices. However, exports of electronic parts and components to Mainland China increased by 3.2%, because the US-China trade conflict drove Mainland China to strengthen its pursuit of technological self-reliance and to seek non-US suppliers. Imports from Mainland China grew by 5.9% to US\$58,443 million in 2019, comprising a larger share of 20.4% in total imports. The increase mainly came from electronic parts and components and information, communication and audio-video products as a result of stronger export-derived demand. In sum, the trade surplus with Mainland China decreased to US\$73,785 million in 2019 but still remained the largest source of Taiwan's trade surplus.

Exports to the ASEAN economies decreased to US\$53,920 million in 2019, down by 7.2% with a weak export performance of mineral products. Imports from the ASEAN economies increased by 1.4% to US\$35,028 million, accounting for 12.3% of total imports, as imports of electronic parts and components rose. Overall, the trade surplus with the ASEAN economies declined to US\$18,892 million.

¹ Association of Southeast Asian Nations, including Brunei Darussalam, Cambodia, Indonesia, Laos, Myanmar, Malaysia, the Philippines, Singapore, Thailand, and Vietnam.



Source: Balance of Payments, CBC, February 2020.

Singapore, Vietnam, and the Philippines were the third, fourth, and fifth largest sources of Taiwan's trade surplus, respectively.

In 2019, Taiwan's exports to the US grew 17.2% to US\$46,268 million, comprising a higher share of 14.0% in total exports. Among the exported goods, information, communication and audio-video products posted a 59.5% increase. This was mainly because a hike (from 10% to 25%) in additional US tariffs in May on imports from China of such goods as servers, routing apparatus, and memory modules, as well as information security concerns which prompted some production relocation to Taiwan. As for imports from the US, the amount rose by 5.2% to US\$34,814 million, with its share in total imports climbing to 12.2%. The major products leading the growth were machinery and mineral products. The trade surplus with the US expanded to US\$11,454 million for the year, ranking second among Taiwan's surplus sources.

Exports to Europe decreased by 4.8% to US\$29,775 million, with its share of total exports decreasing to 9.0%. The major products contributing to this contraction were base metals & articles thereof and electronic parts and components. Imports from Europe increased by 5.7% to US\$36,539 million, with the share of total imports increasing to 12.8%, mainly because imports of machinery (especially semiconductor equipment) sharply rose by 71.7%. In all, Taiwan's trade deficit with Europe expanded to US\$6,765 million in 2019.

Exports to Japan increased by 2.1% to US\$23,286 million as its share in Taiwan's total exports increased to 7.1%. Of all major products exported to Japan, electronic parts and components and

Trade in Goods by Country

Unit: %

	2019			2018		
	Amount (US\$ Million)	Share	Annual Change	Amount (US\$ Million)	Share	Annual Change
Exports						
Mainland China (including Hong Kong)	132,228	40.2	-4.1	137,899	41.3	6.1
ASEAN	53,920	16.4	-7.2	58,126	17.4	-0.7
US	46,268	14.0	17.2	39,490	11.8	7.4
Europe	29,775	9.0	-4.8	31,278	9.4	8.7
Japan	23,286	7.1	2.1	22,801	6.8	10.8
Rest of the World	43,842	13.3	-1.3	44,414	13.3	8.5
Total	329,320	100.0	-1.4	334,007	100.0	5.9
Imports						
Mainland China (including Hong Kong)	58,443	20.4	5.9	55,199	19.4	7.1
Japan	44,035	15.4	-0.3	44,151	15.5	5.3
US	34,814	12.2	5.2	33,105	11.6	16.6
Europe	36,539	12.8	5.7	34,580	12.1	10.4
ASEAN	35,028	12.3	1.4	34,549	12.1	11.4
Rest of the World	76,979	26.9	-7.5	83,207	29.2	14.0
Total	285,839	100.0	0.4	284,792	100.0	10.7

Source: *Monthly Statistics of Exports and Imports*, Ministry of Finance, R.O.C. (Taiwan).

information, communication and audio-video products contributed the most to the growth. Imports from Japan decreased slightly by 0.3% to US\$44,035 million, despite a 23.5% increase in machinery imports, and its share of total imports remained at 15.4%. Japan remained Taiwan's second largest source of imports in 2019. Overall, the trade deficit with Japan shrank to US\$20,749 million.

(2) Services

In 2019, services receipts increased by US\$1,602 million to US\$51,811 million. Services payments increased by US\$164 million to US\$56,995 million. In all, the services deficit continued narrowing to US\$5,184 million.

Of the various components of the services account, receipts of manufacturing services on physical inputs owned by others, reflected by the receipts of a resident providing a nonresident with the services of processing, assembly, labeling, or packing of goods owned by the nonresident, increased by US\$433 million to US\$3,214 million in 2019. On the debit side, payments for manufacturing services, namely a resident's payments to a nonresident for providing these services for the resident who is also the owner of the goods concerned, decreased by US\$779 million to US\$1,947 million. In total, net manufacturing receipts increased from US\$55 million to US\$1,267 million.

In terms of maintenance and repair services n.i.e. (not included elsewhere), which covers maintenance and repair work for or by nonresidents on ships, aircraft, and other transport equipment, the receipts declined by US\$141 million to US\$1,389 million owing to decreased receipts from aircraft repairs. On the other hand, the payments were US\$924 million, approximately the same as the previous year. Overall, the surplus on this account narrowed from US\$606 million to US\$465 million.

Transport receipts decreased by US\$496 million to US\$10,455 million, reflecting decreases in international freight proceeds received by domestic carriers. Transport payments decreased by US\$675 million to US\$11,775 million as a result of decreases in passenger fares paid to foreign airlines. Overall, net transport payments decreased from US\$1,499 million to US\$1,320 million in the year.

Travel receipts increased by US\$669 million to US\$14,373 million, mainly because of a larger number of inbound visitors. Meanwhile, travel payments increased by US\$1,079 million to US\$20,507 million, a new historical level as the number of outbound travelers mounted. The numbers of inbound visitors and outbound travelers both reached record highs, increasing by 7.2% and 2.7%, respectively. However, as the average length of stay of inbound visitors declined, the deficit on the travel account widened to US\$6,134 million, the largest on record.

Other services receipts grew by US\$1,137 million to US\$22,380 million, mainly attributable to increases in receipts from professional and technical services (which is under other business services), computer and information services, and financial services. Other services payments rose by US\$539 million to US\$21,842 million, owing to increases in payments for computer and information services, financial

services, and construction. In all, other services exhibited a surplus of US\$538 million in 2019, reversing the deficit in the previous year.

(3) Primary Income

Primary income consists of compensation of employees, investment income, and other primary income. In 2019, primary income receipts slightly increased by US\$63 million to US\$39,114 million, mainly because of increasing interest received by banks. Meanwhile, primary income payments amounted to US\$24,451 million, US\$848 million less than the previous year. This was mostly attributable to a decrease in direct investment income paid to nonresidents. Consequently, the surplus on the primary income account rose to US\$14,663 million for the year of 2019.

(4) Secondary Income

For the year of 2019, secondary income receipts amounted to US\$8,239 million, reflecting increases in inward family support allowances and workers' remittances. Secondary income payments amounted to US\$11,141 million, mainly owing to increases in gifts and samples and net premiums paid to nonresidents. As a whole, the deficit on secondary income narrowed to US\$2,902 million in 2019.

Capital Account Deficit

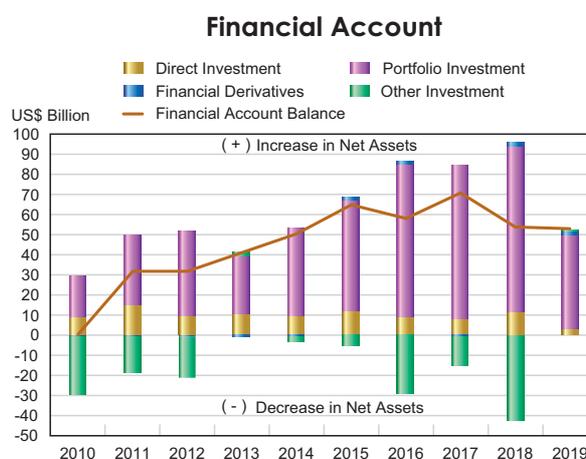
The capital account includes capital transfers and the acquisition and disposal of non-produced, non-financial assets. In 2019, the balance of the capital account turned from a surplus to a deficit of US\$3 million.

Net Asset Increase in Financial Account

In 2019, the financial account showed an increase of US\$52,857 million in net assets. In terms of sub-categories, direct investment, portfolio investment, financial derivatives, and other investment exhibited increases of US\$3,648 million, US\$46,288 million, US\$2,501 million, and US\$420 million in net assets, respectively.

(1) Direct Investment

Direct investment abroad by residents exhibited an increase of US\$11,861 million in assets. Direct investment in Taiwan by nonresidents showed an increase of US\$8,213 million, the highest on record except for 2016.



Source: *Balance of Payments*, CBC, February 2020.

(2) Portfolio Investment

In 2019, portfolio investment abroad by residents increased by US\$54,764 million mainly because onshore funds and insurance companies expanded their investment abroad. Equity and investment fund shares decreased by US\$2,584 million, and debt securities increased by US\$57,348 million.

On the other hand, local portfolio investment by nonresidents increased by US\$8,476 million as foreign investors increased holdings of Taiwanese stocks. Equity and investment fund shares increased by US\$8,114 million, and debt securities increased by US\$362 million.

(3) Financial Derivatives

Assets in financial derivatives decreased by US\$15,490 million, principally because of gains on transactions of financial derivatives received by other financial corporations.

Liabilities in financial derivatives decreased by US\$17,991 million, mainly because of losses on transactions of financial derivatives paid by other financial corporations.

(4) Other Investment

In 2019, other investment abroad by residents increased by US\$7,417 million. Of the components, currency and deposits increased by US\$8,117 million as a result of growing banks' due from overseas branches; loans exhibited an increase of US\$4,442 million because of an increase in interbank loans; trade credit decreased by US\$4,442 million; other accounts receivable decreased by US\$705 million as a result of a decrease in banks' accounts receivable from nonresidents.

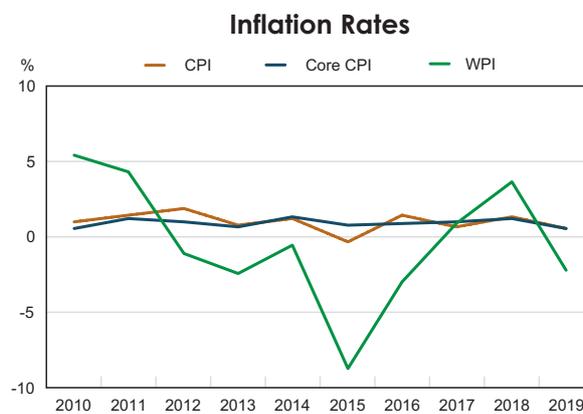
Other inward investment by nonresidents increased by US\$6,997 million. Of the components, currency and deposits increased by US\$3,950 million because of growing deposits in Offshore Banking Units by nonresidents; loans increased by US\$47 million; trade credit increased by US\$3,592 million; other accounts payable decreased by US\$592 million, owing to a decrease in banks' accounts payable to nonresidents.

Increase in Foreign Exchange Reserves

The foreign exchange reserve assets held by the Bank increased by US\$16,658 million in 2019 mainly owing to returns from foreign exchange reserves management.

4. Prices

In 2019, Taiwan's wholesale price index (WPI) fell by 2.27% from the previous year's increase of 3.63%. The significant decline in WPI mainly resulted from a reduction in international raw material prices against a backdrop of a slowing global economy clouded by the US-China trade conflict. Headline inflation, measured by the consumer price index (CPI), grew mildly at an annual rate of 0.56% in the year, primarily because of an increase in tour group fees and price rises in vegetables, fruit, residential rent, and food away from home. Nevertheless, it was partly offset by drops in fuel prices, reflecting falling international petroleum prices, and in communication fees. The core CPI, which excludes fruit, vegetables, and energy, increased by 0.49%, the lowest since 2010.



Source: *Price Statistics Monthly*, DGBAS, Executive Yuan.

Marked Decrease in Wholesale Prices

The WPI declined by 2.27% in 2019, after registering increases in the previous two years. The contraction was primarily attributable to a slump in prices for international raw materials amid a global economic slowdown. In terms of monthly movements, the annual WPI inflation rate modestly rose from the beginning of the year and reached 1.19% in March because of a rebound in international oil prices. However, as the global economic growth decelerated on account of the US-China trade friction, the annual WPI inflation rate fell to an all-year low of -6.37% in October. Later, the decline in the annual WPI inflation rate abated owing to a pickup in international oil prices, and the decrease narrowed to 3.55% in December.

Broken down by the three major components of the WPI, the annual rates of change in prices for imports, domestic sales excluding imports, and exports all declined in 2019 because of the weakness in raw material prices.

Import prices, weighted at 31.92% of the WPI, slipped by 3.89% in US dollar terms in 2019. Nevertheless, the NT dollar depreciation against the US dollar over 2019 helped the annual growth rate of import prices alleviate to a 1.46% decrease in NT dollar terms. Among the components of import prices in terms of NT dollars, prices of raw materials moved down by 2.44% and accounted

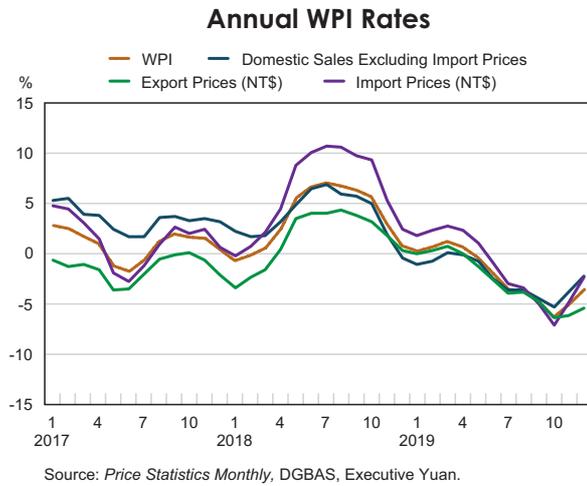
for 1.74 percentage points in the import price decrease, mainly because of falling prices of chemical products and mineral products. On the contrary, prices of capital goods and consumer goods rose by 1.78% and 0.13%, respectively.

Export prices, weighted at 40.04% of the WPI, went down by 5.26% in US dollar terms in 2019. As the NT dollar depreciated against the US dollar, the annual change in export prices lessened to a 2.85% decrease in terms of the NT dollar. Among the components of export prices in terms of NT dollars, prices of raw materials slid by 3.24%, contributing 2.63 percentage points to the export price decrease, largely reflecting lower prices of chemical products, plastics and rubber products, and mineral products. In addition, prices of consumer goods fell by 2.60%, whereas prices of capital goods increased by 1.57%.

With declining import costs of primary commodities owing to slower global economic growth, prices of domestic sales excluding imports, weighted at 28.04% of the WPI, decreased by 2.40% in 2019. In terms of the basic groups, prices of manufacturing products recorded the largest decline at 3.34%, primarily attributable to a reduction in prices of chemical materials. On the other hand, prices of agriculture, forestry, fishing, and animal husbandry products rose by 3.32%, mostly because of price increases in vegetables and fruit.

Mild Increase in Consumer Prices

The CPI went up by 0.56% in 2019, lower than the 1.35% increase in the previous year. From the beginning of the year, owing to falling vegetable prices on the back of favorable weather conditions and decreased telecommunication rates, the annual growth rate of the CPI stayed low. From March onwards, the CPI grew at a faster pace that trended up to 0.93% in May because of an uptick in international oil prices and weather-induced vegetable price hikes at home. Subsequently, the CPI inflation rate moved down and eased to 0.37% in October as a consequence of reduced domestic fuel prices in reflection of the international oil price slump and a continued decrease in communication fees. Afterwards, the annual CPI inflation rate rebounded in November and climbed to an all-year high of 1.14% in December on account of the upswings in fruit and vegetable prices and a rebound in domestic fuel prices.

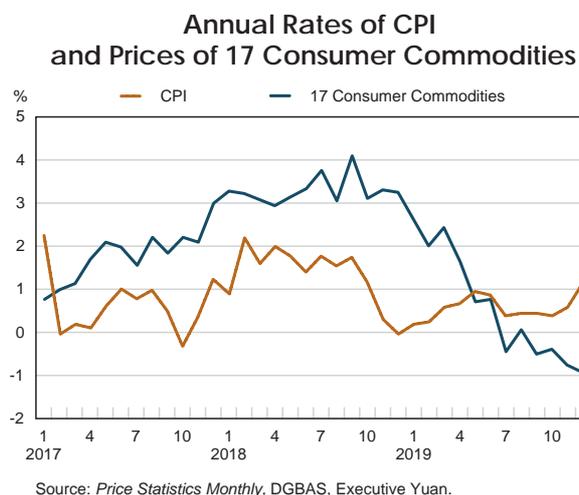
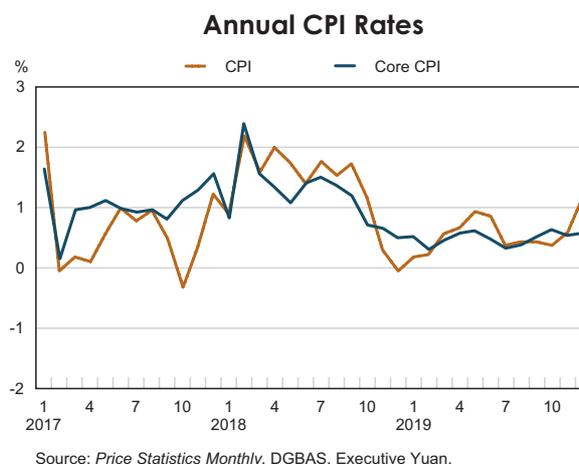


The core CPI inflation rate was 0.49% in 2019. Reflecting modest growth in the domestic economy, monthly figures of the core CPI inflation rate hovered between 0.30% and 0.63% throughout the year.

The Cabinet's task force on price stabilization has continued to closely monitor price movements of 17 consumer commodities which people buy more frequently. Since the beginning of 2019, prices of the aforesaid consumer commodities, weighted at 5.48% of the CPI, have displayed a substantial downtrend and the price increase averaged 0.58% year on year, far lower than the 3.29% of 2018. The slide was mostly attributed to lower prices of eggs and a smaller increase in prices of milk, with annual growth rates of -2.03% and 0.74%, respectively.

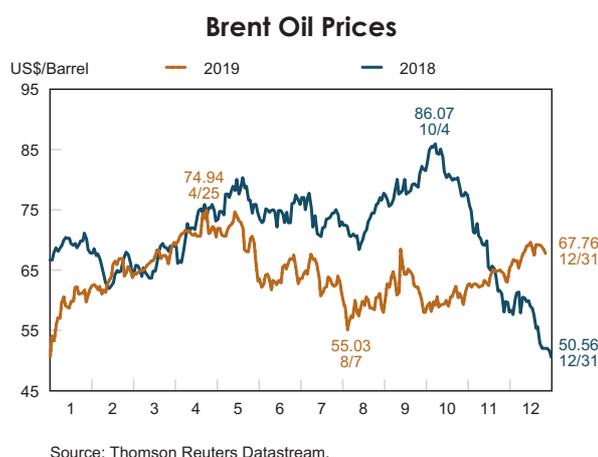
The main factors contributing to the rise of CPI inflation in 2019 were as follows:

- (1) Increased four group fees led prices of education and entertainment services to move up by 1.50%, contributing 0.14 percentage points to CPI inflation.
- (2) With the previous year's stable weather conditions resulting in a lower base effect, prices of vegetables and fruit surged by 7.94% and 4.10%, accounting for 0.13 and 0.09 percentage points in the CPI increase, respectively.
- (3) Prices of residential rent continued to rise at a mild pace and recorded a growth rate of 0.90%, contributing 0.13 percentage points to CPI inflation.
- (4) A minimum wage hike and higher raw food prices drove up prices of food away from home by 1.55%, accounting for 0.12 percentage points in the CPI inflation rate.
- (5) As elevated international gold prices brought prices of gold ornaments and jewelry higher, prices of personal effects climbed by 2.48%, contributing 0.05 percentage points to CPI inflation.



The main factors contributing to downward pressure on the CPI in 2019 were as follows:

- (1) Reflecting a decrease in access charges between home phones and mobile phones, communication fees slid by 4.68%, subtracting 0.12 percentage points from CPI inflation.
- (2) For the entire year, Brent oil prices averaged US\$64.37 per barrel, slipping by 9.40% from the previous year. As a result, the decline in imported costs of petroleum lowered domestic oil prices, which dropped by 3.16% and deducted 0.10 percentage points from the CPI inflation rate.
- (3) Discounted spring and summer clothing pushed down prices of garments by 1.29%, accounting for -0.04 percentage points in CPI inflation.



Percentage Changes in the Major Components of the CPI in 2019

Item	Annual Rate of Change (%)	Contribution to CPI Inflation Rate (Percentage Point)
CPI	0.56	0.56
Education & Entertainment Services	1.50	0.14
Vegetables	7.94	0.13
Residential Rent	0.90	0.13
Food Away from Home	1.55	0.12
Fruit	4.10	0.09
Personal Effects	2.48	0.05
Total		0.66
Communication Fees	-4.68	-0.12
Fuels & Lubricants	-3.16	-0.10
Garments	-1.29	-0.04
Total		-0.26
Others		0.16

Source: *Price Statistics Monthly*, DGBAS, Executive Yuan.

5. Labor Market

Increase in Employment

Labor market conditions were stable in 2019 amid moderate domestic economic growth. For the year as a whole, annual average employment was 11.5 million persons, an increase of 66 thousand persons, or 0.58%, from the previous year. In recent years, growth momentum for employment has gradually diminished with annual rates lower than 1%. This was mostly attributable to structural demographic change driven by declining fertility rates and an aging population in Taiwan.

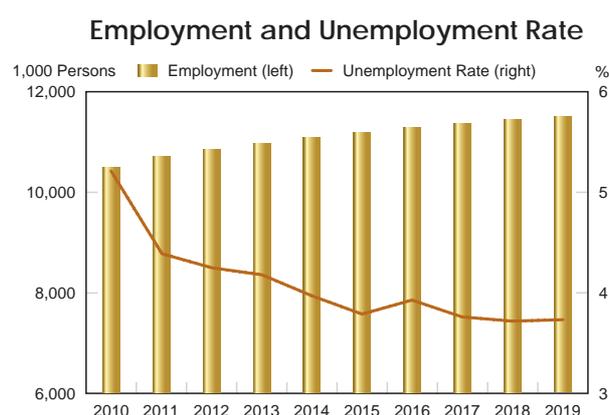
In terms of employment by sector, employment in the services and industrial sectors increased by 59 thousand persons or 0.87% and nine thousand persons or 0.21%, respectively. On the other hand, employment in the agricultural sector went down by two thousand persons or 0.2%. Of total employment, the services sector accounted for 59.55%, marginally up by 0.17 percentage points from the previous year, while the shares of the industrial and the agricultural sectors shrank to 35.58% and 4.86%, respectively.

In terms of employed persons by occupation, employment of white collar workers,² which accounted for 45.06% of total employment, increased by 30 thousand persons or 0.58%. Services and sales employment made up 19.85% of total employment and increased by 23 thousand persons or 1.02%, while employment of blue collar workers,³ accounting for 35.09% of total employment, increased by 13 thousand persons or 0.32%.

Unemployment Rate Slightly Increased

In 2019, the unemployment rate generally exhibited a downward trend, except in February (because of post-Lunar New Year job switching) and in June to August (as new graduates entered the job market) when seasonal factors caused unemployment to briefly rise. The unemployment rate dropped to 3.67% in December and averaged 3.73% for the year as a whole, slightly higher than 3.71% in 2018, but still the second lowest since 2001.

As labor market conditions mildly improved, unemployment duration increased marginally by



Source: DGBAS, Executive Yuan.

² Including legislators, senior officials, managers, professionals, technicians, associate professionals, and clerical support workers, etc.

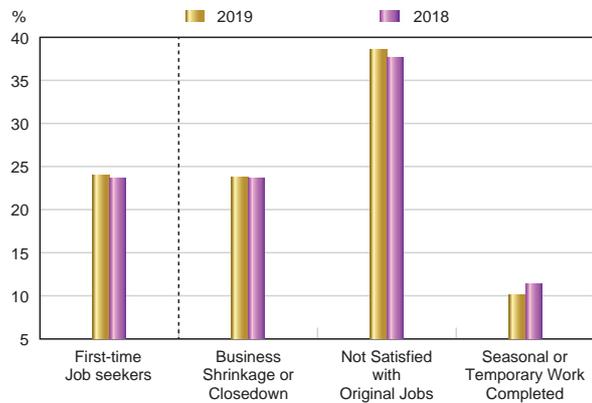
³ Including skilled workers in agricultural, forestry, fishing, and animal husbandry industries, and craft and machinery related workers, etc.

0.06 weeks to 22.88 weeks over the previous year. In terms of age, unemployment duration of the age group 15-24 improved the most and decreased by 1.16 weeks to 19.04 weeks, while those of the age groups 25-44 and 45-64 both increased by 0.57 weeks to 24.14 and 24.68 weeks, respectively. The average number of the long-term unemployed⁴ was 63 thousand persons, an increase of two thousand persons compared to that in the previous year.

In 2019, total unemployment was 446 thousand persons, a slight increase of six thousand persons, or 1.22%, from the previous year. Among the unemployed, first-time job seekers made up 23.94% of total unemployment and the number increased by three thousand persons. Meanwhile, experienced job seekers, with a share of 76.06%, also increased by three thousand persons. In terms of causes of unemployment, those unemployed because of dissatisfaction with their original jobs registered the greatest increase by six thousand persons or 3.58%. The share of this unemployment group went up to 39.01%, compared to 38.12% in the previous year. Unemployment due to shrinkage or closedown of business increased by two thousand persons or 1.82%, and its share also increased to 23.54%. By contrast, unemployment because of the conclusion of seasonal or temporary work dropped by six thousand persons, or 11.32%, and made up a smaller share of 9.68%.

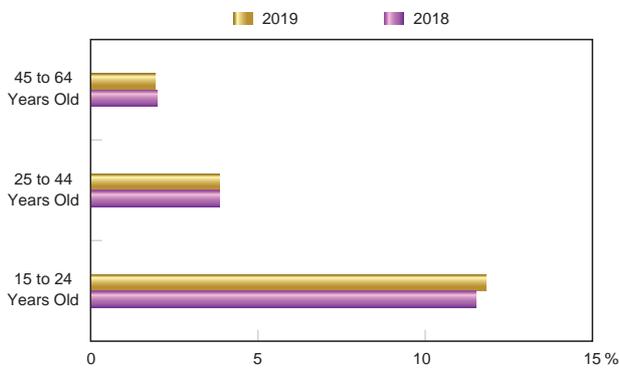
In terms of age groups, the unemployment rate of the age group 15-24 increased by 0.34 percentage points from the previous year to 11.88%, the highest among all the age groups.

Causes of Unemployment



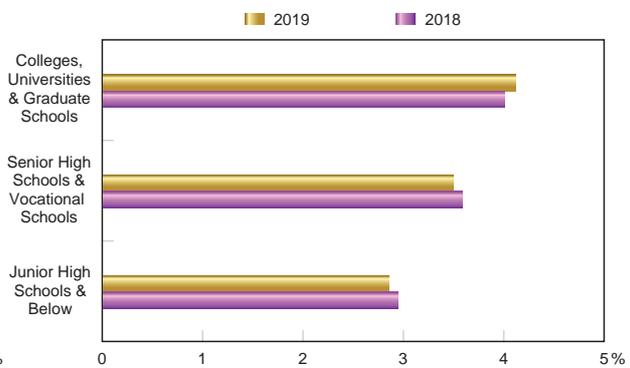
Source: DGBAS, Executive Yuan.

Unemployment Rate by Age



Source: DGBAS, Executive Yuan.

Unemployment Rate by Education Background



Source: DGBAS, Executive Yuan.

⁴ Referring to those who have been unemployed for 53 weeks or more.

The unemployment rate of the age group 25-44 also ticked up by 0.01 percentage points to 3.87%, while that of the age group 45-64 decreased by 0.06 percentage points to 1.94%.

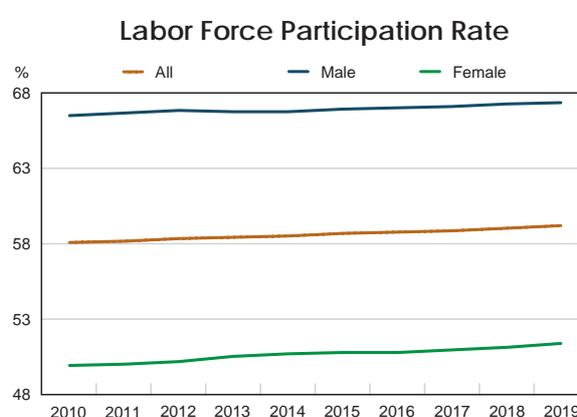
In terms of educational background, the unemployment rate of people with a senior high school or vocational school degree and that of people with a junior high school degree or below both decreased by 0.09 percentage points to 3.51% and 2.87%, respectively. On the other hand, the unemployment rate of people with a college degree or above increased by 0.11 percentage points to 4.13%, the largest among all groups, possibly indicating a mismatch between skill acquired through tertiary education and occupation in the labor market.

Increase in Labor Force Participation Rate

In 2019, the labor force (employed and unemployed combined) grew by 72 thousand persons, or 0.6%, to 11.95 million persons, while the non-labor force shrank by 11 thousand persons, or 0.14%, to 8.24 million persons. Moreover, the labor force participation rate reached 59.17%, increasing by 0.18 percentage points compared to the previous year.

In terms of gender, the male labor force participation rate was 67.34%, an increase of 0.10 percentage points from the year before. The female rate has continued to increase since 2001 and reached 51.39% in 2019, reflecting the fact that government policies have been effective in promoting gender equality, improving the work environment, and facilitating female employment in recent years.

In terms of age groups, the labor participation rates of all age groups went up in 2019, with those of the 16-24, 25-44, and 45-64 age groups increasing by 1.75, 0.65, and 0.28 percentage points to 36.09%, 89.50%, and 63.49%, respectively. Although Taiwan's total labor force participation has gradually increased since 2010, it is still lower than those of Japan (62.1%), the United States (63.1%), South Korea (63.3%), and Singapore (68%), given the extension of schooling and early retirement. To cope with the challenges arising from an aging population, the government has actively enhanced the employment of the young population as well as middle-aged workers. In addition, the parliament passed the *Middle-aged and Elderly Employment Promotion Act* in November 2019, a piece of legislation aiming to promote the re-employment of the elderly and construct a friendly work environment for middle-aged and the elderly.



Source: DGBAS, Executive Yuan.

In terms of educational level, the labor force participation rate of workers with a senior high school or vocational degree increased by 0.32 percentage points to 62.88%, while the participation rates of workers with a junior high school degree or below and those with a college degree or above dropped by 0.06 and 0.27 percentage points to 40.87% and 65.83%, respectively.

Moderate Increase in Earnings

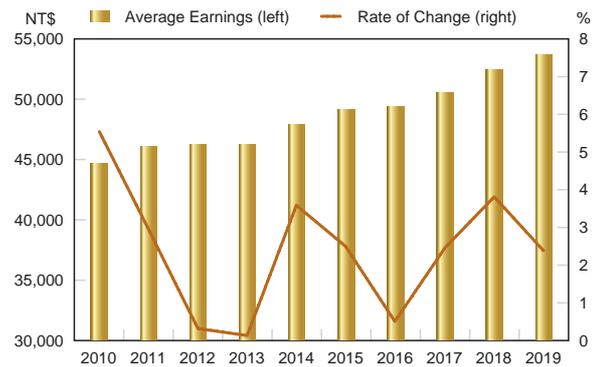
For the year 2019, the average monthly earnings per worker of the non-farm sector climbed by 2.39% to NT\$53,657, a smaller increase than the 3.82% of 2018 mainly because firms reduced their payouts of bonuses amid slower profit growth. After adjustment for inflation, the average real monthly earnings increased by 1.82% to an all-time high of NT\$52,323.

In terms of major sectors, the average monthly earnings of industrial sector and services sector workers increased by 1.65% and 2.92% to NT\$52,865 and NT\$54,245, respectively, and increased by 1.09% and 2.34% in real terms. The electricity and gas supply sector had the highest average monthly earnings with NT\$96,137, and the finance and insurance sector came in second with NT\$93,059. On the other hand, workers in the education services sector and the accommodation and food services sector earned an average of NT\$26,972 and NT\$34,686 monthly, the lowest two among all sectors due to a larger number of part-time employees in these sectors. In terms of growth rates, all sectors witnessed increases in average monthly earnings, with the real estate sector recording the largest increase at 5.82% and the professional, scientific, and technical services sector in second place with an increase of 4.34%.

Labor Productivity Decreased and Unit Labor Cost Increased

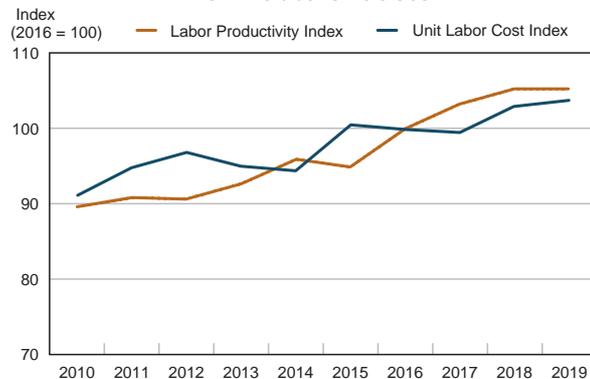
As the decline in total production outpaced that in total working hours, labor productivity of the industrial and the manufacturing sectors slightly decreased by 0.06% and 0.15%, respectively. In the manufacturing sector, the manufacture of machinery and equipment saw

Amount and Rate of Change of Average Earnings of Non-farm Workers



Source: DGBAS, Executive Yuan.

Labor Productivity and Unit Labor Cost of Industrial Sector



Source: DGBAS, Executive Yuan.

the largest decrease in labor productivity with 12.36%, followed by the printing and reproduction of recorded media sector with 8.62%. In contrast, the computers, electronic and optical products manufacturing sector registered the largest increase at 25.7%, and the manufacture of other transport equipment and parts came in the second place with an increase of 6.96%.

Since total earnings enjoyed positive growth while production decreased, unit labor costs of the industrial and the manufacturing sectors increased by 0.87% and 0.95% year on year, respectively. Of all the manufacturing sectors, machinery and equipment manufacturing experienced the largest increase in unit labor cost of 16.29%, followed by basic metal manufacturing with an increase of 11.22%.

Financial Developments



II. Financial Developments

1. Overview

In 2019, the Bank's policy rates remained unchanged, deposit rates and the base lending rate offered by banks stayed stable, while the weighted average interest rate on deposits and the rate on loans slightly moved downward. Against a backdrop of ample market liquidity, the interbank overnight call loan rate remained low, bills market rates rose modestly, and the average 10-year government bond yield declined. Loans and investments of monetary financial institutions grew at a pace slower than that of the previous year as the domestic economy moderated and stock market turnover shrank. The monetary aggregate M2 growth rate slowed from 3.52% registered in 2018 to 3.46%.

The NT dollar exchange rate was mainly affected by the developments of the US-China trade conflict during the year, with the currency weakening against the US dollar before strengthening later. At the end of 2019, the NT dollar appreciated against the US dollar compared with a year earlier; however, on a daily average basis, the NT dollar depreciated against the US dollar.

In the stock market, the Taiwan Stock Exchange Capitalization Weighted Stock Index, the TAIEX, swung to a yearly high in the middle of December, a record unseen for 29 years. The daily average transaction value shrank compared with the previous year but was the second highest since 2011.

M1B Grew Faster but M2 Growth Slowed

The monetary aggregate M2, measured on a daily average basis, recorded an annual growth rate of 3.46% in 2019. This was lower than the 3.52% registered in 2018 yet remained within the Bank's 2.5% to 6.5% target range for the year. The decline was attributable to increasingly diversified asset allocation and slower growth of bank loans and investments. The annual growth rate of M1B, measured on a daily average basis, rose to 7.15% in 2019 from 5.32% a year earlier, mainly because of faster growth in transaction deposits. Meanwhile, the annual growth rate of reserve money went up in 2019, also as a result of faster growth in transaction deposits.

Bank Loans and Investments Grew More Slowly

The annual growth rate of bank loans and investments decreased from 5.39% at the end of 2018 to 4.96% at the end of 2019. The decrease was due to the US-China trade conflict, export trade contraction, and slower economic growth in the first half of the year. If loans and investments of life insurance companies, non-accrual loans reclassified and bad loans written off by monetary

financial institutions, and funds raised directly from capital markets were all taken into account, the total outstanding amount of funds raised by the non-financial sector would register an annual growth rate of 4.04% at the end of 2019, higher than the 3.85% recorded a year earlier.

Both Deposit Rates and Loan Rates Slightly Declined

In 2019, as the Bank's policy rates remained unchanged, interest rates on deposits and the base lending rate offered by banks stayed steady.

For domestic banks as a whole, the weighted average interest rate on deposits slightly declined by 0.01 percentage points, driven lower mainly by a shift of funds in the third quarter from time deposits to demand deposits, which had lower rates. Meanwhile, the weighted average interest rate on loans slightly declined by 0.03 percentage points, mainly owing to increases in low-interest loans to local governments and government enterprises and interest rate cuts on loans by some banks to boost lending business.

Bills Market Rates Slightly Increased, but the 10-Year Government Bond Yield Decreased

Against the background of mild inflation expectations, the Bank continued to conduct open market operations to maintain market liquidity at an appropriately easy level. The interbank overnight call loan rate remained at a low level, fluctuating between 0.176% and 0.202% during 2019. With regard to the bills market, money market rates fluctuated in a narrow range and edged slightly higher year on year because of stronger demand for funds amid an upturn in private investment.

The yield on the benchmark 10-year government bond trended downward, mainly because of ample market liquidity and the Fed's rate reductions. In terms of issuance, as the Central Government Debt Service Fund renewed maturing government bonds and acted to meet budget needs, the total amount of government bonds issued increased by NT\$62.7 billion over the previous year.

Average Exchange Rate Showed Depreciation

The NT dollar against the US dollar depreciated in May 2019 as the US-China trade conflict flared up. US President Trump announced an additional 10% tariff on US\$300 billion of imported merchandises from China on August 1, causing the NT dollar to depreciate against the US dollar to a yearly low on August 5. In early September, the NT dollar appreciated against the US dollar owing to the easing of US-China trade friction as both sides agreed to resume talks in early October. When the US and China reached the "phase one" trade deal on December 13, shoring up currencies in emerging Asia including the renminbi, the NT dollar against the US dollar also maintained its strength. At the end of 2019, the NT dollar appreciated by 2.08% year on year against the US dollar. However, on a daily average basis, the NT dollar depreciated against the US dollar by 2.49% in 2019.

Stock Index Swung Higher, but Turnover Shrank

In the beginning of 2019, the TAIEX rose along with international stock rallies and reached 11,096 on May 3, bolstered by an apparent cooling of the US-China trade friction, international capital flows back into emerging market countries, net purchases in the local market by foreign investors, and expectations of record high stock dividends from domestic firms. Afterwards, owing to unstable US-China relations, Hong Kong political unrest, and sell-offs by foreign investors in the local market, the TAIEX swung downward until the end of August. Thereafter, bolstered by the Fed's rate cuts, US stock rallies renewing records, better-than-expected sales of new iPhones, the trade diversion effects of US tariffs on Chinese goods, and net foreign purchases of technology shares, the TAIEX rose to a yearly high of 12,122 on December 18, hitting the highest level in 29 years. The TAIEX closed at 11,997 points at the end of the year, increasing by 23.3% compared with the previous year end. The daily average transaction value was NT\$109.4 billion, shrinking by 8.8% compared with the previous year, but still the second highest since the year of 2011.

2. Banking Sector

Number of Monetary Financial Institutions

At the end of 2019, the number of monetary financial institutions (defined hereafter in this chapter as excluding the central bank) decreased to 401. The number of domestic banks decreased by one as ANZ Bank (Taiwan) Limited was merged into Australia and New Zealand Banking Group Limited, Taipei Branch. 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 the monetary financial institutions, the number of financial holding companies was 16, the same as 2018.

Number of Monetary Financial Institutions by Type

Types of institutions	End of 2019	End of 2018	Annual Change
Total Number of Main Offices	401	402	-1
Domestic Banks	37	38	-1
Foreign and Mainland Chinese Banks	29	29	0
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	6,092	6,083	9
Local Branches	5,888	5,879	9
Overseas Branches	145	144	1
Offshore Banking Units	59	60	-1

Sources: 1. *Financial Statistics Monthly*, CBC.
2. Department of Financial Inspection, CBC.

Market Shares of Deposits and Loans

In terms of deposits, the market share of domestic banks grew to 78.56% at the end of 2019, mainly because a year-on-year increases in inward remittances of overseas sales revenues - which were then converted into local currency - caused transaction and non-transaction deposits to rise. The market share of foreign and Mainland Chinese banks rose to 1.66% at the end of 2019 because some foreign and Mainland Chinese banks provided some firms with preferential interest rates for large-value transaction deposits and foreign currency deposits, which caused their passbook deposits and foreign currency deposits to increase.

Chunghwa Post's market share narrowed to 13.96% as postal savings deposits registered an increase smaller than that in total deposits. The market share of credit departments of farmers' and fishermen's associations declined to 4.25%. The market share of credit cooperatives was the same as the previous year.

In terms of loans, the market share of domestic banks continued to slip to 89.44%, mainly because CPC Corporation generated more profits amid international oil price rises and the Taiwan Railways Administration issued more commercial

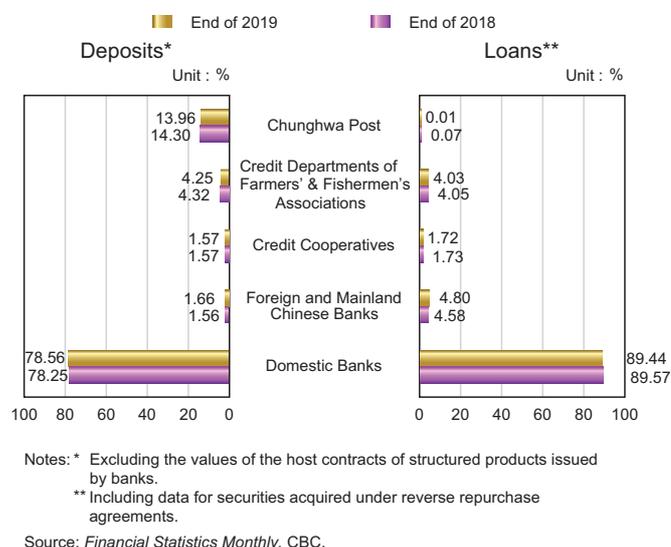
paper, both of which caused a decrease in borrowings from domestic banks. Meanwhile, foreign and Mainland Chinese banks' market share climbed to 4.80% because of faster growth in loans to enterprises. Chunghwa Post's market share declined to 0.01%, reflecting a decrease in lending to bills finance companies. As for the other institution types, the market share of credit departments of farmers' and fishermen's associations fell to 4.03%, while that of credit cooperatives edged down to 1.72%.

Sources and Uses of Funds

At the end of 2019, the total amount of funds in monetary financial institutions was NT\$51,695 billion, increasing by NT\$2,597 billion compared to the end of 2018. The combined share of transaction and non-transaction deposits was nearly 85%. Against a backdrop of abundant market liquidity, the balances of transaction deposits and non-transaction deposits kept growing, with annual growth rates of 7.44% and 2.91%, respectively.

In the case of fund uses, bank loans still accounted for over 50% of total uses of funds at the end of 2019. Although affected by the US-China trade conflict in the first half of the year, the balance of lending by monetary financial institutions increased by NT\$1,371 billion from the end of the previous year owing to stronger demand for funds in the corporate sector in the second half of the year. The annual growth rate was 4.96%, which was lower than the 5.07% at the end of the previous year. As for net foreign assets, the annual growth rate rose to 24.99% under the influence of net foreign capital inflows.

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



Portfolio investments by monetary financial institutions measured on a cost basis grew at a slower pace of 5.32% in 2019, mainly because banks became more conservative with their investments as they were watchful of uncertainties over global economic conditions. As for banks' purchases of CDs issued by the CBC, its share remained broadly the same as in the previous year, while its growth rate turned positive at 0.44% at the end of 2019 from -0.67% a year earlier.

Sources and Uses of Funds in Monetary Financial Institutions¹

Unit: NT\$ Billion

	End of 2019			End of 2018			Annual Change	
	Amount	Share (%)	Annual Growth Rate (%)	Amount	Share (%)	Annual Growth Rate (%)	Amount	Share (%)
Sources:								
Transaction Deposits ²	16,946	32.78	7.44	15,773	32.13	5.51	1,173	0.65
Non-transaction Deposits ³	26,831	51.90	2.91	26,072	53.10	-0.02	759	-1.20
NT Dollar Deposits	20,797	40.23	1.75	20,439	41.63	0.40	358	-1.40
Foreign Currency Deposits ⁴	6,034	11.67	7.13	5,633	11.47	-1.54	402	0.20
Government Deposits	1,069	2.07	2.53	1,043	2.12	11.13	26	-0.05
Other Items	6,849	13.25	10.29	6,210	12.65	3.15	639	0.60
Total	51,695	100.00	5.29	49,098	100.00	2.32	2,597	0.00
Uses:								
Net Foreign Assets ⁴	4,500	8.70	24.99	3,600	7.33	-15.46	900	1.37
Loans	29,011	56.12	4.96	27,640	56.29	5.07	1,371	-0.17
NT Dollar Loans	28,063	54.29	5.24	26,666	54.31	5.36	1,397	-0.02
Foreign Currency Loans ⁴	948	1.83	-2.63	973	1.98	-2.41	-26	-0.15
Portfolio Investments ⁵	6,411	12.40	5.32	6,088	12.40	6.34	324	0.00
Purchases of CDs Issued by CBC	7,775	15.04	0.44	7,741	15.77	-0.67	34	-0.73
Deposits with CBC	3,999	7.74	-0.78	4,030	8.21	3.22	-31	-0.47

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*, CBC.

Deposits

As a net foreign capital outflow in 2018 turned into an inflow in 2019, and the net domestic capital outflow in 2019 was lower than in 2018, the annual growth rate of deposits showed a general uptrend, climbing significantly to 4.28% in 2019 from 2.60% in 2018. The annual growth rates for each month in 2019 increased compared to the previous month, except for May, July, and November. The May downtrend was due to a significant decrease in the deposit balance of securities giro accounts amid local stock market sluggishness and a negative growth rate of foreign currency deposits as a result of firms' payments for overseas purchases and repayments for borrowings. July's dip was caused by a higher base effect and outward foreign currency remittances by some firms. As for November, the annual deposit growth rate dropped because the greater amount of inward

remittances from firms' overseas sales revenues in 2018 constituted a higher comparison base.

For transaction deposits, except for May, July, October and December, the annual growth rate in 2019 showed monthly uptrends. At the end of 2019, the annual growth rate increased from 5.51% to 7.44% and its share in total deposits increased to 37.79%, which was mainly due to a year-on-year increase in the deposit balance of securities giro accounts, incentive programs to attract large-value deposits with preferential interest rates, and liquidity management actions by firms.

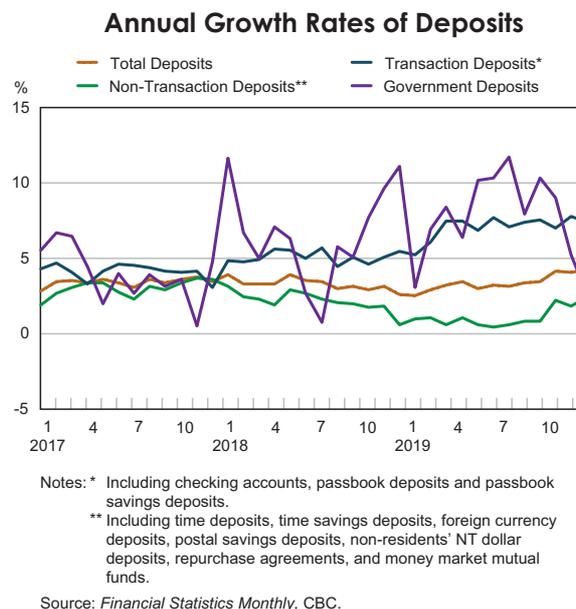
Looking at the months recording slower annual growth, in May, it was because the deposit balance of securities giro accounts decreased significantly. In July, slower growth resulted from a higher base effect and an increase in time savings deposits as some retail investors chose to park their cash dividends there. In October, the drop was attributable to employee bonus payments, a year-on-year increase in provisional payments for profit-seeking enterprise income tax, and common share buyback by some financial holding companies to boost the financial structures of their life insurance subsidiaries. As for December, annual growth in transaction deposits was driven down by a negative checking account annual growth rate, which was because companies withdrew the funds obtained from capital increases or land sales and then parked them in their checking accounts in November to make payments in December.

For non-transaction deposits, the annual growth rate rose to 2.45% at the end of 2019 because some firms increased inward remittances of overseas sales revenue to meet their needs for funds to pay taxes, dividends, and bonuses.

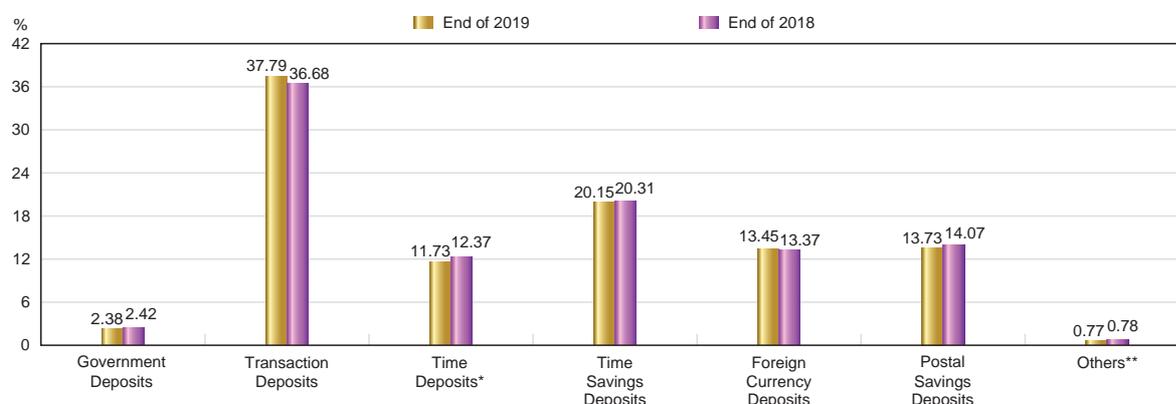
By type of non-transaction deposits, the share and annual growth rate of foreign currency deposits rose to 13.46% and 4.94% at the end of 2019, respectively, owing to a decrease in net domestic capital outflows and an increase in inward remittances of foreign sales revenue.

The share and the annual growth rate of time deposits declined to 11.73% and -1.12% at the end of 2019, respectively. It was mainly because some funds in time deposits flowed into time savings deposits as some banks opted against renewing maturing NCDs, citing high costs of issuance.

The annual growth rate of time savings deposits returned to positive territory with a 3.49%



Shares of Deposits by Type



Notes: * Including NCDs.

** Including repurchase agreements, non-residents' NTD deposits and money market mutual funds.

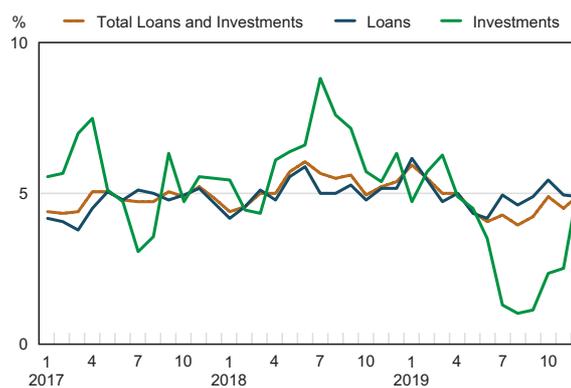
Source: *Financial Statistics Monthly*, CBC.

increase at the end of 2019 from -0.81% at the end of 2018 because of a lower base effect and yield-searching capital flows into time savings deposits. However, its share decreased to 20.15%. The annual growth rate of postal savings deposits went up owing to a larger increase in passbook savings deposits than in 2018, but its share fell to 13.73%.

Bank Loans and Investments

The annual growth rate of loans and investments of monetary financial institutions was 4.96% at the end of 2019, decreasing from 5.39% at the end of 2018. Growth in loans decreased to 4.88% at the end of 2019 from 5.18% at the end of the previous year, owing to a greater repayment by CPC Corporation and the Taiwan Railways Administration and soft demand by private enterprises amid slower economic growth. Meanwhile, growth in portfolio investment decelerated to 5.32% at the end of 2019 from 6.34% a year earlier because more government bonds were repaid, resulting in slower growth in banks' investment in government bonds.

Annual Growth Rates of Loans and Investments



Source: *Financial Statistics Monthly*, CBC.

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

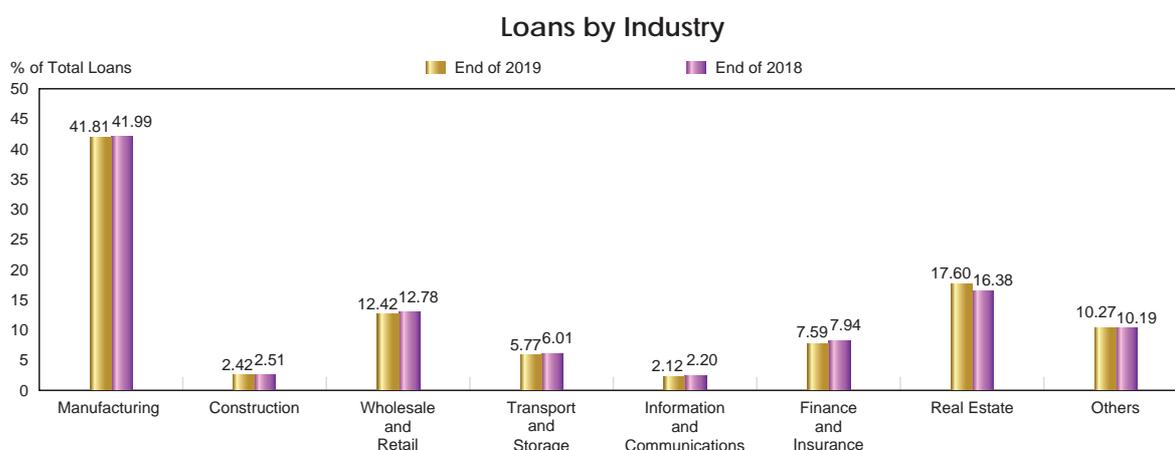
banks) slightly rose to 5.47% at the end of 2019 from 5.44% a year earlier, mostly driven by a housing market recovery that contributed to faster growth in house-purchasing loans and construction loans. The annual growth rate of loans to government enterprises returned to negative territory, registering -3.08% at the end of 2019 from 11.00% a year earlier, as CPC Corporation earned more profits and the Taiwan Railways Administration issued more commercial paper, both of which caused a decrease in borrowings from banks. Meanwhile, the annual growth rate of loans to government agencies improved from -1.52% to 0.45% at the end of 2019 given a greater need for funds for government bond repayment.

In terms of loan composition, loans extended to the private sector accounted for 93.44% of total loans at the end of 2019, higher than the 93.06% recorded at the end of 2018. Loans extended to government enterprises and government agencies accounted for 1.98% and 4.58%, respectively, at the end of 2019, lower than 2.15% and 4.79% 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 41.81% at the end of 2019 compared to 41.99% at the end of 2018, with its annual growth rate also down from 4.76% to 4.32%. The fall was mainly attributable to a decline in loans extended to computers, electronic and optical products manufacturing as exports shrank in 2019. Meanwhile, the share of loans extended to the construction industry decreased, with its annual growth rate down from 4.72% to 1.05% at the end of 2019 as a result of a higher base effect.

Against a background of housing market recovery and government programs launched to attract overseas Taiwanese businesses to invest in Taiwan, both the share and the annual growth rate of loans extended to the real estate industry trended up. However, the share and the annual



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*, CBC.

growth rate of loans extended to the wholesale and retail industry continued to drop amid trade headwinds in 2019. As for the finance and insurance industry, the share and the annual growth rate of loans to this sector declined because of a greater repayment of its syndicated loan by one investment holding company.

Consumer loans

The annual growth rate of consumer loans extended by banks increased from 4.42% at the end of 2018 to 5.65% at the end of 2019. Among them, house-purchasing loans grew by NT\$435.1 billion, or 6.24%, in 2019, mainly because the housing market rebounded, overseas Taiwanese businesses returned to invest in Taiwan, and some home sellers cut prices. As for the shares of various consumer loans, house-purchasing loans remained the largest component, with its share rising from 84.02% at the end of 2018 to 84.49% at the end of 2019. Car loans accounted for 1.72%, increasing from 1.69%, mainly because of imported car sales promotion strategies. Meanwhile, house-repairing loans, revolving credit for credit cards, employee welfare loans, and other consumer loans accounted for 0.84%, 1.29%, 0.60%, and 11.06%, respectively.

Investments

Owing to valuation changes, portfolio investments by monetary financial institutions, measured at fair value, recorded a year-on-year increase of NT\$390.9 billion, while the increase was smaller, at NT\$323.8 billion, when measured on a cost basis.

Portfolio investments by monetary financial institutions measured on a cost basis grew at a slower pace of 5.32% in 2019, mainly because banks became more conservative with their investments as they were watchful of uncertainties over global economic conditions.

Among the investment instruments, government bonds accounted for the largest share with 60.39%, lower than the 62.85% registered a year ago, mainly because government bonds outstanding declined as increased tax revenue helped service bond repayment. Meanwhile, banks and the Department of Savings and Remittances of Chunghwa Post adjusted their asset allocation to invest more in securities issued by the corporate sector. At the end of 2019, commercial paper accounted for a share of 18.52%, higher than a year ago, mainly because commercial paper issuance increased. Corporate bonds accounted for a share of 14.36%, decreasing from the end of 2018 as banks invested less in government enterprise bonds.

Direct Finance and Indirect Finance

Financing channels of the non-financial sector comprise direct finance and indirect finance, referring respectively to issuing securities in the markets and credit made by financial institutions. The combined amount of direct finance and indirect finance increased from the previous year's

NT\$1,794.4 billion to NT\$1,945.3 billion in 2019. Direct finance decreased by NT\$454.3 billion during 2019, a larger drop than the NT\$80.3 billion the previous year. Indirect finance increased from the previous year's NT\$1,874.7 billion to NT\$2,399.6 billion, which was mainly due to an increase in investments by financial institutions.

Based on the outstanding balance, the share of direct finance in total funds raised decreased from 18.93% a year before to 17.39% at the end of 2019, while the share of indirect finance increased from 81.07% to 82.61%.

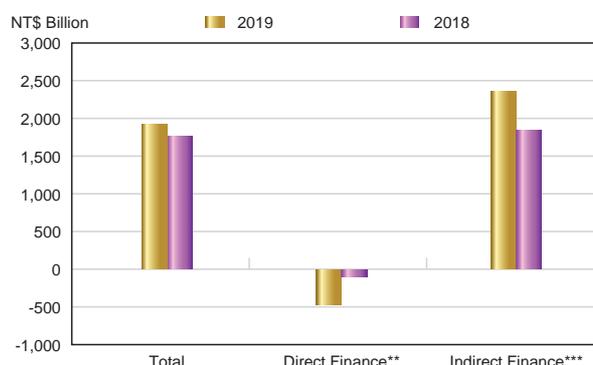
Bank Interest Rates

As the Bank continued with an easy monetary policy stance and kept policy rates unchanged, domestic bank interest rates remained broadly steady. In the case of the interest rates of the five major domestic banks, their average fixed rates on one-month and one-year time deposits remained at 0.60% and 1.04% at the end of 2019, respectively, both the same as the end of the previous year.

The weighted average rates on deposits and loans of domestic banks showed a slightly downward trend in 2019. During the first half of the year, the weighted average interest rate on deposits of domestic banks was stable at 0.56%. In the third quarter, the rate marginally declined to 0.55% owing to the increase in the share of transaction deposits in total deposits. Thereafter, the rate remained broadly steady until the end of the year. On the whole, the weighted average interest rate on total deposits of domestic banks was 0.55% in 2019, which was 0.01 percentage points lower than that recorded in the previous year.

As banks' rates on current operations loans increased in 2019, the weighted average interest rate on new loans of the five major domestic banks moved upward from 1.370% in the previous

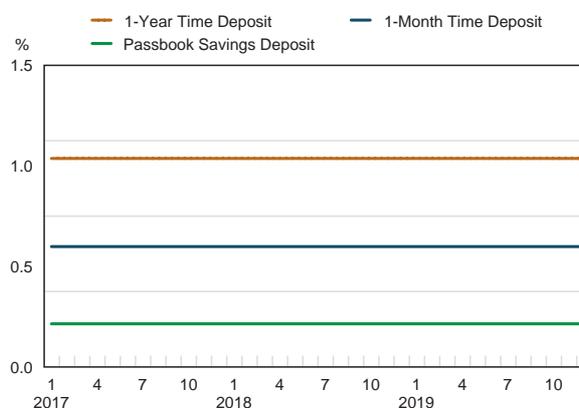
Direct Finance vs. Indirect Finance*



Notes: * Measured in terms of flow data.
 ** Refers to the total amount of new issues of various marketable securities, including government bonds, corporate bonds, listed stocks, offshore bonds, depositary receipts, short-term bills, and asset-backed securities held by the non-financial sector.
 *** Refers to loans and investments (measured on a cost basis) made by monetary financial institutions, trust and investment companies, and life insurance companies, after taking account of their non-accrual loans reclassified and bad loans written off.

Source: *Financial Statistics Monthly*, CBC.

Average Deposit Rates of the Five Major Domestic Banks*



Note: * The five major domestic banks are Bank of Taiwan, Taiwan Cooperative Bank, First Commercial Bank, Hua Nan Commercial Bank and Land Bank of Taiwan.

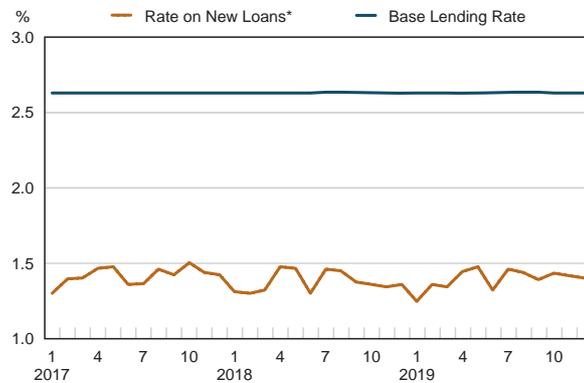
Source: *Financial Statistics Monthly*, CBC.

year to 1.386% in 2019. Excluding central government loans, the weighted average interest rate on new loans decreased from 1.414% in the previous year to 1.409% in 2019, down by 0.005 percentage points. Moreover, the average base lending rate remained at 2.631% at the end of 2019.

In the first quarter of 2019, owing to an increase in bank claims on local governments and government enterprises and fierce market competition, some banks offered lower rates on new loans. The weighted average interest rate on total loans of domestic banks slightly decreased from 1.90% in the fourth quarter of 2018 to 1.88%, and it dropped further to 1.87% in the third quarter. Thereafter, the rate remained broadly steady until the end of the year. For the year as a whole, the weighted average interest rate on loans of domestic banks was 1.87%, which was 0.03 percentage points lower than that recorded in the previous year.

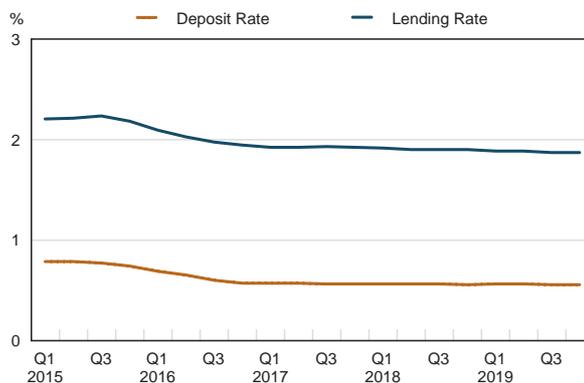
Because the decrease in the average deposit rate was less than that in the average lending rate, the average interest rate spread between deposits and loans slightly shrank to 1.32 percentage points in 2019, which was 0.02 percentage points smaller than that recorded in the previous year.

Average Lending Rates of the Five Major Domestic Banks



Note: * Including housing loans, capital expenditure loans, current operations loans and consumer loans.
Source: *Financial Statistics Monthly*, CBC.

Weighted Average Interest Rates of Domestic Banks



Source: *Financial Statistics Monthly*, CBC.

3. Money Market

For the year 2019, the total turnover in the interbank call loan market went down significantly by 37.74%, while that in the short-term bills market posted a modest decrease of 1.82%. With respect to money market rates, as the Bank maintained an accommodative monetary policy stance, the interbank overnight call loan rate stayed at low levels, whereas bills market rates slightly moved up during the year.

Decrease in Interbank Call Loans

Trading in the interbank call loan market was less active in 2019 on account of sufficient domestic liquidity and the interbank overnight call loan rate remaining at low levels. Total annual turnover of interbank call loans fell markedly by NT\$18,185.9 billion or 37.74% to NT\$30,006.8 billion over the previous year. At the end of 2019, the outstanding amount of interbank call loans reached NT\$265.8 billion, representing a year-on-year decrease of NT\$118.2 billion or 30.79%.

In terms of borrowers, domestic banks still made the largest contribution to total transactions, with a share of 70.43%, followed by bills finance companies, foreign and Mainland Chinese banks, and Chunghwa Post, with respective shares of 13.84%, 10.07%, and 5.66%, respectively.

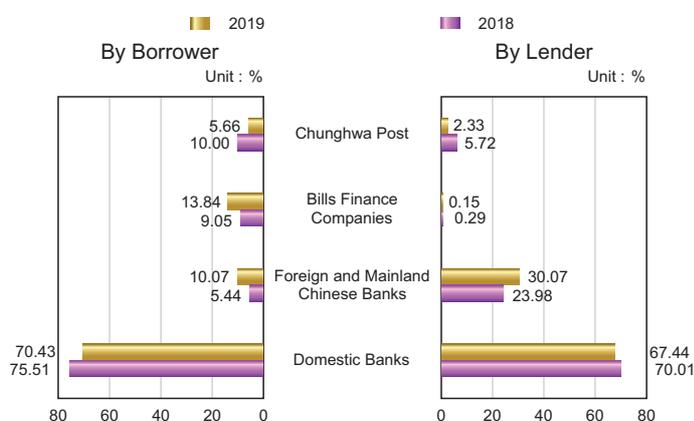
With ample liquidity in the banking system, banks' demand for borrowing weakened in the year, leading the amount borrowed by domestic banks to drop substantially by NT\$15,253.4 billion or 41.92% over the previous year. On the other hand, bills finance companies, in consideration of liquidity and profitability, chose to finance through outright sales or repurchase agreement transactions, thereby reducing their funding needs. The amount borrowed by bills finance companies showed a decrease of NT\$207.3 billion or 4.76% from a year before.

Meanwhile, the amount borrowed by Chunghwa Post also declined by NT\$3,122.9 billion or 64.77% compared with the previous year, owing to softened funding needs. With net foreign capital inflows rising by NT\$15.9 billion in 2019, foreign and Mainland Chinese banks obtained funds from the custodian business for foreign investors. However, as some of these banks became more cautious about fund allocation, their demand for borrowing increased, driving the amount borrowed by foreign and Mainland Chinese banks to climb by NT\$397.7 billion or 15.16% over the previous year.

With respect to lenders, domestic banks remained the largest supplier of funds, accounting for 67.44% of total transactions in 2019. The second were foreign and Mainland Chinese banks with a share of 30.07%, followed by Chunghwa Post and bills finance companies, contributing to 2.33% and 0.15% of total transactions, respectively.

The amount lent by domestic banks recorded a significant decline of NT\$13,503.5 billion, or 40.02%, compared with the previous year. Meanwhile, the lending amount of foreign and Mainland Chinese banks contracted by NT\$2,530.9 billion or 21.90% owing to less available funds at hand. The amount lent by Chunghwa Post also fell by NT\$2,057.0 billion or 74.65% over the previous year, largely because of increased investment in commercial paper.

Composition of Interbank Call Loan Market by Participant



Source: Financial Statistics Monthly, CBC.

With regard to maturity, interbank overnight call loans remained the most actively traded instrument in the market with a predominant share of 48.75%, down by 14.44 percentage points from that of the previous year. The second were those with a maturity of one week, accounting for 36.73%, up by 11.12 percentage points from that of the previous year, while the share of loans with a two-week maturity increased by 2.51 percentage points to 10.79%.

Decline in Short-Term Bill Transactions

For the year 2019, newly issued short-term bills stood at NT\$14,927.3 billion, registering a decrease of NT\$44.6 billion or 0.30% from a year before. Commercial paper made up a dominant 91.20% of the new issues, followed by negotiable certificates of deposit (NCDs) with a share of 6.60%.

The slide in the volume of newly issued short-term bills mainly resulted from reduced issuance of NCDs. 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 enterprises holding NCDs did not renew their purchases in order to free up funds for other purposes. As a result, the amount of NCDs issued went down by NT\$842.8 billion from the previous year.

Meanwhile, the amount of banker's acceptances dropped slightly by NT\$4.5 billion in 2019. On the contrary, issuance of commercial paper grew by NT\$648.6 billion compared with the previous year as government enterprises and private enterprises issued commercial paper to raise funds amidst a low interest rate environment. The amount of treasury bills expanded by NT\$154.0 billion over the previous year, primarily on account of an increase in issuance to support fiscal funding needs.

As of the end of 2019, total outstanding short-term bills amounted to NT\$2,353.2 billion, showing an increase of NT\$130.1 billion or 5.85% from that of the previous year end.

Short-Term Bills Market

Unit: NT\$ Billion

Year	Total		Treasury Bills		City Treasury Bills		Commercial Paper		Bankers' 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
2010	7,140.8	1,167.5	365.0	240.0	-	-	5,903.4	686.1	33.1	6.2	839.3	235.2
2011	7,424.0	1,192.6	321.2	180.3	-	-	6,270.5	735.2	30.1	5.7	802.2	271.5
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

Source: *Financial Statistics Monthly*, CBC.

The total turnover of short-term bills in 2019 posted a year-on-year decrease of NT\$750.4 billion or 1.82% to NT\$40,505.5 billion. Of the total transactions, commercial paper still accounted for the lion's share of 94.63%, rising by 5.59 percentage points from a year earlier. The second were NCDs with a share of 4.72%, 5.86 percentage points lower than the previous year. Treasury bills and banker's acceptances made up negligible shares of transactions. As for market participants, private enterprises were still the largest player in the market with a share of 46.30%, followed by banks with a share of 28.22%.

Money Market Rates Remaining at Low Levels

In 2019, the weighted average interbank overnight call loan rate stayed at a low level on the back of ample market liquidity. In the first half of the year, the interbank overnight call loan rate exhibited a broad uptrend and reached 0.189% in April, driven by higher transaction demand for money prior to the extended holiday weekend for Tomb-Sweeping Day.

In the following two months, banks' funding conditions slightly tightened on account of income tax collections, the Dragon Boat Festival holidays, and enterprises' preparation to release semi-annual financial statements. The interbank overnight call loan rate thus went up and registered an all-year high of 0.202% in June.

Later in the year, some banks became cautious about fund allocation because of enterprises' dividend payouts and continuous net foreign capital outflows; nevertheless, market liquidity remained abundant, bringing down the interbank overnight call loan rate to 0.180% in August.

From September onwards, despite several public holidays and the approach of the year end leading to stronger transaction demand for money, market liquidity was at a reasonably ample level, and foreign capital recorded four consecutive months of net inflows. Therefore, the weighted

average interbank overnight call loan rate only slightly fluctuated between 0.176% and 0.177%.

The primary market rate on commercial paper with a maturity of 1-30 days moved within a range between 0.57% and 0.68%, while the secondary market rate on commercial paper with a maturity of 1-30 days swung between 0.44% and 0.56% throughout the year.

Expansion in Money Market Funds

In the year 2019, amid a low interest rate environment, international financial market turmoil, and the global stock market rally, money market funds were often seen as an ideal investment option to park short-term capital given the benefits of stable returns, low risk, and high liquidity. As a consequence, the size of money market funds expanded during the year. At the end of 2019, there were a total of 42 money market funds in Taiwan and the total assets reached NT\$793.7 billion with an increase of NT\$110.1 billion or 16.11% from the end of the previous year.

With regard to portfolio composition, the largest use of the funds was bank deposits with a share of 57.64% at the end of the year. Following bank deposits were short-term bills and repurchase agreements, accounting for 29.45% and 12.67% of total money market funds, respectively.

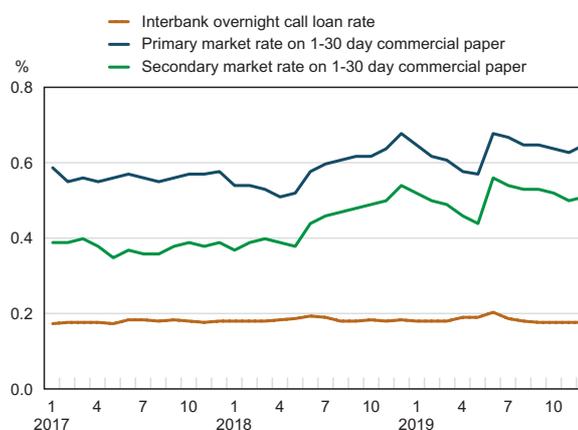
Portfolio Composition of Money Market Funds

Unit: NT\$ Billion

Year/Month End	Total	Bank Deposits		Short-Term Bills		Repurchase Agreements		Bonds	
		Amount	Share (%)	Amount	Share (%)	Amount	Share (%)	Amount	Share (%)
2017	783.1	550.3	70.27	132.9	16.97	99.0	12.64	0.9	0.11
2018	683.6	455.0	66.56	151.1	22.10	76.9	11.25	0.7	0.10
2019	793.7	457.5	57.64	233.7	29.45	100.6	12.67	1.9	0.24
2019/ 1	701.7	464.8	66.24	160.9	22.93	75.3	10.74	0.6	0.09
2	737.7	467.0	63.31	172.8	23.43	97.1	13.16	0.7	0.10
3	745.9	464.4	62.26	179.4	24.06	101.4	13.59	0.7	0.10
4	779.8	475.8	61.01	198.6	25.47	104.6	13.42	0.8	0.10
5	741.7	467.1	62.97	201.5	27.16	72.1	9.72	1.1	0.15
6	723.6	442.5	61.16	193.2	26.70	86.8	11.99	1.1	0.15
7	736.9	444.5	60.31	201.1	27.29	90.2	12.25	1.1	0.15
8	790.3	454.7	57.54	233.4	29.53	101.0	12.78	1.2	0.15
9	764.3	443.8	58.06	226.1	29.58	92.9	12.16	1.5	0.20
10	833.1	462.3	55.49	264.5	31.74	104.4	12.53	1.9	0.23
11	825.8	472.6	57.23	253.1	30.65	98.2	11.89	1.9	0.24
12	793.7	457.5	57.64	233.7	29.45	100.6	12.67	1.9	0.24

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

Money Market Interest Rates



Source: Financial Statistics Monthly, CBC.

4. Foreign Exchange Market

The NT Dollar Exchange Rate

In 2019, on a daily average basis, the NT dollar appreciated against the Korean won, the euro, and the renminbi (RMB) but depreciated against the Japanese yen and the US dollar. The trade-weighted nominal effective exchange rate index of the NT dollar decreased by 0.24% 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.

The NT dollar broadly fluctuated against the US dollar in the first eight months and appreciated toward the end of 2019. In May, because of a flare-up of US-China trade tensions, the NT dollar depreciated against the US dollar. Later, US President Donald Trump announced an additional 10% tariff on US\$300 billion worth of Chinese imports, which led the RMB to trade below the symbolic level of 7 against the US dollar on August 5, and, as a result, the NT dollar fell to a yearly low against the US dollar. In early September, as the US and China agreed to reopen trade talks in October, and in mid-December, as the US and China reached the "phase one" trade deal, the NT dollar appreciated against the US dollar. At the end of 2019, the NT dollar appreciated by 2.08% against the US dollar compared with the end of the previous year. On a daily average basis, the NT dollar depreciated against the US dollar by 2.49% in 2019.

At the beginning of 2019, the euro was constrained by the euro area's weak economic performance and Brexit uncertainty, causing the NT dollar to appreciate against the euro. From early May, owing to the euro area's stronger-than-anticipated economic performance and rising US-China trade tensions, the NT dollar against the euro depreciated and reached a yearly low on June 12. Later, the ECB President's talk of a negative euro area outlook, combined with a rate cut in September and announcement to relaunch its QE program at a monthly pace of €20 billion beginning from November, led to euro weakness; therefore, the NT dollar against the euro fluctuated upwards in general. Compared with the end of the previous year, the NT dollar appreciated against the euro by 4.31% at the end of 2019. On a daily average basis, the NT dollar appreciated against the euro by 2.82%.

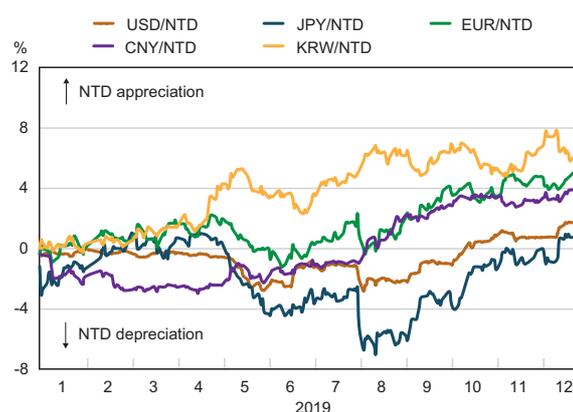
In 2019, the NT dollar vis-à-vis the yen appreciated in the first quarter, depreciated in the second quarter, and appreciated again toward the end of 2019. Early in the year, because of easing US-China trade friction, the NT dollar appreciated against the yen. Later, renewed trade conflict fears drove the yen higher on safe-haven demand, sending the NT dollar against the yen to a yearly low on August 13. Then, as the US and China agreed to resume trade negotiations and the BoJ introduced new forward guidance to signal a greater chance of future rate cuts, the yen weakened, leading

the NT dollar to appreciate against the yen. In sum, the NT dollar appreciated by 0.46% against the yen at the end of 2019 compared with the previous year end. On a daily average basis, the NT dollar depreciated against the yen by 3.74%.

The NT dollar against the RMB fluctuated in the first half of 2019 and appreciated toward the end of the year. Early in the year, as market participants were optimistic about US-China trade negotiations, the NT dollar stayed relatively stable against the RMB. In May, the RMB weakened on rising trade tensions, causing the NT dollar against the RMB to appreciate. In December, although the "phase one" trade deal between the US and China led to refreshed RMB strength against the US dollar, the NT dollar against the RMB appreciated to a yearly high on December 23 because of inflows of foreign portfolio investments. Overall, the NT dollar appreciated against the RMB by 3.58% between end-2018 and end-2019. On a daily average basis, the NT dollar appreciated by 1.82% against the RMB when compared with the previous year.

Early in 2019, the Korean won was dampened by the failure to reach an agreement in the Trump-Kim summit, and the NT dollar appreciated against the Korean won. After that, sluggish exports, and downward revision of the 2019 GDP growth forecast and two interest rate cuts by the Bank of Korea led the Korean won to weaken continuously, and the NT dollar against the Korean won rose to a yearly high on December 11. Compared with the end of 2018, the NT dollar appreciated by 5.65% against the Korean won at the end of 2019. On a daily average basis, the NT dollar appreciated by 3.26% against the Korean won in 2019.

Percent Changes of NT Dollar Against Major Currencies
(Compared with End-2018)



Source: Department of Economic Research, CBC.

Annual Changes of NTD Exchange Rate Against Major Currencies

	NTD/USD	NTD/EUR	NTD/JPY	NTD/CNY	NTD/KRW
Exchange Rate (2019/12/31)	30.106	33.749	0.2771	4.3217	0.0261
Exchange Rate (2018/12/28)	30.733	35.203	0.2784	4.4762	0.0275
Annual Change	2.08%	4.31%	0.46%	3.58%	5.65%
Average Exchange Rate (2019)	30.925	34.620	0.2837	4.4765	0.0265
Average Exchange Rate (2018)	30.156	35.595	0.2731	4.5580	0.0274
Annual Change	-2.49%	2.82%	-3.74%	1.82%	3.26%

Source: Department of Economic Research, CBC.

Foreign Exchange Market

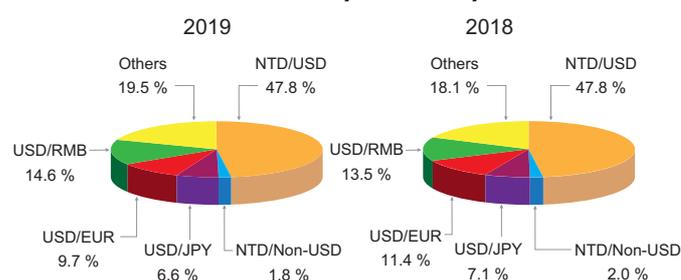
Trading in the Taipei foreign exchange market increased in 2019. Total net trading volume for the year was US\$8,014.0 billion, representing a 0.3% year-on-year increase. The daily average turnover was US\$32.5 billion in 2019.

In terms of trading partners, transactions between banks and non-bank customers accounted for 32.7% of the total turnover, while interbank transactions made up 67.3%, including 23.7% for transactions among local banks and 43.6% for those between local banks and overseas banks.

As far as traded currencies were concerned, NT dollar trading against foreign currencies accounted for 49.6% of the total trading volume, of which trading against the US dollar (USD) made up a dominant 47.8%. Transactions in third currencies contributed to 50.4% of the total trading volume, with trading in currency pairs of USD-RMB, USD-euro, and USD-yen accounting for respective shares of 14.6%, 9.7%, and 6.6%. Compared with 2018, NT dollar trading against foreign currencies increased by 0.02%. Transactions in third currencies increased by 0.64%.

With respect to types of transactions, the major types were foreign exchange swaps and spots, accounting for 50.0% and 38.4% of total turnover, respectively. Compared with 2018, the trading volume of foreign exchange swaps and forwards increased, whereas those of the other types decreased.

Composition of Foreign Exchange Transactions by Currency Pair



Source: Department of Foreign Exchange, CBC.

Turnover of Major Products in the Taipei Foreign Exchange Market

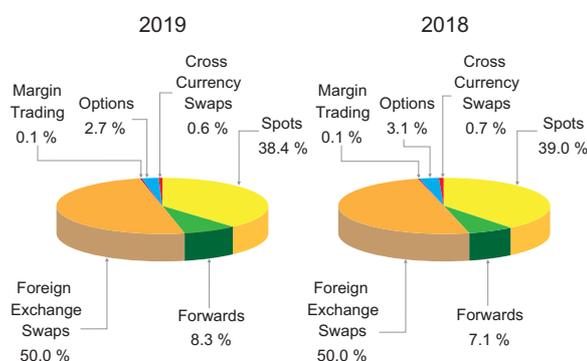
Unit: US\$ Million

Year	Spots	Forwards	Forex Swaps	Margin Trading	Options	Cross Currency Swaps	Total
2015	3,405,177	475,473	3,292,799	25,055	973,082	33,023	8,204,608
2016	2,780,002	477,036	3,430,524	17,437	358,694	50,109	7,113,802
2017	2,826,236	423,119	3,550,558	12,402	242,537	43,934	7,098,786
2018	3,111,414	567,790	3,992,873	7,876	249,254	58,354	7,987,560
2019	3,079,471	661,954	4,007,094	6,430	213,734	45,308	8,013,990
2018-2019 Growth Rate (%)	-1.0	16.6	0.4	-18.4	-14.3	-22.4	0.3

Source: Department of Foreign Exchange, CBC.

For other foreign currency derivatives, including forwards, swaps, and options based on foreign currency interest rates, stock price indices, commodity prices, and credit derivatives, the total turnover amounted to US\$185.1 billion. Of this amount, interest rate-related derivatives accounted for the lion's share with US\$180.0 billion, or 97.2%, with its turnover decreasing by 29.2% from the previous year. Interest rate futures accounted for the majority of this decrease, down by US\$52.6 billion.

Composition of Foreign Exchange Transactions by Type of Product



Source: Department of Foreign Exchange, CBC.

Turnover of Other Products in the Taipei Foreign Exchange Market

Unit: US\$ Million

Year	Interest Rate-Related Products					Commodity-Related Products	Stock Index Options	Credit Derivatives	Total
	Forward Rate Agreements	Interest Rate Swaps	Interest Rate Options	Foreign Currency Interest Rate Futures	Subtotal	Commodity Options			
2015	4,928	42,763	2,152	56,088	105,930	4,058	486	1,122	111,596
2016	120	41,952	5,743	51,222	99,037	3,053	145	933	103,168
2017	-	49,453	11,412	116,911	177,776	2,802	121	857	181,556
2018	-	78,848	25,974	149,310	254,132	3,524	403	2,861	260,920
2019	-	70,809	12,429	96,751	179,989	3,771	384	969	185,113
2018-2019 Growth Rate (%)	-	-10.2	-52.1	-35.2	-29.2	7.0	-4.7	-66.1	-29.1

Source: Department of Foreign Exchange, CBC.

RMB Business

RMB investment tools became even more diversified during 2019. By the end of 2019, there were 65 domestic banking units (DBUs) and 57 offshore banking units (OBUs) engaging in RMB business. The balance of RMB deposits amounted to RMB261.0 billion; RMB remittances totaled RMB1,666.1 billion in 2019; RMB settlement through the Taipei Branch of the Bank of China totaled RMB4,631.6 billion.

RMB Business Conducted by Financial Institutions

Unit: RMB Billion

Business Items	Amount
Deposit balance (include NCDs, end of 2019)	261.0
Total remittances (February 2013 to December 2019)	11,372.4
Total settlement through the Taipei Branch of the Bank of China (February 2013 to December 2019)	27,737.8
Total value of 152 RMB-denominated bonds issued (as of the end of 2019)	99.4
Accumulated premium receipts from RMB-denominated investment-linked insurance business (up to the end of 2019)	19.5
Accumulated premium receipts from RMB-denominated traditional insurance business (up to the end of 2019)	5.8

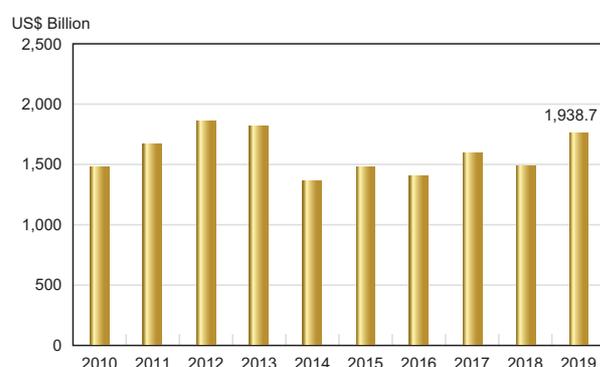
Source: Department of Foreign Exchange, CBC.

Foreign Currency Call Loan Market

The transaction volume in the foreign currency call loan market in 2019 was US\$1,938.7 billion, an increase of 10.5% over the previous year. Of this amount, US dollar transactions accounted for a dominant share with US\$1,815.9 billion, making up 93.7% of the total while increasing by 10.8% from 2018. RMB transactions reached RMB732.7 billion in 2019, making up a share of 5.5% of the total and recording a year-on-year increase of 9.2% in volume. Japanese yen transactions reached ¥754.7 billion in 2019, representing a small share of 0.4% of the total with a year-on-year fall of 36.4% in volume. The amount of euro transactions amounted to €0.7 billion, with a modest share of 0.04%. Other currencies accounted for a combined 0.36% of the total transaction volume. The balance of foreign currency call loan transactions at the end of 2019 was US\$49.3 billion.

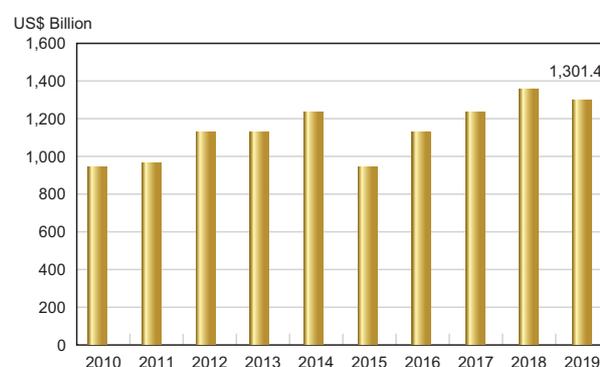
The volume of foreign currency-NTD swap transactions reached US\$1,301.4 billion, 4.4% less than 2018, while the balance was US\$242.8 billion at the end of 2019.

Transactions in the Taipei Foreign Currency Call Loan Market



Source: Department of Foreign Exchange, CBC.

Transactions in the Foreign Currency Swap Market



Source: Department of Foreign Exchange, CBC.

OBU Assets

There were 59 OBUs at the end of 2019, with 36 of them operated by domestic banks and the other 23 by foreign banks. The total assets of all OBUs increased to US\$221.9 billion at the end of the year, representing an increase of US\$20.9 billion or 10.4% from the previous year end owing to increasing portfolio investments. Domestic bank OBUs made up 89.0% of these combined assets with an amount of US\$197.5 billion, and the OBUs of foreign banks accounted for US\$24.4 billion or 11.0% of the total.

In terms of the uses of funds, loans to non-financial institutions, at US\$80.2 billion, represented the majority share of 36.2% of total OBU assets. Securities investments came in second place, accounting for 32.5% of total OBU assets. In terms of the destination for funds, Asia accounted for the majority with 51.0%, followed by America at 32.0%.

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 39.1% of the total. The main funding origin of OBUs was Asia, accounting for the majority with 64.0%, followed by America with a share of 24.0%.

Forex trading turnover of all OBUs rose by 6.3% to US\$676.5 billion, of which US\$394.7 billion went for spot transactions, US\$113.9 billion for forward transactions, and US\$168.0 billion for forex swap transactions. Compared with the previous year, the growth rates of trading of spots, forwards, and forex swaps were 13.2%, -18.6%, and 13.8%, respectively.

For OBUs, the total turnover of other derivatives products decreased by 5.1% to US\$337.8 billion over the previous year. Of this amount, options transactions registered a turnover of US\$142.9 billion, making up 42.1% 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
2015/12	81,198	29,547	43,932	18,388	173,065	66,137	88,228	0	18,700
2016/12	77,236	42,803	44,929	11,467	176,435	72,245	86,865	0	17,326
2017/12	81,074	53,819	58,336	9,717	202,946	77,144	106,712	0	19,090
2018/12	82,161	59,180	48,552	11,074	200,968	78,704	96,622	0	25,641
2019/12	80,227	72,195	58,407	11,026	221,855	86,680	110,843	0	24,332
2018/12-2019/12 Growth Rate (%)	-2.4	22.0	20.3	-0.4	10.4	10.1	14.7	0.0	-5.1

Source: *Financial Statistics Monthly*, CBC.

5. Stock Markets

In the first few months of 2019, positive developments at home and abroad combined to bolster Taiwan's benchmark stock index, the Taiwan Stock Exchange (TWSE) Capitalization Weighted Stock Index (TAIEX). First, signs of thawing in US-China trade friction sent a wave of international capital back into emerging markets, and, as a result, foreign portfolio investors net bought in Taiwan as they increased long positions of TAIEX stocks and futures. Along with local market expectations of record high dividends and rallies on major foreign stock exchanges, the TAIEX climbed to a period high in early May. The gains were followed by a series of corrections through the end of August amid a flurry of developments regarding the US-China trade dispute, political instability in Hong Kong, and net foreign investor selling of TAIEX stocks.

Later, the TAIEX was boosted by several favorable factors, including US stock rallies successively breaking records, iPhone sales exceeding expectations, and the prospect of factory orders being diverted to Taiwan amid US-China trade friction that led to aggressive foreign buying of associated tech stocks. Such upside forces lifted the TAIEX towards a 29-year high in mid-December. At the end of 2019, the TAIEX closed with a 23.3% year-on-year increase.

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
2017	10,642.9	97.5	78.4	31,831.9	155.2	-33.5	11.4
2018	9,727.4	119.9	92.6	29,318.5	-355.1	-1.5	-99.4
2019	11,997.1	109.4	80.4	36,413.5	244.2	11.3	52.5
2019/ 1	9,932.3	83.5	5.9	29,919.9	37.0	2.4	20.8
2	10,389.2	113.3	4.7	31,286.3	64.7	-1.9	11.9
3	10,641.0	101.4	6.3	32,126.6	1.7	0.4	4.7
4	10,967.7	119.5	7.2	33,106.6	54.4	-4.3	17.2
5	10,498.5	105.9	7.3	31,717.1	-144.9	-0.9	9.5
6	10,730.8	94.8	5.6	32,424.5	39.4	5.4	10.1
7	10,823.8	107.2	7.5	32,706.5	-12.7	3.8	-3.2
8	10,618.1	113.9	7.4	32,117.2	-121.3	5.3	-0.6
9	10,829.7	109.5	6.4	32,784.6	89.7	1.6	-16.5
10	11,358.7	122.9	7.5	34,388.6	124.8	1.3	-16.8
11	11,489.6	122.4	7.4	34,809.1	57.9	1.6	-0.8
12	11,997.1	118.3	7.2	36,413.5	53.4	-3.5	16.2

Source: Securities and Futures Bureau, FSC.

Among the categories listed on the TWSE, the Automobiles category gained the most with a 78.5% rise, benefiting from government subsidies and successful new model launches. The 36.0% rise in the Electronics category was the second largest, thanks to transferred orders in response to the US-China trade war, strong sales of new iPhones, investor enthusiasm, mounting up in reaction to a positive 5G outlook, and robust net foreign buying of tech stocks.

Overall, the TAIEX daily average trading value amounted to NT\$109.4 billion in 2019. Though 8.8% lower than the previous year, the value was the second highest since 2011 and continued to register above NT\$100 billion.

In 2019, the Taipei Exchange (TPEX) weighted stock price index of the over-the-counter market closed the year 20.9% higher than 2018, with most categories posting year-on-year rises except for Iron & Steel and Biotech & Medical Care equities. The Electronics group registered the largest gain of 36.1%, boosted by bullish sentiment with respect to TWSE-listed Electronics shares. Shipping & Transportation companies enjoyed a 21.8% rise in their share prices, the second largest of all groups, as international oil price declines helped trim their operation costs. Overall, the TPEX daily average trading value decreased by 4.8% year on year, totaling NT\$31.4 billion in 2019.

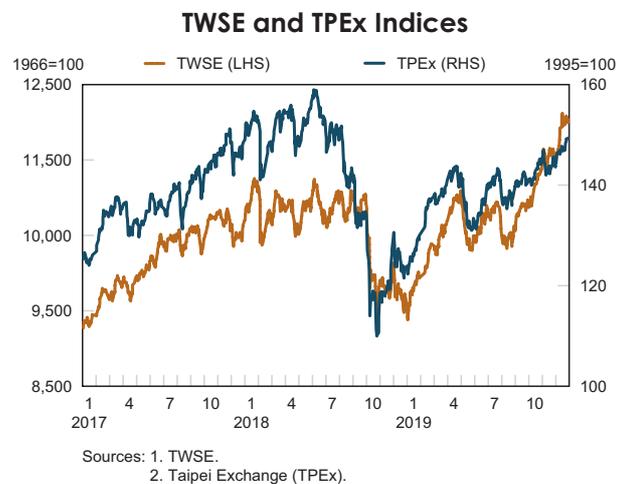
The TWSE Market

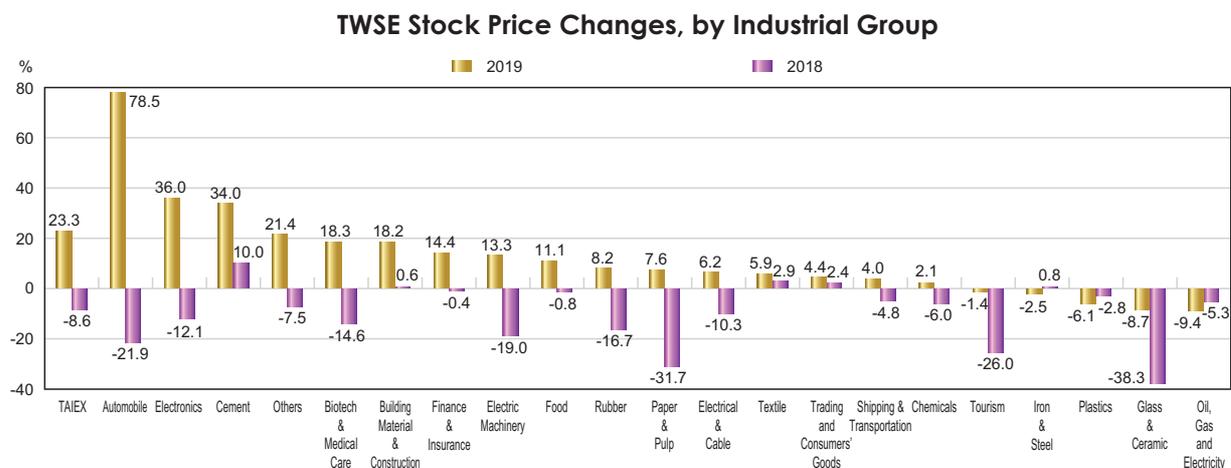
Listings and Capitalization Both Increased

At the end of 2019, the number of TWSE listings increased by 14 to reach a total of 942. The par value of total shares issued decreased marginally by 0.05% year on year to NT\$7.2 trillion owing mainly to a handful of de-listings and capital reduction. Total market capitalization was NT\$36.4 trillion, a marked rise of 24.2% from the year before. As for Taiwan depository receipts (TDRs), the total number stood at 14 at the end of 2019 as three existing TDRs went delisted.

TAIEX Swung to Record High in 29 Years

As the year 2019 unfolded, US-China trade friction eased markedly, inducing renewed capital flows into emerging market economies, and foreign investors net bought in the TWSE market to increase equity and futures long positions. Meanwhile, investor sentiment was generally buoyed by anticipation of record-high stock dividends. As a result, the TAIEX joined major foreign stock indices in rebounding and climbed to 11,096 points on May 3.





However, volatile months followed. Across the world, market sentiment was chiefly driven by the twists and turns of the US-China trade conflict - including an additional tariff hike to 25% on US\$200 billion worth of Chinese exports to the US (announced on May 6), the trade blacklisting of Chinese tech giant Huawei in mid-May, market optimism surrounding the end-of-June Trump-Xi meeting, the proceeding of bilateral trade talks in July, the imposition of 10% tariffs on another US\$300 billion of Chinese goods (announced in early August), and a 90-day reprieve on the US ban on Huawei (extended to Nov. 19). These developments, combined with pro-democracy protests in Hong Kong and net foreign selling of Taiwan shares, triggered wild fluctuations in the TAIEX through the end of August.

Later, the TAIEX was led higher by bullish factors at home and abroad, including the Fed's three consecutive rate cuts, multiple US stock rallies to record highs, better-than-expected sales of new iPhones, favorable tariff implications of trade diversion for Taiwanese businesses, and a related foreign net buying of the tech shares expected to benefit therefrom. As a result, the local mainboard index continued trending upwards, reaching the yearly peak of 12,122 points on December 18, which was the highest level recorded on the TAIEX in 29 years. The TAIEX closed the year of 2019 at 11,997 points, representing a 23.3% rise over the 9,727 points of the year 2018.

Broken down by subcategory, most industrial groups recorded year-on-year rises, except for four categories, namely Oil, Gas & Electricity, Glass & Ceramics, Plastic, Iron & Steel, and Tourism. Automobile shares rose by 78.5%, the largest gain among all categories, as the car market was bolstered by a government incentive program to encourage trading old vehicles for new ones and strong sales of new car models. The Electronics category's 36.0% gain was the second largest, as foreign investors aggressively built up tech positions on the TWSE against a backdrop of a huge increase in diverted orders, particularly for the smartphone IC and manufacturing industries, to

avoid US tariffs on Chinese goods, a positive market response for new Apple iPhones, and bullish sentiment about 5G network and AI technologies. The third largest gainer, with a rise of 34.0%, was the Cement category because a price rebound and sustained demand from China's urban development and housing policy reform boosted revenues of major cement producers.

On the other hand, among those with year-on-year declines, Oil, Gas & Electricity suffered the largest loss of 9.4% as international oil prices experienced a relative slump. Glass & Ceramics took a dive of 8.7%, as slow business dampened pull-in momentum and hurt company revenues. Plastics dropped 6.1%, weighed down by falling plastic-chemical product quotations owing to overcapacity in the China market.

Market Turnover Decreased

For year 2019, TWSE market turnover, measured on a daily average basis, decreased by 8.8% to NT\$109.4 billion from the NT\$119.9 billion of the previous year. The value, albeit lower, was the second highest since 2011 and still registered above the significant NT\$100 billion level. Reflecting that moderate decrease, the turnover rate also slipped from the 92.6% of 2018 to 80.4%, which was higher than those of the US and the UK and similar to that of Japan.

Net Purchases by Institutional Investors

In 2019, all three types of institutional investors, who were net sellers the year before, net bought on the TWSE, with foreign investors, local securities investment trust companies and local securities dealers posting net purchases of NT\$244.2 billion, NT\$11.3 billion, and NT\$52.5 billion, respectively.

Foreign institutional investors were net buyers in the first four months of 2019, encouraged by a reprieve in US-China trade tensions that also sparked a wave of capital flows back to emerging market economies. However, foreign net selling was recorded in May, July, and August, in tandem with a capital outflow from the region in the midst of renewed escalation in the trade conflict and political unrest in Hong Kong. Then, the last four months of the year witnessed a successive row of net foreign buying, buoyed by Fed rate cuts, solid sales of new iPhones, and expected benefits of orders diverted to Taiwan's tech firms owing to the US-China trade conflict.

Local securities investment trust companies were net sellers in February, April, May, and December, during which they offloaded shares to take profits in order to meet fund redemption demand, to boost their financial statements, or to adjust portfolios at higher price levels. In the other months, net purchases were recorded.

Local securities dealers, with inclination for short swing trading, net sold in the months of July through to November as a result of hedging or portfolio adjustment and net bought in the other months of the year.

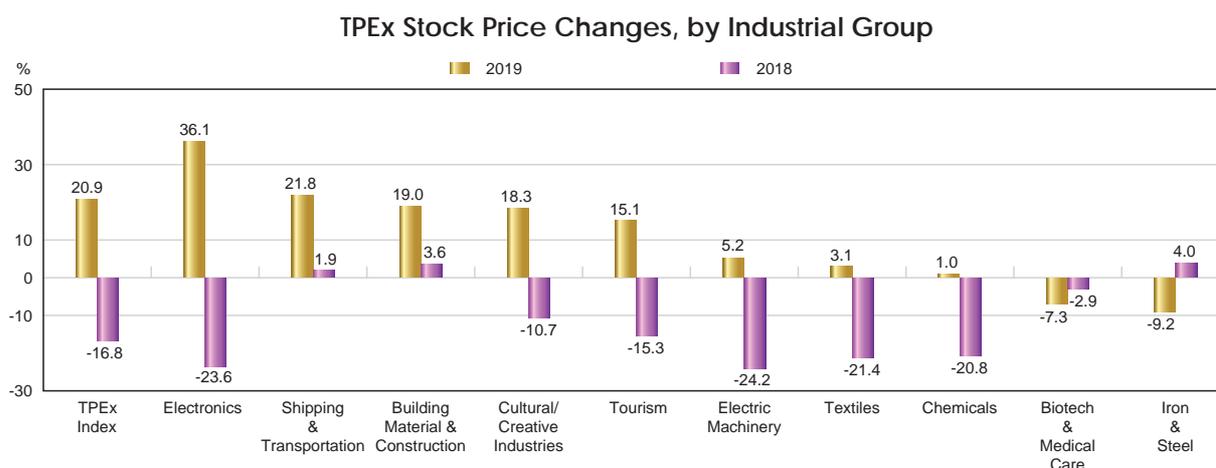
The TPEX Market

Listings and Capitalization Increased

At the end of 2019, the number of TPEX listings increased by 9 to 775. The total par value rose by 1.1% year on year to NT\$746.7 billion, while market capitalization mounted by 21.5% over the previous year to NT\$3.43 trillion.

TPEX Index Swung Higher

Share movements on the TPEX in 2019 were generally similar to those on the TWSE. The index opened the year higher and continued an uptrend toward a period high of 143.8 points in late April, before bouts of the US-China trade disputes sent the index on a bumpy ride through the end of August. Later in the year, stronger-than-expected sales of new iPhones and the effects of diverted orders from China to Taiwan gave a considerable boost to electronics shares, driving the TPEX index to swing upwards to the yearly high of 149.4 points at the end of the year, a 20.9% year-on-year rise compared to 123.5 points at end-2018.



Source: TPEX.

Most TPEX-traded industrial groups posted gains in the year, except for Iron & Steel and Biotech & Medical Care shares. The largest year-on-year increase of 36.1% was registered by the Electronics category, spurred by rallies on the TWSE for the same industrial group. Shipping & Transportation companies recorded the second highest rise in share prices, climbing by 21.8% as cheaper oil helped reduce their costs.

In terms of institutional investor behavior, foreign investors and local securities investment trust companies net bought TPEX securities worth NT\$38.3 billion and NT\$2.1 billion, respectively. Local dealers posted a record high net sale of NT\$299.9 billion as they slashed their positions in bond exchange-traded funds (ETFs).

For year 2019, the daily average turnover in the TPEX market decreased by 4.7% from the NT\$33.0 billion of 2018 to NT\$31.4 billion.

Key Measures for the Stock Markets

Key measures for Taiwan's stock markets in 2019 included the following:

- (1) January 1: Effective from this date, there would be no stock trading and settlement on the Saturdays adjusted to be business days to reflect holiday date changes.
- (2) February 1: The Financial Supervisory Commission (FSC) would allow all 14 foundations under its management to invest in mutual funds and ETFs linked to Taiwanese equities, and unsecured corporate bonds, with the maximum investment capped at 20% of the total property value of the foundation.
- (3) April 30: First-ever local listings of exchange-traded notes (ETNs) began to be launched.
- (4) August 15: The FSC promulgated the *Regulations Governing the Financial Investment, Management, and Utilization of Repatriated Offshore Funds*, stipulating that such funds could be drawn into a segregated trust account or segregated securities discretionary account for financial investment within the following scope only: (1) domestic securities, (2) trading of securities-related futures or options on the Taiwan Futures Exchange, and (3) domestic insurance products.
- (5) October 3: The FSC promulgated the *Operation Directions Governing Securities and Futures Businesses' Application for the Approval of Business Trial Runs* in an effort to encourage the offering of innovative financial products or services, which would in turn help promote corporate competitiveness and strengthen financial consumer rights.

6. Bond Market

For the year 2019, new issues of bonds stood at NT\$1,808.2 billion, falling by NT\$108.1 billion or 5.64% over the previous year. Meanwhile, the total outstanding of bonds issued amounted to NT\$13,872.1 billion at the end of 2019, an increase of NT\$408.0 billion or 3.03% 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 totaled NT\$410.0 billion for 2019, increasing by 18.05% from the previous year.

Corporate bond issuance in the year showed a marginal decrease of 2.31% to NT\$402.8 billion, mainly resulting from lower funding needs of enterprises.

With regard to bank debentures, the amount of issuance totaled NT\$162.2 billion for 2019, sliding by 29.07% over the previous year primarily because of reduced issuance of US dollar-denominated bank debentures.

For the entire year, foreign currency-denominated international bonds issued in Taiwan by foreign institutions stood at NT\$776.5 billion, representing a decrease of 14.30% compared to the previous year. As for NT dollar-denominated foreign bonds issued by foreign institutions, the volume of issuance recorded a year-on-year increase of 148.72% to NT\$17.5 billion in 2019.

In the secondary market, annual average yields on bonds with varying maturities all displayed a downtrend in 2019 in reflection of ample domestic liquidity and the Fed's policy rate reductions. For 10-year government bonds, the yield slipped to 0.736%, 21 basis points lower than the previous year.

Moreover, as narrower yield spreads led to a less vibrant bond market, annual transactions contracted by 10.70% to NT\$57,888.5 billion for the entire year.

Significant Increase in Government Bond Issuance

Central government bond issuance rose markedly by NT\$62.7 billion or 18.05% from the previous year to NT\$410.0 billion in 2019. 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 as well as special budget.

In regard to the total volume of government bonds issued by the Ministry of Finance, 10-year bonds made up the lion's share with NT\$170.0 billion, followed by 5-year bonds with NT\$90.0 billion,

while 2-year, 20-year, and 30-year government bonds registered issuance of NT\$20.0 billion, NT\$85.0 billion, and NT\$45.0 billion, respectively.

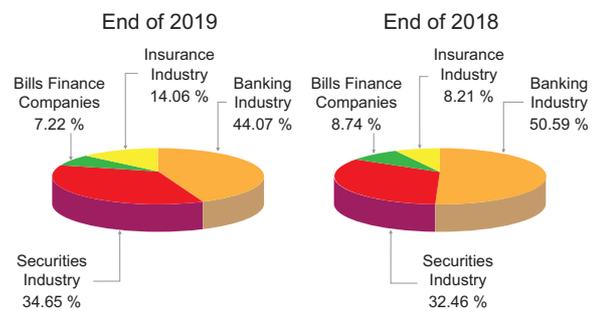
In terms of issuing rates, sufficient domestic liquidity and three policy rate cuts announced by the Fed during the year brought down the weighted average issuing rates on central government bonds with varying maturities. The issuing rate on 30-year bonds recorded the largest decline of 38 basis points, followed by a 28 basis point slide in the issuing rate on 20-year bonds.

Broken down by institutional investor, bonds held by the banking industry accounted for a dominant share at 44.07%, followed by the securities industry with a share of 34.65%. The share of bond holdings of the insurance industry went up whereas that of the banking industry fell in 2019. This was because many international bonds were redeemed before maturity and insurers invested the redeemed amount in government bonds instead, lowering the banking industry's probability of winning bond auctions.

As of the end of 2019, the total outstanding of central government bond issuance stood at NT\$5,483.3 billion, down by NT\$75.3 billion or 1.35% from the previous year end.

In respect of bonds issued by governments of special municipalities, all new bonds in 2019 were issued by the government of Kaohsiung Special Municipality with a total amount of NT\$33.8 billion. At the end of the year, the outstanding amount of bonds issued by governments of special municipalities reached NT\$67.7 billion, expanding considerably by NT\$23.8 billion or 54.20% from the previous year end.

Shares of Government Bond Holdings (by Institutional Investor)



Source: Department of the Treasury, CBC.

Modest Decrease in Corporate Bond Issuance

Corporate bonds refer to NT dollar- or foreign currency-denominated bonds issued in Taiwan by domestic corporations. For the year 2019, the issuing amount of corporate bonds dropped slightly by NT\$9.5 billion or 2.31% to NT\$402.8 billion, largely reflecting weakened funding needs of corporations on account of faltering exports.

With regard to bond maturities, 5-year corporate bonds made up the majority of the issuance with a share of 48.57%, followed by 7-year bonds with a share of 22.06%. The six largest corporate

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
2017	2,122.1	12,575.4	400.0	5,594.8	0.0	41.6	385.7	1,937.8	189.5	1,227.3	0.0	11.4	7.7	14.5	1,139.2	3,748.1
2018	1,916.3	13,464.1	347.3	5,558.6	14.8	43.9	412.3	2,022.6	228.7	1,317.1	0.0	5.0	7.1	15.1	906.1	4,501.8
2019	1,808.2	13,872.1	410.0	5,483.3	33.8	67.7	402.8	2,113.1	162.2	1,313.7	5.3	8.4	17.5	26.7	776.5	4,859.2
2019/ 1	110.5	13,417.9	55.0	5,491.6	0.0	43.9	17.3	2,023.0	8.0	1,309.3	0.0	5.0	0.2	14.4	30.0	4,530.6
2	60.8	13,418.1	30.0	5,481.6	0.0	43.9	7.0	2,012.2	2.5	1,311.8	0.0	5.0	0.0	14.0	21.3	4,549.5
3	275.2	13,589.3	45.0	5,446.6	0.0	43.9	3.5	2,003.1	14.7	1,323.5	0.0	5.0	0.0	13.5	212.0	4,753.7
4	141.2	13,655.4	25.0	5,435.6	0.0	43.9	53.1	2,048.3	9.0	1,315.2	0.0	5.0	1.5	14.9	52.6	4,792.5
5	159.3	13,770.0	25.0	5,460.6	0.0	43.9	49.4	2,068.2	1.6	1,311.2	0.0	5.0	1.4	16.1	82.0	4,865.0
6	193.6	13,837.2	30.0	5,457.7	15.0	48.9	64.9	2,090.0	36.8	1,335.4	0.0	5.0	0.0	15.6	46.9	4,884.5
7	135.4	13,866.8	25.0	5,422.7	0.0	48.9	41.1	2,102.9	11.1	1,344.3	0.0	5.0	0.0	14.3	58.2	4,928.6
8	140.2	13,947.7	25.0	5,447.7	0.0	48.9	29.8	2,084.2	11.0	1,349.2	0.0	5.0	0.0	13.8	74.4	4,998.8
9	128.4	13,844.1	50.0	5,417.7	0.0	48.9	39.2	2,094.7	28.5	1,355.6	0.0	4.5	0.0	13.2	10.7	4,909.4
10	129.2	13,845.6	30.0	5,413.3	18.8	67.7	32.2	2,102.7	6.6	1,347.0	0.0	4.0	1.0	13.9	40.6	4,897.0
11	188.8	13,906.9	40.0	5,453.3	0.0	67.7	26.5	2,110.5	15.7	1,343.9	0.0	3.6	12.4	26.0	94.2	4,902.0
12	145.6	13,872.1	30.0	5,483.3	0.0	67.7	38.9	2,113.1	16.7	1,313.7	5.3	8.4	1.1	26.7	53.6	4,859.2

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

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

Sources: 1. *Financial Statistics Monthly*, CBC.

2. Banking Bureau, Financial Supervisory Commission.

3. Department of Foreign Exchange, CBC.

bond issuers were Taiwan Power Company, Cathay Financial Holdings, Advanced Semiconductor Engineering Inc., Far Eastern New Century Corporation, Taiwan Cement Corporation, and Nan Ya Plastics, with a combined issuance amount of NT\$151.0 billion, accounting for 37.50% of total issuance.

At the end of 2019, the outstanding amount of corporate bonds totaled NT\$2,113.1 billion, an increase of NT\$90.5 billion or 4.48% from the previous year end.

Deceleration in Bank Debenture Issuance

A total of 23 domestic banks issued bank debentures in 2019 in support of their funding needs, with an issuance amount of NT\$162.2 billion, slipping by NT\$66.5 billion or 29.07% over the previous year. The contraction was mostly attributable to decreased issuance of US dollar-denominated bank debentures amidst investor expectations of the Fed's rate cuts.

The main purpose for banks to issue NT dollar bank debentures was to strengthen their capital base and support mid- to long-term operation funding needs. The majority of the issuance went for subordinated debts with a share of 54.13%.

In respect to foreign currency bank debentures, the purpose of issuance was to meet mounting demand for foreign currency loans and support mid to long-term foreign currency funding needs.

As a consequence, senior bank debentures with lower issuing rates accounted for the largest share of total issuance, with an amount of NT\$0.9 billion.

As for the maturity of new issues, perpetual debentures made up a dominant 35.18% of total NT dollar bank debenture issuance, while 10-year, 5-year, and 3-year debentures accounted for 20.30%, 18.35%, and 10.72%, respectively. Debentures of the other maturity ranges made up a combined share of 15.45%.

In 2019, issuance of foreign currency bank debentures was primarily composed of 5-year and 10-year debentures, with respective shares of 66.72% and 33.28%. At the end of the year, the outstanding amount of bank debentures reached NT\$1,313.7 billion, down by NT\$3.4 billion or 0.26% from the previous year end.

Increase in Asset Securitization Products

New issues of asset securitization products totaled NT\$5.3 billion for the entire year. The outstanding amount of asset securitization climbed by NT\$3.4 billion or 67.26% from the previous year end to NT\$8.4 billion.

Growth in Foreign Bond Issuance

Foreign bonds are defined as NT dollar-denominated corporate bonds issued in Taiwan by foreign enterprises. The foreign bonds currently in circulation are corporate bonds issued by offshore companies listed on the Taiwan Stock Exchange or the Taipei Exchange (the over-the-counter market).

During 2019, foreign bond issuance amounted to NT\$17.5 billion, rising significantly by NT\$10.5 billion or 148.72% from a year earlier. The growth was mainly because the Danish energy company, Ørsted, issued green bonds in Taiwan for an amount of NT\$12.0 billion. At the end of the year, the outstanding amount of foreign bonds stood at NT\$26.7 billion, an increase of NT\$11.6 billion or 76.71% over the previous year end.

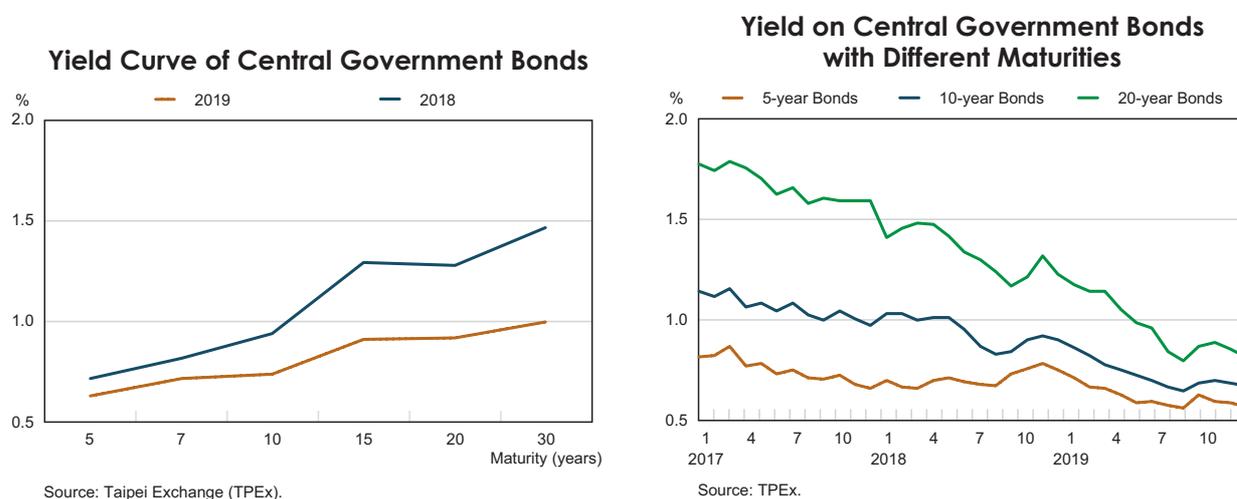
Contraction in International Bond Issuance

International bonds refer to corporate bonds issued in Taiwan by foreign institutions and are currently denominated in foreign currencies. For the year 2019, issuance of international bonds went down by NT\$129.6 billion or 14.30% from a year before to NT\$776.5 billion. The contraction was because some insurers' total foreign investment amounts (including investments in international bonds) had approached the statutory cap and they turned to invest in exchange-traded funds (ETFs) that held bonds issued overseas.

In respect of currency composition, issuance of US dollar-denominated, RMB-denominated, ZAR-denominated, and AUD-denominated bonds in 2019 reached NT\$721.4 billion, NT\$26.7 billion, NT\$16.8 billion, and NT\$11.6 billion, respectively. At the end of the year, the outstanding amount of international bonds stood at NT\$4,859.1 billion, up by NT\$357.3 billion or 7.94% over the previous year end.

Slide in Average Government Bond Yields and Drop in Transactions

Abundant domestic liquidity and the Fed's successive rate reductions in 2019 combined to send government bond yields lower. The yield on 10-year government bonds trended down and averaged 0.736% for the entire year, around 21 basis points lower than the 0.942% of the previous year.



Compared to the previous year, the average yield curve of government bonds shifted downward for the year 2019. The average yield on 30-year bonds posted the biggest decline of 47 basis points from a year before, while that on 15-year bonds came second with a decrease of 39 basis points. On the other hand, average yields on 5-year, 7-year, and 20-year bonds in 2019 moved down by eight, ten, and 36 basis points, respectively, over the previous year.

In terms of transaction volume, as narrower yield spreads led to a less vibrant domestic bond market, annual transactions shrank by NT\$6,933.6 billion or 10.70% to NT\$57,888.5 billion for the entire year.

By type of bonds, the majority of total bond transactions went for government bonds with a share of 62.01% and an annual trading volume of NT\$35,896.7 billion. The second most actively traded were corporate bonds, contributing to 31.36% of total transactions with an annual trading

volume of NT\$18,155.1 billion. Bank debentures came in third, accounting for a smaller share of 4.69% with an annual trading volume of NT\$2,713.1 billion.

Meanwhile, international bonds, foreign bonds, and asset securitization products made up marginal shares of 1.62%, 0.29%, and 0.03% in total transactions, with their respective annual trading registering NT\$937.5 billion, NT\$168.4 billion, and NT\$17.7 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				
2017	61,583.5	39,532.0	17,202.1	887.2	2,295.8	21.7	57.9	1,586.8
2018	64,822.1	42,369.8	17,553.2	983.1	2,665.3	12.5	88.5	1,149.7
2019	57,888.5	35,896.7	17,103.2	1,051.9	2,713.1	17.7	168.4	937.5
2019/ 1	5,453.7	3,502.9	1,561.9	80.1	236.4	1.2	6.8	64.4
2	3,882.6	2,580.9	1,016.9	65.4	165.0	1.0	4.9	48.6
3	5,465.2	3,621.4	1,442.5	103.6	215.7	1.2	6.5	74.2
4	5,261.9	3,424.4	1,475.8	85.1	215.8	1.0	10.5	49.4
5	5,524.6	3,449.6	1,642.5	93.4	239.5	1.4	14.2	83.9
6	4,293.1	2,512.8	1,390.1	87.2	213.6	0.6	10.0	78.9
7	5,135.5	3,102.5	1,591.3	96.9	248.7	0.8	19.9	75.4
8	5,036.4	3,094.8	1,504.7	92.1	239.7	0.8	9.0	95.3
9	4,561.5	2,870.8	1,278.1	83.5	257.4	1.9	9.4	60.5
10	4,719.7	2,823.0	1,471.6	85.6	235.3	1.0	12.7	90.6
11	4,109.7	2,332.4	1,329.1	81.3	215.7	0.8	29.3	121.1
12	4,444.7	2,581.3	1,398.8	97.7	230.3	6.1	35.3	95.2

Source: TPEx.

Central Bank Operations



III. Central Bank Operations

1. Overview

The Bank assessed economic and financial conditions at home and abroad while formulating monetary policy for the year 2019. The international economic and trade prospects remained clouded by uncertainties, while the domestic economy witnessed moderate growth and the output gap was marginally negative. In addition, the inflation outlook was mild, and Taiwan's real interest rates still registered around the middle range among a host of economies. In light of the above developments, the Bank held the policy rates unchanged to help safeguard price and financial stability and foster economic growth.

During the course of year 2019, the Bank continued to conduct open market operations by issuing certificates of deposit (CDs) in response to economic and financial conditions. Through such operations, reserve money and the monetary aggregate M2 were maintained at appropriate levels with respective annual growth rates of 6.42% and 3.46%. Both readings were higher than the GDP growth rate of 2.71% over the same period, indicating sufficient market liquidity to support economic activity.

Meanwhile, the Bank announced a change in its monetary targeting approach. Starting from year 2020, the target range for M2 growth would become the reference range, which remains between 2.5% and 6.5%. It would not be reset on an annual basis. However, M2 would still play a role in anchoring inflation expectations. In the event of persistent deviations in M2 growth from the reference range or structural changes, the Bank will conduct a review and make necessary adjustments in a timely manner (see Box 2 for more).

In terms of macroprudential policy on the housing sector, the Bank kept the regulations governing high-value housing loans in place over the year, with the loan-to-value ratio still capped at 60%. This was to reflect higher credit risks for banks when extending real estate loans as prices for high-value homes tend to be more volatile than regular ones. The Bank also continued its efforts in urging banks to enhance risk management of real estate lending in order to sustain financial stability.

In the foreign exchange (FX) market, the supply of FX liquidity was broadly larger than the demand in 2019. To maintain dynamic stability of the NT dollar, the Bank conducted symmetrical smoothing operations, with a net buying of US\$5.5 billion for the year as a whole. The Bank also continued to approve bank branches as authorized FX banks and reviewed FX business related laws and regulations as necessary so as to facilitate authorized banks' competitiveness and service quality.

With the aim of advancing the safety and efficiency of payment system operation and fostering the development of financial inclusion, the Bank stepped up efforts to reinforce financial infrastructure and urged clearing institutions to strengthen information security for payment systems.

Furthermore, to be in line with government policy in encouraging the use of electronic payments and to diversify channels to pay national treasury fees, the Bank rolled out smartphone app-based and QR code-based mobile payment methods. For the former, the public can pay the fees on the nationwide bill payment service (e-Bill) mobile app of the Financial Information Service Co., Ltd., through a newly added payment option inside the app, a feature designed at the request of the Bank. For the latter, the Bank launched the "QR Code-Based National Treasury Fee Payment Mechanism," allowing the public to make payments through the Taiwan Mobile Payment app or other mobile banking apps by scanning QR codes.

In the meantime, in response to the evolving trend of financial technology development, the Bank formed a task force on central bank digital currencies (CBDCs) to undertake research on CBDC, blockchain, and electronic payments. Moreover, the Bank has been collaborating with academics and industry specialists to assess the feasibility of CBDC. Nurturing talent in this field is also one of the Bank's focuses.

On the other hand, to strengthen the Bank's communication with the public, an official Facebook account was established in early 2019. Through increasing its online presence, the Bank aimed to reach out to a wider audience by providing posts about the Bank's policies as well as publishing education materials to enhance financial awareness.

2. Monetary Management

Holding Policy Rates Steady to Maintain Price and Financial Stability

For the year 2019, the global economy witnessed moderate growth yet remained shrouded in many uncertainties. Meanwhile, the domestic economy posted a mild expansion, a slightly negative output gap continued, and the inflation outlook stayed stable. Furthermore, domestic real interest rates registered around the middle range among a host of economies. Based on the above assessment, the Bank held policy rates unchanged in the course of the year in order to maintain price and financial stability and achieve sustained economic growth.

At the end of 2019, the discount rate, the rate on accommodations with collateral, and the rate on accommodations without collateral were kept unchanged at their current levels of 1.375%, 1.75%, and 3.625%, respectively.

Conducting Open Market Operations to Ensure the Smooth Functioning of Financial Markets

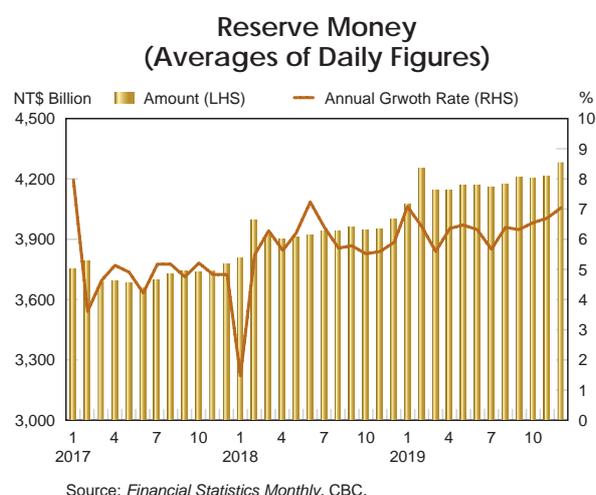
In 2019, the Bank managed market liquidity through open market operations by issuing certificates of deposit (CDs) in response to domestic economic and financial conditions, which helped maintain reserve money, monetary aggregates, and the overnight call loan rate at appropriate levels.

(1) Managing Market Liquidity

The Bank continued to conduct open market operations by issuing CDs. At the end of the year, the total outstanding amount of CDs issued by the Bank was NT\$7,858 billion.

(2) Higher Growth in Reserve Money

Reserve money grew at a faster pace of 6.42% for the year 2019, 0.81 percentage points higher than the previous year's figure. In terms of the monthly movements of reserve money, owing to stronger demand for funds prior to the Lunar New Year holidays, the annual growth rate of reserve money reached a yearly high of 7.11% in January. Afterwards, the annual growth rate hit a yearly low of 5.59% in March, mainly because of a reverse flow of currency back to the banking system after the Lunar New



Year holidays. In subsequent months, growth rates remained relatively stable.

On the demand side, reserve money, measured on a daily average basis, increased by NT\$253 billion over the previous year. Of the components, net currency increased by NT\$167 billion and the annual growth rate rose to 8.77% from 7.60% the previous year; reserves held by financial institutions expanded by NT\$86 billion, with the annual growth rate trending up to 4.22% from 3.80% the previous year. Currency held by the non-bank public grew moderately because the low interest rates paid on bank deposits enhanced the willingness to hold currency in hand. Meanwhile, the overall growth rate of banks' reserves increased compared to the previous year as higher growth in transaction deposits raised banks' demand for reserves.

From the supply side perspective, reserve money increased by NT\$244 billion at the end of the year. According to the balance sheet of the Bank, which revealed the sources of changes in reserve money, the increase was mostly attributable to the growth in foreign assets held by the Bank and the decrease in time redeposits placed by banks.

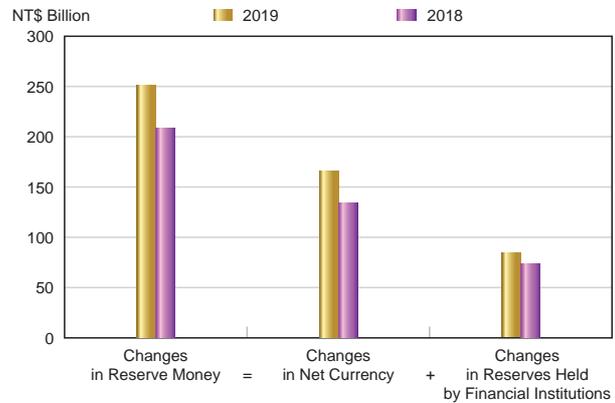
(3) Overnight Call Loan Rate Broadly Stable

In 2019, the Bank continued to conduct open market operations to maintain excess reserves and the overnight call loan rate at appropriate levels. The annual average excess reserves of financial institutions reached NT\$45 billion, slightly lower than the NT\$48 billion of the previous year. The annual average overnight call loan rate remained broadly stable at around 0.180% during the year except for June, in which the overnight call loan rate moved up to 0.202%.

(4) M2 Growth Stable and Within Target Range

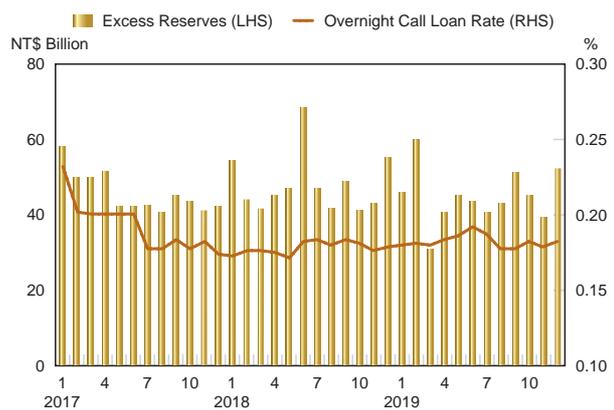
The M2 growth target range for 2019 was set at 2.5% to 6.5%, the same as the previous year. For the year as a whole, M2 registered an annual growth rate of 3.46%, down by 0.06 percentage

Changes in Reserve Money (Averages of Daily Figures)



Source: Financial Statistics Monthly, CBC.

Excess Reserves and Overnight Call Loan Rate



Source: Financial Statistics Monthly, CBC.

points from the previous year. The annual growth rates of M2 in every month of the year remained within the Bank's target range.

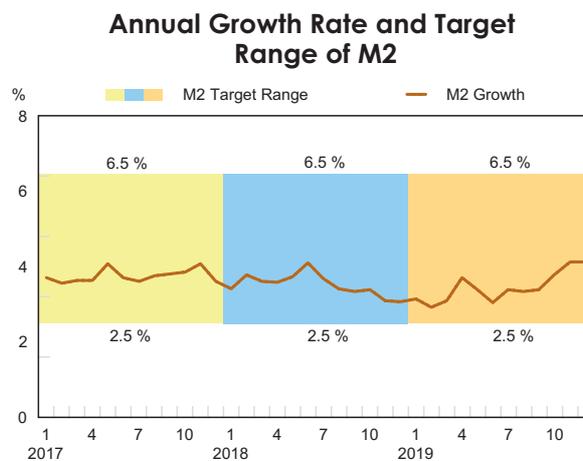
With regard to the monthly movements in 2019, an increase in bank loans and investments as well as net foreign capital inflows brought the M2 growth rate up to 3.14% in January. Later, it reached a yearly low of 2.92% in February, reflecting slower growth in bank loans and investments. In the following two months, the M2 growth rate trended upward on account of capital inflows and reached 3.71% in April. Then, the M2 growth rate moved down to 3.05% in June because of net foreign capital outflows and weaker growth in bank loans and investments.

From July onwards, the M2 growth rate returned to an uptrend and hit a yearly high of 4.14% in November, driven by stronger expansion in bank loans and investments and net foreign capital inflows. The M2 growth rate marginally dropped to 4.12% in December.

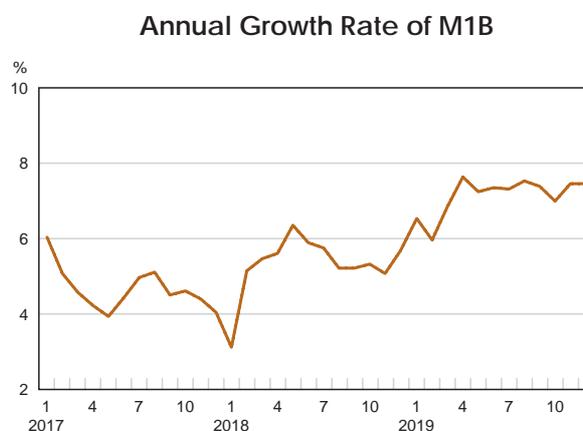
The annual growth rate of the monetary aggregate M1B, measured on a daily average basis, went up by 1.83 percentage points to 7.15% in 2019. The rise in M1B growth was primarily due to an increase in the transaction demand for money amid moderate expansion in the domestic economy.

As for the monthly movements, continuous net foreign capital inflows and a gradual rise in stock prices led to the M1B growth rate displaying a broad uptrend for the first four months except in February, in which it was dragged down by softer growth in passbook deposits held by enterprises because of longer Lunar New Year holidays in 2019. After registering an all-year high of 7.65% in April, the growth rate of M1B dropped to 7.23% in May as it was the annual individual income tax declaration period and income tax revenues rose compared to the previous year.

From June onwards, despite decelerated growth in transaction deposits sending the M1B growth rate down to 6.99% in October, the growth rate broadly exhibited a steady uptrend and reached 7.44% in December.



Source: Financial Statistics Monthly, CBC.



Source: Financial Statistics Monthly, CBC.

Continuing with Macroprudential Policy on High-Value Housing Loans

For the year 2019, as largely volatile high-value housing prices could still raise banks' real estate-associated credit risks, the Bank kept the loan-to-value ratio capped at 60% on high-value housing loans and continued to urge financial institutions to strengthen risk management of real estate loans.

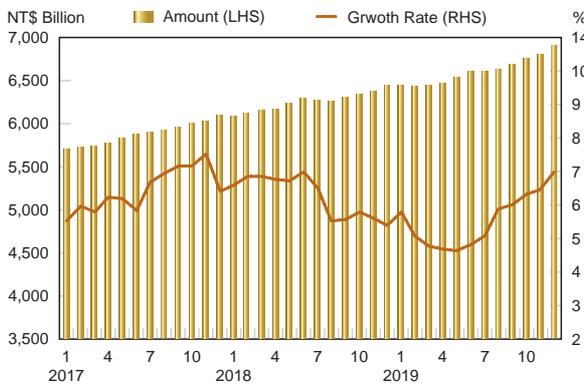
In the housing market, transactions increased and prices gradually trended up in 2019. Furthermore, homebuilders stepped up land acquisition and the offering of new housing projects, while banks recorded faster year-on-year rises in loans for home purchases and building construction. Looking ahead, the Bank will continue to keep a watchful eye on financial institutions' management of risks associated with real estate lending and developments in the housing market. Appropriate monetary policy actions will be adopted in a timely manner to safeguard financial stability.

Facilitating SME Funding

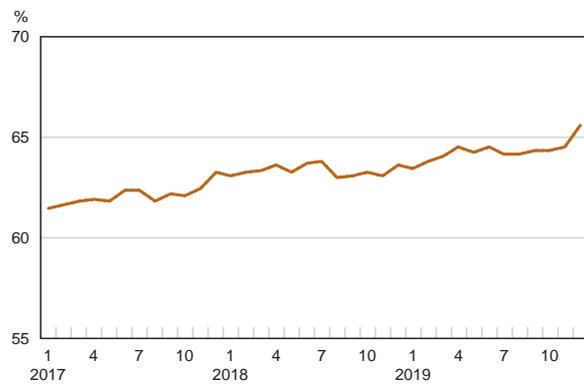
To sufficiently meet the funding needs of small and medium-sized enterprises (SMEs), the Financial Supervisory Commission (FSC) continued to encourage lending to SMEs by domestic banks, while the Bank also urged commercial banks to increase lending to SMEs.

At the end of 2019, the outstanding loans extended to SMEs by domestic banks amounted to NT\$6,898 billion, increasing by NT\$460 billion from the end of the previous year and far exceeding the annual target of increased lending of NT\$270 billion set by the competent authorities. The outstanding SME loans recorded an annual growth rate of 7.14% at the end of 2019, higher than the 5.50% at the end of 2018. Furthermore, the ratio of outstanding SME loans to loans extended to all private enterprises rose slightly from 63.63% at the previous year end to 65.61% at the end of 2019.

Outstanding Loans Extended to SMEs



Ratio of Outstanding Loans Extended to SMEs to Those Extended to Private Enterprises



Accepting Redeposits from Financial Institutions

Accepting redeposits from Chunghwa Post, the Agricultural Bank of Taiwan, and commercial banks is another instrument for the Bank to influence banks' reserve positions in order to promote financial stability. At the end of 2019, the outstanding redeposits of Chunghwa Post stayed broadly unchanged at NT\$1,624 billion, whereas the redeposits of the Agricultural Bank of Taiwan and of commercial banks decreased modestly to NT\$143 billion and NT\$359 billion, respectively.

Box 2

Adjusting M2 Growth Target Range to a Reference Range from 2020 Onwards

1. Considerations for Adjusting M2 Growth Target Range to a Reference Range from 2020 Onwards

Starting from 2020, the M2 annual growth target range will be adjusted to a reference range. The main considerations are as follows:

- (1) In addition to M2 growth, the Bank also closely monitors and considers other key economic and financial indicators, such as inflation expectations, the output gap, interest rates and exchange rates, credit conditions, and asset prices. M2 growth remains one of the crucial reference indicators for monetary policy.
- (2) According to the Bank's past experiences, M2 growth was easily affected by factors such as cross-border capital flows, asset portfolio diversification, and financial innovations. Following the global financial crisis, Taiwan has witnessed a weakening in the short-term relationship between M2 and prices. Nevertheless, the mid- to long-term relationship among M2, output, and prices remains relatively stable. An appropriate pace of M2 growth would be conducive to attaining the ultimate objective of price stability. Furthermore, M2 also conveys important information with regard to financial stability.
- (3) As Taiwan is a small open economy, it is important to ensure monetary policy autonomy and flexibility. Adjusting the target range for M2 growth into the reference range would provide greater operational flexibility. Allowing M2 growth within an appropriate range to account for the uncertainties over macroeconomic and financial variables would help guard against excess volatility in short-term interest rates and would be consistent with the Bank's efforts in maintaining dynamic stability of the exchange rate.

2. The Bank's Future Policy Practice

- (1) From 2020 onwards, the target range of M2 growth will become a reference range. In fact, since 2009, the M2 annual growth rate has generally stayed within the target range of 2.5%

to 6.5%, which has been conducive to attaining a low and stable inflation rate and sufficient to support economic activity. Furthermore, the model-projected annual growth rate of M2 demand in 2020 remained within the aforementioned range.¹ Therefore, the M2 growth reference range for 2020 remains at 2.5% to 6.5%.

- (2) Considering that M2 is a mid- to long-term indicator, the Bank will not set the reference range of M2 growth on an annual basis. However, as M2 growth still serves as a valuable reference, the Bank will continue to keep track of M2 growth trends in the monthly monetary growth forecast meetings. Moreover, at the end of each year, the Bank will also review the developments of M2 growth during the year and the outlook for money demand in the following year. The review will be used as a reference for monetary policymaking.
- (3) A multitude of uncertainties such as frequent international capital flows, asset portfolio diversification, and the rapid development of financial technology may cause the M2 growth rate to deviate from the reference range. In the event of continued deviation from the 2.5%-6.5% range or structural changes, the Bank would conduct a review to analyze the potential factors contributing to the changes or deviations, so as to make adjustments as warranted and in a timely fashion.

¹ For the model-projected results, please refer to "Adjusting M2 Growth Target Range to a Reference Range from 2020 Onwards," *Quarterly Bulletin, Central Bank of the Republic of China (Taiwan)*, Vol.41, No.4, pp.7-12 (in Chinese).

3. Foreign Exchange Management

Taiwan is a small open economy which adopts a managed float exchange rate regime. Under the regime, the NT dollar exchange rate is in principle determined by market forces. In the event of excessive exchange rate volatility, the Bank would conduct "leaning against the wind" operations to stave off adverse implications for economic and financial stability. The Bank continues employing a flexible exchange rate policy and maintaining the dynamic stability of the NT dollar exchange rate. The Bank is also committed to facilitating the order and development of the foreign exchange (FX) market.

Promoting the Sound Development of the Foreign Exchange Market

The NT dollar exchange rate vis-à-vis the US dollar (USD) was generally steady in the first four months of 2019. However, this was followed by a series of depreciations during May to early August when several flare-ups of US-China trade tensions markedly weakened the renminbi, dragging down the currencies of the related supply chain economies including Taiwan. After mid-August, the global market size of negative-yielding bonds continued growing to new record levels as investors responded to global economic slowdown, trade policy uncertainties, and monetary easing by major central banks. Against this backdrop, yield-seeking international capital flows turned to Asia, favoring Taiwan in particular, and the NT dollar appreciated again.

In October, the US signed the "phase one" trade deal with China, and Britain and the European Union (EU) also approved an agreement on the UK's withdrawal from the EU. Those deals cooled trade tensions and the risk of a so-called "hard Brexit," bolstering non-USD currencies. Furthermore, foreign investors increased stock buying in the Taiwan market on the back of trade diversion benefits and repatriating Taiwanese investment flows. The NT dollar strengthened as a result.

In general, Taiwan's foreign exchange market witnessed a greater forex demand than supply in the first half of 2019, prompting the Bank to sell a total of US\$1.1 billion to ensure US dollar liquidity. During the latter half of 2019, supply exceeded demand as foreign capital surged into the local FX market, and the Bank conducted smoothing operations accordingly. For the year as a whole, the Bank's net forex buying amounted to US\$5.5 billion.

Foreign Currency Call Loan and Swap Market Management

In order to provide the financial system with sufficient foreign currency liquidity to meet funding needs, including those for corporations to venture into overseas markets, the Bank appropriated seed capital for the Taipei Foreign Currency Call Loan Market, including US\$20 billion, €1 billion and ¥80 billion.

Furthermore, through foreign currency call loans and swaps conducted by authorized foreign exchange banks, the Bank continued to support corporations and insurance companies by meeting the needs for foreign currency liquidity and exchange rate hedging.

Foreign Exchange Reserve Management and Foreign Currency Liquidity of the Bank

The Bank manages its foreign exchange reserves based on the considerations of liquidity, safety, and profitability. The Bank keeps watch on the global economic and financial situation and adjusts the FX reserves as warranted.

Currently, US dollar assets make up a larger share in Taiwan's foreign exchange reserves than the COFER (Currency Composition of Official Foreign Exchange Reserves) average published by the IMF. As of the end of 2019, Taiwan's total FX reserves stood at US\$478.1 billion with an increase of US\$16.3 billion or 3.5% compared to the end of 2018, mainly attributable to returns from FX reserve investments. Combining the reserves held in gold valued at US\$5.1 billion, the Bank's reserves assets totaled US\$483.2 billion at the end of the year.

While FX reserves are the Bank's foreign currency claims on nonresidents, such claims on residents consist of US dollars held under swap agreements, foreign currency deposits with and loans to domestic banks, which amounted to US\$100.3 billion, US\$32.2 billion, and US\$6.3 billion, respectively, at the end of 2019.

In terms of foreign currency liquidity, the total amount, including foreign currency claims and gold, reached US\$625.6 billion at the end of 2019.

Capital Flow Management

In line with its efforts to promote financial liberalization and internationalization, the Bank's FX management mainly relies on the market mechanism and capital can, in principle, flow freely in and out of Taiwan. As of 2019, foreign currency capital not involving NT dollar conversion has been able to flow freely. Additionally, there are no restrictions on financial flows involving NT dollar conversion for goods and service trade, nor for direct and securities investments approved by the competent authorities.

However, regulation exists for short-term remittances. Annual remittances for an individual resident within US\$5 million and for a juridical person within US\$50 million can be settled by banks directly, while annual remittances above the aforementioned amounts require the approval of the Bank. Each transaction for a nonresident within US\$0.1 million can be settled by banks directly, whereas any transaction amount above that threshold requires the approval of the Bank.

Key measures with regard to the management of capital flows in 2019 included:

(1) Amending Corresponding FX Regulations

Article 27 of the *Directions for Banking Enterprises While Assisting Customers to Declare Foreign Exchange Receipts and Disbursements or Transactions* was amended with immediate effect on January 29, 2019. Accordingly, private employment service organizations no longer need to present a document of evaluation certification when making declarations of foreign exchange settlements relating to salaries of foreign workers in Taiwan on their behalf, as such a document was deemed irrelevant to the purpose of this legislation.

(2) Promoting the Internationalization of Taiwan's Capital Market

In 2019, cases of fund-raising by domestic and foreign institutions through bond issuance, approved by or filed for record to the Bank, are shown in the following table.

Fund-Raising by Domestic and Foreign Institutions in 2019

Institution	Method	Number	Amount
Foreign companies	IPO on TWSE & TPEX and registration on the Emerging Stock Board	16	NTD 5.12 billion
	NTD convertible bonds	12	NTD 7.99 billion
	International bonds	42	USD 23.38 billion
		10	RMB 5.97 billion
		2	ZAR 7.83 billion
	NTD-denominated foreign bonds	1	NTD 12.0 billion
Overseas convertible bonds	1	USD 0.1 billion	

Note: TWSE is the Taiwan Stock Exchange; TPEX is the Taipei Exchange.
Source: Department of Foreign Exchange, CBC.

(3) Approving Residents' Investments in Foreign Securities

In 2019, the Bank approved the following investments in foreign securities by residents.

CBC-Approved Residents' investments in Foreign Securities

Institution	Method/Instrument	Amount
Securities investment trust enterprises (SITEs)	130 domestic SITE funds (including 57 NTD-foreign multiple currency SITE funds)	NTD 3,534.8 billion (including multiple currency funds: NTD 1,402.0 billion)
	2 SITE private funds	NTD 21.0 billion
	4 domestic futures trust funds for unspecified persons	NTD 65.0 billion
Life insurance companies	Non-discretionary money trusts managed by financial institutions	USD 0.65 billion
	Investment for their own accounts	USD 4.35 billion
	Lowering overseas investment hedge positions	USD 5.49 billion
Five major government pension funds and employment insurance fund	Investment for their own accounts	USD 6.13 billion

Source: Department of Foreign Exchange, CBC.

Management of FX Business of Financial Institutions

(1) Authorized FX Banks

Pursuant to the *Central Bank of the Republic of China (Taiwan) Act* and the *Foreign Exchange Regulation Act*, the Bank reviews, authorizes and supervises banks to conduct FX business accordingly. In 2019, the Bank continued to approve bank branches as authorized FX banks and loosened restrictions on FX derivative product business in order to facilitate authorized FX banks' competitiveness and service quality. Related developments in 2019 were as follows.

At the end of 2019, there were 3,461 authorized FX banks in total, which included 37 head offices and 3,386 branches of domestic banks, 35 branches of foreign banks, three branches of Mainland Chinese banks, as well as 4,690 authorized money exchangers, post offices, and financial institutions authorized to engage in basic FX business.

The Bank amended the *Regulations Governing Foreign Exchange Business of Banking Enterprises* on February 15, 2019, with the following changes: (1) adding provisions governing the qualifications for internet-only banks, which would be allowed to set up in Taiwan in the same year, to apply to become authorized foreign exchange banks; (2) revising provisions governing the installation of foreign currency ATMs and those governing FX business conducted through electronic or communications equipment. The Bank also amended the *Directions Governing Authorized Banks*

for Operating Foreign Exchange Businesses Through Electronic and Communications Equipment on the same day, broadening the stipulated business scope, streamlining the application procedures, and renaming the law as the *Directions Governing Authorized Banks for Operating Foreign Exchange Businesses Through Electronic or Communications Equipment*.

(2) Insurance Companies

As of the end of 2019, the numbers of insurance companies allowed to engage in foreign currency insurance business for traditional and investment-linked foreign currency insurance products were 20 and 21, respectively. The foreign currency premium revenue decreased by US\$1.6 billion, or 4.69%, from the previous year to US\$31.9 billion in 2019.

(3) Securities Firms

As securities firms would now be allowed to issue exchange-traded notes (ETNs) that track foreign underlying indices, the Bank stipulated on February 18, 2019, the procedures and compliance matters governing the application by securities firms to the Bank.

In 2019, the Bank also approved more cases for securities firms to conduct FX business. As shown in the following table, the most approved cases were five for "proprietary foreign securities trading neither belonging to investment with their own funds nor for hedging needs," followed by two cases in each of the categories of "non-discretionary individually managed money trust wealth management," "structured notes linked to foreign financial products," and "issuance of ETNs tracking foreign underlying indices."

Approved Cases for Securities Firms to Conduct FX Business in 2019

FX Business	Number
Agents for foreign bond trading	1
Proprietary foreign securities trading neither belonging to investment with their own funds nor for hedging needs	5
Foreign currency spot exchange transactions	1
Accepting orders to trade foreign securities	1
Underwriting of international bonds	1
Non-discretionary individually managed money trust wealth management	2
Structured notes linked to foreign financial products	2
Issuance of ETNs tracking foreign underlying indices	2

Source: Department of Foreign Exchange, CBC.

(4) Investment Trust/Consulting Firms, and Futures Firms

The approved cases granted by the Bank for investment trust and investment consulting firms and futures firms to conduct FX business as of 2019 are shown in the following table.

Approved Cases for Investment Trust/Consulting Firms and Futures Firms to Conduct FX Business in 2019

Institution	FX Business	Number
Investment trust and investment consulting firms	Serving as mandated institution of private offshore funds	3
	Foreign currency discretionary investments in foreign securities	3
	Conducting public offer or private placement of foreign currency-denominated funds	2

Source: Department of Foreign Exchange, CBC.

Foreign Currency Clearing Platform

Taiwan's foreign currency clearing platform, consigned by the Bank and established by the Financial Information Service Co., was inaugurated in 2013 and has continued to function smoothly ever since. The platform offers services for domestic and cross-border remittances (including cross-strait) of the renminbi and the Japanese yen, and domestic remittances of the US dollar, the euro, and the Australian dollar. The platform adopts a payment-versus-payment (PVP) mechanism among banks, a liquidity-saving mechanism for foreign currency remittances, and a delivery-versus-payment (DVP) mechanism for foreign currency bonds and bills.

Domestic Development of Foreign Currency Settlement Business in 2019

Currency	Domestic Participating Units	Settlements in 2019	
		Transactions	Amount
US dollar	69	1,110,204	USD 1,934.3 billion
Renminbi	61	272,317	RMB 457.4 billion
Yen	41	30,428	JPY 1,247.3 billion
Euro	40	19,623	EUR 6.4 billion
Australian dollar	29	17,321	AUD 1.2 billion

Source: Department of Foreign Exchange, CBC.

Offshore Banking

In line with the amendment to the *Company Act* that no longer required foreign companies to gain authorization to be entitled with legal capacity in Taiwan, the Bank and the Financial

Supervisory Commission jointly amended the *Offshore Banking Act Enforcement Rules* and the *Regulations Governing the Establishment and Compliance Matters of Offshore Banking Branches*, effective November 11, 2019.

(1) Offshore Banking Units (OBUs)

At the end of 2019, the number of OBUs came to 59, and total OBU assets increased by US\$20.89 billion, or 10.4%, over the previous year to US\$221.86 billion. The net income after tax of all OBUs amounted to US\$3.21 billion, increasing US\$0.37 billion, or 13.1%, from a year before.

(2) Offshore Securities Units (OSUs)

At the end of 2019, the number of OSUs stood at 19, and total OSU assets reached US\$6.17 billion, an increase of US\$1.81 billion or 41.6%. The net income after tax of OSUs turned from a net loss of US\$20.09 million the previous year into a net gain of US\$150.15 million, representing an increase of US\$170.24 million.

(3) Offshore Insurance Units (OIUs)

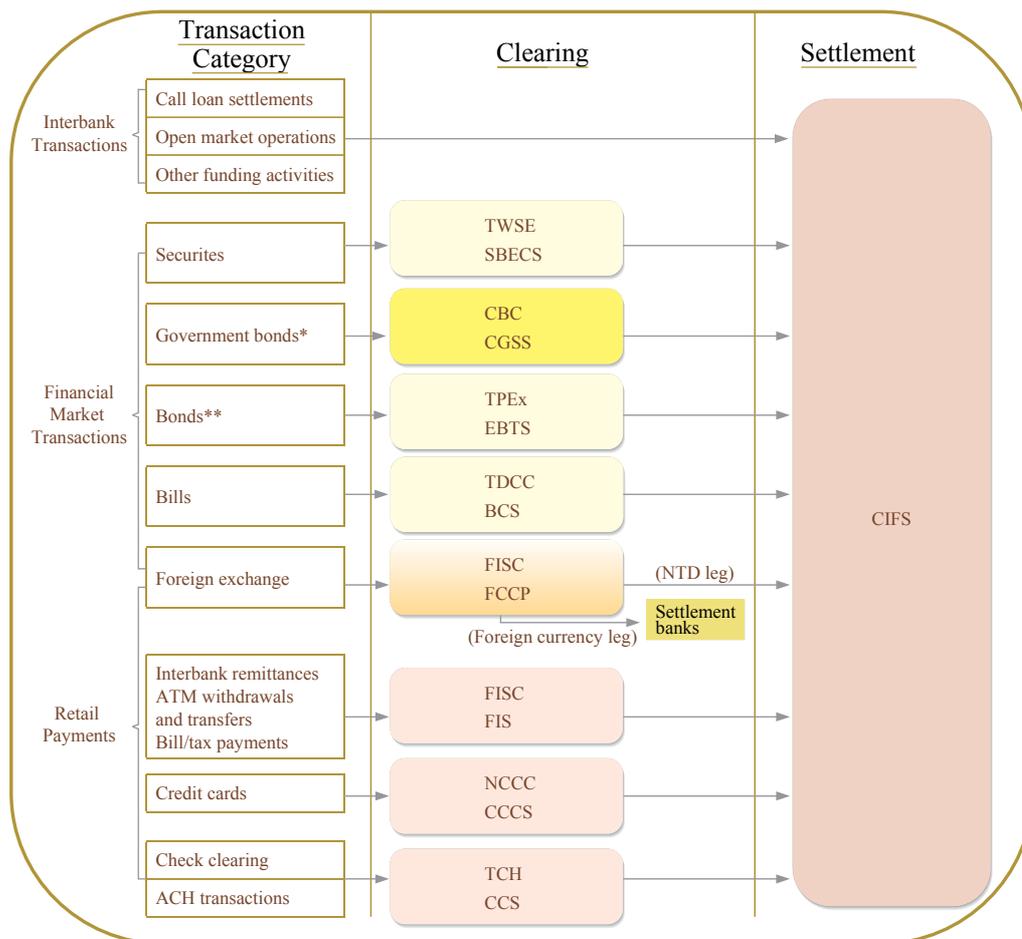
As of the end of 2019, the number of OIUs was 20, with a total amount of assets of US\$0.94 billion, which was US\$0.13 billion or 16.3% more than the previous year end. The net income after tax of all OIUs became a net loss of US\$0.17 million, decreasing by US\$2.10 million from the positive gain of US\$1.93 million in 2018.

4. Payment and Settlement Systems

The Bank plays a crucial role in the functioning of Taiwan's payment and settlement systems, and operates the CBC Interbank Funds Transfer System (CIFS) and the Central Government Securities Settlement System (CGSS).

The CIFS serves as the hub of Taiwan's payment and settlement systems, linking the interbank clearing systems operated by the Financial Information Service Co., Ltd. (FISC), the Taiwan Clearing House (TCH), the National Credit Card Center of R.O.C. (NCCC), the Taiwan Depository and Clearing Corporation (TDCC), the Taipei Exchange (TPEX), and the Taiwan Stock Exchange Corporation (TWSE), as well as the CGSS, together to construct a comprehensive system.

CIFS Settlement Services



Notes:* Including DVP settlements for interbank transactions of central government bonds and treasury bills.

** Including netting settlements for outright trades of government bonds, corporate bonds, and financial bonds.

Source: CBC.

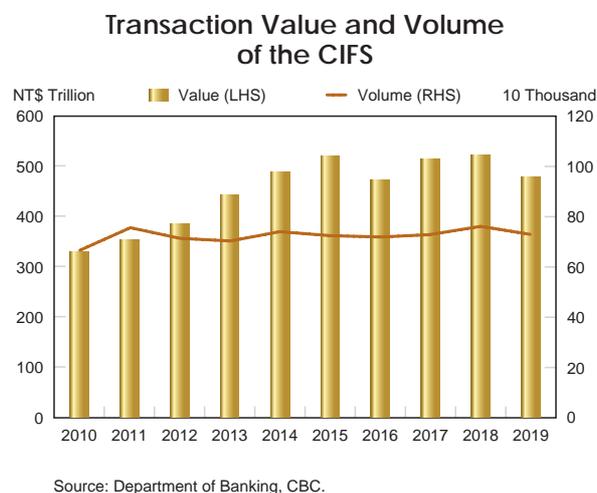
In addition, the Bank monitors major payment systems based on the *Principles for Financial Market Infrastructures* released by the Bank for International Settlements (BIS) to ensure sound operation of these systems and to promote stability of the financial system.

Operation of Payment and Settlement Systems

(1) Funds Transfers via the CIFS

As a large-value electronic funds transfer system, the CIFS not only deals with interbank funding, open market operations, and funds settlements in financial markets, but also provides interbank final settlement services for each clearing institution.

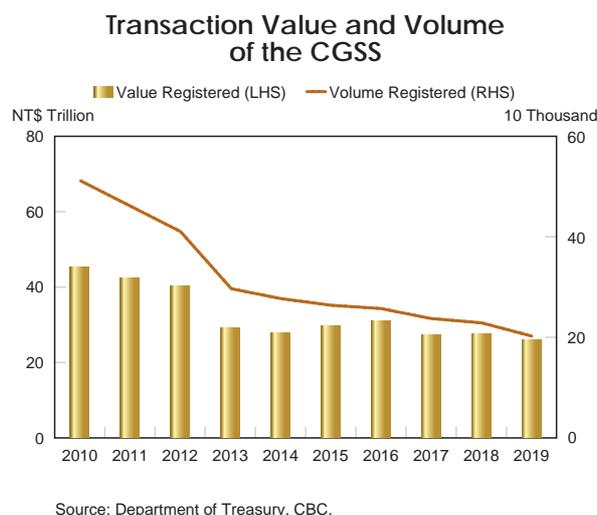
At the end of 2019, participants of the CIFS included 66 banks, eight bills finance companies, Chunghwa Post, and six clearing institutions such as the FISC, the TCH, the TDCC, the TWSE, the TPEX, and the NCCC. In the year 2019, the number of transactions via the CIFS was 732,046, and the amount of funds transferred totaled NT\$482 trillion. Meanwhile, the daily average number of transactions via the CIFS was 2,964 and the daily average amount of funds transferred was NT\$1,953.8 billion, decreasing by 3.70% and 7.65% from the previous year, respectively.



(2) Transactions via the CGSS

Established in September 1997, the CGSS is a system for issuance, transfer, redemption, and interest payment of book-entry central government securities. Since its inception, central government bonds have been issued in book-entry form. In October 2001, treasury bills were included in this system and have been issued in book-entry form ever since.

Since April 2008, when the CGSS linked up with the CIFS, fund settlements, principal redemptions, and interest payments have been handled through the CIFS using a delivery-versus-payment (DVP)



mode. The DVP mode, promoted by the BIS, is an arrangement in a securities settlement system to ensure that securities delivery occurs at the same time as the funds transfer, effectively eliminating potential principal risk during the transaction process.

As of the end of 2019, there were 18 clearing banks with 1,676 branches that handled the registration of central government securities transfers. In 2019, this system processed 204,115 transfers with a total amount of NT\$26.3 trillion.

Oversight of Payment and Settlement Systems

To ensure sound operation of domestic payment and settlement systems and maintain their safety and efficiency, the Bank conducted the following oversight activities in 2019:

(1) Monitoring the Operation of Payment and Settlement Systems

In 2019, the Bank continued to monitor the operation of the payment and settlement systems. During the year, 14 applications for the CIFS operation time extensions were filed by participating institutions because of system malfunctions or other contingencies. The Bank required these institutions to submit improvement reports.

(2) Requiring Payment Institutions to Submit Information on Electronic Payment Business

Payment system operators and electronic payment service providers were required by the Bank to submit information about their operations and activities with regard to electronic payments on a regular basis.

Furthermore, the Bank kept close watch on the development of financial technology (fintech) and innovations in the payment industry through meetings with relevant parties to reinforce communication.

(3) Supervising Contingency Drills Performed by Clearing Institutions

During 2019, the Bank supervised clearing institutions conducting testing of business continuity plans and remote backup operations in case of emergency. Furthermore, the Bank, in collaboration with participants of the CIFS, performed a dry run of the operating procedures in the scenario that disruptions to system network connectivity occur. Based on the outcomes, the Bank reviewed and updated relevant procedures, which were later provided as guidance for participating institutions.

(4) Organizing Conferences to Enhance Payment System Operation

The Bank invited the Financial Supervisory Commission (FSC) and clearing institutions to jointly hold two conferences on "Promoting Sound Operation of the Payment Systems," through which the

Bank urged clearing institutions to strengthen risk management of cybersecurity and enhance the use of big data in innovative operations. The conferences were convened separately by type of business. The conference in May was held for securities clearing institutions such as the TDCC, the TPEX, and the TWSE, while the one in November was attended by payment clearing institutions including the FISC, the TCH, and the NCCC.

(5) Requiring the TCH to Disclose Financial Information

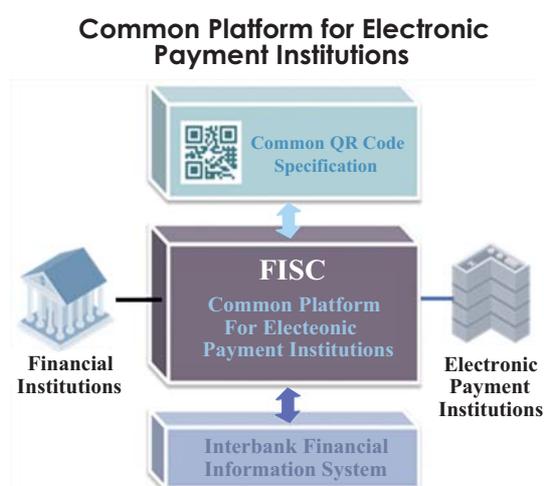
In line with the commencement of the *Foundations Act*, the Bank supervised the TCH to revise related rules and regulations, and required the TCH to disclose financial statements on its website pursuant to Article 25 of the Act. Related information such as the TCH's budget and final accounts as well as the Bank's on-site audit results was also published in the information disclosure section on the Bank's Chinese-language website.

Supporting the Establishment of the "Common Platform for Electronic Payment Institutions" to Strengthen Retail Payment Infrastructure

To achieve interoperability across multiple mobile payment services, many countries started to roll out their own standardized QR code specifications. In Taiwan, the FISC collaborated with banks and developed the "Taiwan Pay Common QR Code Payment Specification" (hereafter referred to as the common QR code specification) at the end of 2017.

With the development of the common QR code specification, the Bank instructed the FISC to establish the "Common Platform for Electronic Payment Institutions" to incorporate electronic payment institutions (EPIs) into the direct participants of the interbank financial information system. Through this platform, the funds can be transferred between EPIs and between banks and EPIs. This would help facilitate funds settlements at higher speed and enhance the convenience of mobile payment services for vendors and consumers.

The FISC has completed the initial development of the platform and offered EPIs to apply for trials in October 2019. In the meantime, to coordinate with the aforementioned efforts, the competent authority, the FSC, is working on the amendments to the *Act Governing Electronic Payment Institutions*. Once these amendments come into force, the platform will officially start operating.



Source: Department of Banking, CBC.

Conducting Research on the Central Bank Digital Currency

Given that existing domestic payment market infrastructures have been operating efficiently and smoothly, there is no urgent need to issue a central bank digital currency (CBDC) in Taiwan at the moment. However, given the evolving trends in the digital economy, it is imperative for central banks to closely monitor the developments of CBDCs and the applicability of related technologies. Therefore, the Bank organized a research team in May 2019 to investigate the ongoing development of technologies regarding CBDCs, blockchain, and electronic payments.

As the issuance of a CBDC involves complicated issues and requires careful consideration, the Bank's research team has been cooperating with academics and industry specialists to study the technologies and explore the possibility for issuing a wholesale CBDC. In the future, depending on the aforesaid research results, the team might proceed to research on a general purpose CBDC.

5. Currency Issuance

The Bank acts as the issuing authority for the nation's currency and is dedicated to providing a stable and reliable currency for the public to foster economic activity and maintain public confidence in the currency.

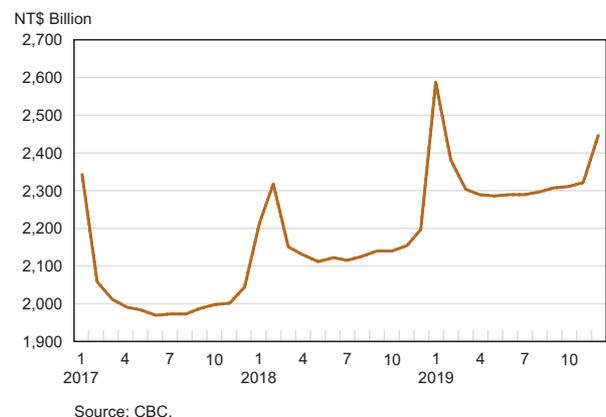
For the year 2019, the Bank maintained the supply of currency at an optimum level to meet public demand, which is subject to a variety of factors from Taiwan's economic conditions and seasonal factors to the development of noncash payment instruments. The Bank also issued commemorative coin sets featuring the Chinese zodiac of the year and national parks of Taiwan. Meanwhile, the Bank's endeavors to promote public awareness of counterfeit deterrence and encourage the use of circulating currency continued through various channels.

Currency Issuance Rose in Response to Currency Demand

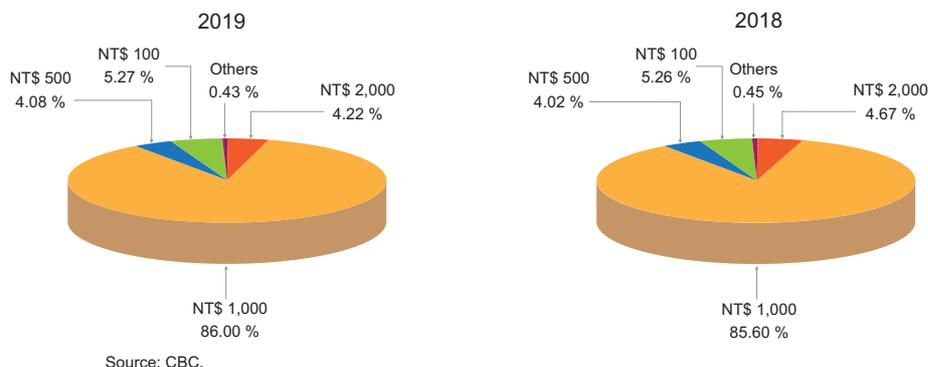
In 2019, the Bank provided an adequate amount of currency in response to currency demand. The currency issued peaked at NT\$2,617.5 billion on February 1, the last business day before the Lunar New Year holidays, reflecting a temporary seasonal surge in cash demand. At the year end, the outstanding amount of currency issued was NT\$2,447.3 billion, rising by NT\$250.0 billion or 11.38% over the previous year end.

By denomination, the composition of NT dollar banknotes in circulation at the end

Currency Issued



Composition of NT Dollar Banknotes Issued
(Year-End Figures)

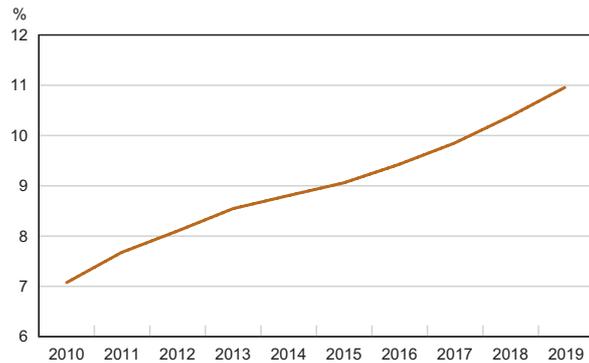


of 2019 was similar to the end of 2018. The NT\$1,000 note accounted for a dominant share at 86.00%. The NT\$100 and NT\$2,000 notes came in second and third with shares of 5.27% and 4.22%, respectively.

Currency in Circulation to GDP Trended Up

As domestic interest rates stayed at relatively low levels and cash was still frequently used for small-value transactions, the public's demand for currency remained high. The ratio of currency in circulation to GDP has continued to rise steadily since 2010 and reached 10.98% in 2019, 0.58 percentage points higher than the 10.40% of the previous year.

The Ratio of Currency Held by the Public to GDP



Sources: 1. CBC.
2. DGBAS, Executive Yuan.

Two Commemorative Coin Sets Were Issued

The Bank may also issue gold and silver coins and commemorative notes and coins from time to time, such as for important ceremonies, national holidays, major international events or other significant national events. During 2019, the Bank issued a casting set of coins for the Chinese Zodiac Year of the Pig, and the eighth coin set of the National Parks of Taiwan series - Taijiang National Park.



Source: CBC.

The Bank Continued to Encourage the Use of Circulating Currency and Raise Public Awareness of Counterfeit Money

In order to deter and prevent counterfeiting, reduce currency issuing costs, and protect the environment by maximizing existing resources, the Bank launched several advertising campaigns

during the year to enhance public understanding on the security features of NT dollar notes and coins and to promote the use of circulating currency.

Meanwhile, the Bank strove to improve the cleanliness of currency by inspecting returned banknotes and destroying damaged ones. Efforts to urge the public to help maintain the cleanliness of circulating notes and coins continued in 2019.

Educational materials for these campaigns were provided through multiple channels. For example, relevant videos were broadcasted on media such as the Bank's website, the Virtual Money Museum, YouTube, and the Bank's official mobile app. Information was also posted on the Bank's Facebook fan page and displayed on public transportation. Leaflets were distributed to the public and relevant institutions.

6. Fiscal Agency Functions

The Bank, as the fiscal agent of the government, offers services for the national treasury, such as handling the treasury deposit account (TDA), managing central government agency deposit accounts, and undertaking the issuance, transfer and registration, redemption, and interest payment of central government bonds and treasury bills.

Managing the Treasury Deposit Account

The Bank manages the TDA on behalf of the Ministry of Finance (MOF), processing receipts and disbursements of the central government. In order to provide convenient services for government agencies and the general public, the Bank delegates the handling of treasury business to 14 financial institutions and their 364 branches, including three overseas branches located in New York, Los Angeles, and Paris. In addition, there are another 4,743 national tax collection agencies set in financial institutions. In 2019, the Bank received a total of NT\$3,534.5 billion in treasury deposits, an increase of NT\$283.4 billion or 8.72% over the previous year. Payments made on behalf of the national treasury were NT\$3,496.1 billion, increasing by NT\$244.7 billion or 7.53% from 2018. At the end of 2019, the TDA balance was NT\$58.0 billion, an increase of NT\$38.5 billion or 197.44% from the end of 2018.

Handling Central Government Agency Deposits

Central government agencies are required to make their deposits with the Bank or other delegated banks. At the end of 2019, the balance of central government agencies' deposits with the Bank amounted to NT\$181.4 billion, an increase of NT\$10.5 billion or 6.14% over 2018. Deposits with other delegated banks were NT\$585.9 billion at the end of 2019, increasing by NT\$24.2 billion or 4.31%.

Establishing a QR Code-Based National Treasury Fee Payment Mechanism

In order to provide the public with more convenient and diversified channels to pay national treasury fees, the Bank requested the Financial Information Service Co. (FISC) to add the national treasury fee payment service to the FISC's nationwide bill payment service (e-Bill) mobile app, effective from June 2019.

Furthermore, in October 2019, the Bank launched the "QR Code-Based National Treasury Fee Payment Mechanism," in which QR codes would be produced based on the Common QR Code Payment Specification developed by the FISC. The mechanism allows payers to scan the QR Code on their national treasury fee bills or at financial institutions' counters using the Taiwan Mobile Payment app or other mobile banking apps. Such payments would be made via payers' mobile debit cards or be debited from their bank accounts immediately.

Managing Central Government Bonds

As a fiscal agent, the Bank provides services related to the issuance, transfer and registration, redemption, and interest payment of central government bonds. The Bank also conducts the auctions of central government bonds. There are 57 domestic dealers qualified to directly participate in the auctions, including 23 banks, 19 securities companies, eight bills finance companies, six insurance companies, and Chunghwa Post.

In 2019, the Bank conducted 16 issues of central government bonds in book-entry form worth NT\$410.0 billion. Of this amount, 10-year bonds accounted for the lion's share of 41.46%, with NT\$170.0 billion, followed by 5-year bonds, representing 21.95% with an amount of NT\$90.0 billion.

In addition, the Bank paid NT\$485.3 billion in principal and NT\$102.7 billion in interest for central government bonds. At the end of 2019, the outstanding amount of central government bonds was NT\$5,483.3 billion, a decline of NT\$75.3 billion or 1.35% from the previous year end.

Managing Treasury Bills

The Bank also handles the auctions of treasury bills. Currently, direct bidders include banks, insurance companies, securities companies, bills finance companies, and Chunghwa Post.

In 2019, the Bank conducted 10 issues of book-entry treasury bills with a total amount of NT\$314.0 billion. The majority of the issuance went for 182-day bills with NT\$130.0 billion, or a share of 41.4%. At the end of 2019, the outstanding amount of treasury bills was NT\$65.0 billion, increasing by NT\$35.0 billion or 116.7% from the end of 2018.

7. Financial Inspection

Pursuant to the objectives and duties stipulated in *The Central Bank of the Republic of China (Taiwan) Act*, the Bank conducts targeted examinations to ensure that monetary, credit, and foreign exchange policies are implemented effectively. The Bank has also established a report auditing system and a financial stability assessment framework to systematically monitor and assess possible sources of potential risks. The Bank then adopts appropriate policies in a timely manner to achieve the operational goal of financial stability. The followings are the main tasks conducted in 2019.

On-Site Examination

Targeted examinations in 2019 were conducted on high-priced housing loans, banks' interest rates and required reserves, net stable funding ratios, counterfeit money processing (either in terms of the NT dollar or foreign currency), foreign currency exchange, foreign exchange remittances, foreign exchange transfer messages, refund of over-remitted amount of foreign direct investment, foreign currency loan and guarantee business, etc.

Follow-up on Examination Findings

To ensure the effectiveness of the Bank's policies, the Bank continued to track whether the financial institutions under inspection had improved their operations, based on the findings from the Bank's targeted examinations as well as the results of the Financial Supervisory Commission's financial examinations that are related to the central bank's operations or regulations. A particular focus was on violations of the *Regulations on High-Priced Housing Loans by Financial Institutions*, which are punishable by the Bank or the Financial Supervisory Commission.

Strengthening Off-Site Monitoring

In view of changes in financial conditions and amendments to financial regulations and accounting standards, the Bank constantly reviews and revises all relevant reporting forms and contents of statistical data submitted by financial institutions. Developments related to off-site monitoring in 2019 included the following:

- (1) To reflect the changes in business and risks of the bills finance industry, the analytical items and principles of the report auditing system CARSEL were reviewed and modified.
- (2) In accordance with the rules on accounting for leases under the *International Financial Reporting Standard 16 (IFRS 16)*, relevant reports and their analytical categories of financial institutions were modified.

- (3) Threshold standards in the *Credit Services Reporting Table* and the *Operational Procedures to Enhance Monitoring of Report Auditing of Commercial Banks' Financial Derivatives* were amended. The *Reporting Table of the Unsecured Bills Underwritten* and the *Secured Loan Collateral Analytical Table* for the monitoring of bills finance companies were added.

Improving Information Transparency of Financial Institution Operations

The Bank regularly compiles and publishes financial institution statistics, such as *Condition and Performance of Domestic Banks (Quarterly)*, *Business Overview of Financial Institutions (Yearly)* and *Major Business Statistics of Financial Institutions*. All related information is disclosed on the Bank's website to strengthen operational transparency of financial institutions and to reinforce self-discipline of the market.

Financial Stability Assessment

The Bank regularly conducts analysis on commercial banks' business operations and their risk exposure so as to understand the impacts on stability of the overall financial system. It also compiles financial soundness indicators and publishes the *Financial Stability Reports* to keep the public updated on the state of the domestic financial system and sources of potential risks and to aid cross-border communication and information sharing.

To enhance analytical effectiveness regarding financial stability, the Bank continued to improve the Graphical User Interface of Credit and Market Risks Models and completed a visual interactive dashboard design for analysis of domestic banks' credit business and risks. The Bank also inquired into the implications of new liquidity regulations of Basel III for the domestic banking sector.

International Cooperation in Financial Supervision

In 2019, the Bank continued to actively engage in international cooperation related to financial supervision, such as attending the 10th SEACEN Meeting of Deputy Governors in Charge of Financial Stability and Banking Supervision, the 21st SEACEN-FSI Conference of the Directors of Supervision of Asia-Pacific Economies, and the 32nd Meeting of Directors of Supervision of SEACEN Members. The Bank also received delegations of financial supervisors from various Asian countries.

8. Participation in International Activities

As a member, the Bank hosts conferences, provides training courses, and attends numerous forums, including the annual meetings organized by the Asian Development Bank (ADB), the Central American Bank for Economic Integration (CABEI), and the South East Asian Central Banks (SEACEN) group. In addition, the Bank also maintains close relationships with the Inter-American Development Bank (IDB), the European Bank for Reconstruction and Development (EBRD), the Bank for International Settlements (BIS), and the Asia/Pacific Group on Money Laundering (APG). Furthermore, the Bank strengthens its ties with other central banks and related institutions to share policy experience and discuss current financial and economic issues.

In 2019, the Bank contributed to a wide-ranging agenda of participation in international activities. The Bank attended the 55th annual conference of governors held by SEACEN in Singapore. At this two-day conference from November 13 to 14, the Bank exchanged views with other member banks on issues related to digital transformation, including the role of personal data in digital financial innovation, the tradeoffs between financial stability, fair competition and data protection, as well as resulting policy challenges. Moreover, the Bank hosted the SEACEN Course on Off-site Monitoring during November 3 to 8.

Meanwhile, the Bank participated in the meetings held by other international organizations, such as the CABEI's Ordinary Meeting of the Board of Governors in San Salvador de Jujuy, Argentina, on April 26 and 27, the ADB's annual meeting in Nadi, Fiji, from May 1 to 5, the BIS' annual general meeting in Basel, Switzerland, on June 30, and the IDB's 60th anniversary celebration in Washington, D.C., the US, from September 26 to 27. In addition, the Bank attended the APG's annual meeting in Canberra, Australia, from August 18 to 23. At the meeting, the third round Mutual Evaluation Report for Taiwan was adopted and Taiwan's placement in the "regular follow-up" category was approved by the APG, reflecting an upgrade from Taiwan's 2011 placement on the "enhanced follow-up" list. This outcome proved the effectiveness of government efforts in combating money laundering.

SEACEN Course on Off-site Monitoring Hosted by the Bank

The Opening Ceremony



Lectures, Participant Interactions, and Group Discussion Sessions



Source: Department of Financial Inspection, CBC.

Chronology of Events of the CBC in 2019



Chronology of Events of the Central Bank of the Republic of China (Taiwan)¹ in 2019

Date	Event
Jan. 4	The CBC raised the ceiling ratio, from 4% to 8%, for the daily balance of "interbank funds transfer guarantee special accounts" of financial institutions to be counted as part of required reserves.
7	The CBC created an official Facebook page to keep the public informed and further enhance monetary policy communication.
17	The CBC issued a commemorative coin set for 2019, the Chinese Zodiac Year of the Pig.
29	The CBC amended the <i>Directions for Banking Enterprises While Assisting Customers to Declare Foreign Exchange Receipts and Disbursements or Transactions</i> , removing the rule requiring a document of evaluation certification from private employment service organizations while making declarations of foreign exchange settlements relating to salaries of foreign workers in Taiwan.
Feb. 1	In line with the enactment of the <i>Foundations Act</i> , the CBC promulgated the <i>Regulations Regarding Authorization Provisions of the Foundations Act by the Central Bank of the Republic of China (Taiwan)</i> and the <i>Regulations Governing the Accounting Treatment and Preparation of Financial Reports for Foundations Overseen by the Central Bank of the Republic of China (Taiwan)</i> , and amended the <i>Regulations Governing the Business of Negotiable Instruments Exchange and Clearance of Accounts among Banks</i> .
13	The CBC amended the <i>Directions on the Opening and Use of Interbank Funds Transfer Guarantee Special Accounts at the Department of Banking of the Central Bank of the Republic of China (Taiwan) by Financial Institutions</i> , adding a new processing fee standard for the application for depositing funds into such "special accounts" on a non-banking day by participating financial institutions, effective from February 15, 2019.
15	In light of the introduction of internet-only banks in Taiwan, the CBC amended the <i>Regulations Governing Foreign Exchange Business of Banking Enterprises</i> and the <i>Directions Governing Authorized Banks for Operating Foreign Exchange Businesses Through Electronic or Communications</i>

¹ Herein referred to as the CBC.

Date	Event
	<i>Equipment</i> to stipulate the provisions for internet-only banks applying to become authorized foreign exchange banks, effective from February 17, 2019.
Mar. 21	The CBC's Board decided to leave the discount rate, the rate on accommodations with collateral, and the rate on accommodations without collateral unchanged at 1.375%, 1.75%, and 3.625%, respectively.
Jun. 20	The CBC's Board decided to leave the discount rate, the rate on accommodations with collateral, and the rate on accommodations without collateral unchanged at 1.375%, 1.75%, and 3.625%, respectively.
27	The CBC reappointed the Taipei Branch of Mizuho Bank as the clearing bank for Japanese yen on the foreign currency clearing platform.
Sep. 16	The CBC imposed for the first time a civil penalty of one million NT dollars on Taiwan Business Bank for violating the rule of Paragraph 1, Point 3 ("no grace period is allowed"), of the <i>Regulations Governing High-Priced Housing Loans Extended by Financial Institutions</i> .
19	The CBC's Board decided to leave the discount rate, the rate on accommodations with collateral, and the rate on accommodations without collateral unchanged at 1.375%, 1.75%, and 3.625%, respectively.
Oct. 30	The CBC reappointed Mega International Commercial Bank as the clearing bank for euro on the foreign currency clearing platform.
Nov. 7	The CBC issued the New Taiwan dollar uncirculated coin set of the National Parks of Taiwan series - Taijiang National Park.
Dec. 19	<p>The CBC's Board decided on the following:</p> <ol style="list-style-type: none"> 1. Leaving the discount rate, the rate on accommodations with collateral, and the rate on accommodations without collateral unchanged at 1.375%, 1.75%, and 3.625%, respectively. 2. Starting from year 2020, the target range for M2 growth will become the reference range, which remains between 2.5% and 6.5%. It will not be reset on an annual basis. However, in the event of persistent deviations in M2 growth from the reference range or structural changes, the CBC would conduct a review and make necessary adjustment in a timely manner.

Financial Statements of the CBC

1. Balance Sheet

Unit: NT\$ Million

	December 31 2019	December 31 2018	Change	
			Amount	%
Assets				
Foreign Assets	14,497,203	14,350,852	146,351	1.02
Due from Domestic Banks	979,664	981,958	-2,294	-0.23
Loans and Accommodations to Financial Institutions	224,790	227,314	-2,524	-1.11
Other Assets	457,900	920,554	-462,654	-50.26
Total Assets	16,159,557	16,480,678	-321,121	-1.95
Liabilities				
Currency Issued	2,447,251	2,197,292	249,959	11.38
Deposits of Financial Institutions	1,861,049	1,866,420	-5,371	-0.29
Certificates of Deposit Issued	7,857,930	7,816,730	41,200	0.53
Redeposits of Financial Institutions	2,137,493	2,163,450	-25,957	-1.20
Government Deposits	239,683	190,870	48,813	25.57
Other Liabilities	493,362	1,168,387	-675,025	-57.77
Total Liabilities	15,036,768	15,403,149	-366,381	-2.38
Equity	1,122,789	1,077,529	45,260	4.20
Total Liabilities and Equity	16,159,557	16,480,678	-321,121	-1.95

Note: Figures for 2019 are unaudited. Figures for 2018 are audited by the National Audit Office.

2. Income Statement

Unit: NT\$ Million

	2019	2018
Income		
Interest Income	398,244	410,446
Fee Income	95	77
Foreign Exchange Gains	75,402	76,758
Revenue from Trust Investment	12,255	7,305
Subsidiaries Investment Income	1,886	1,819
Others	1,344	1,224
Total Income	489,226	497,629
Expenses		
Interest Expenses	81,952	84,742
Fee Expenses	218	203
Expenses for Coin Issuance	1,452	1,675
Expenses for Banknote Issuance	3,496	3,127
Allowances	173,860	179,732
Operating Expenses	1,514	1,475
Administrative Expenses	511	486
Others	785	757
Total Expenses	263,788	272,197
Net Income	225,438	225,432

Note: Figures for 2019 are unaudited. Figures for 2018 are audited by the National Audit Office.

Key Economic and Financial Indicators of the Republic of China (Taiwan)

Year	I. Business Indicators			II. National Income and Aggregate Demand							
	NDC ⁽¹⁾ Total Score of Monitoring Indicators (Average)	TIER ⁽²⁾ Business Composite Index (2006=100) (Average)		Economic Growth Rate (%)	Per Capita GNI (US\$)	Unemploy- ment Rate (%)	Manufacturing Sector			Annual Rate of Change in Industrial Production Indices	
		Manufacturing Sector	Services Sector				Labor Productivity Index (2016=100)	Average Monthly Earnings (Per Employee) (NT\$)	Unit Labor Cost Index Growth Rate (%)	General (%)	Manufacturing (%)
2010	37	101.94	105.90	10.25	19,765	5.21	88.89	43,152	-12.57	27.63	29.72
2011	24	95.29	99.43	3.67	21,410	4.39	90.01	44,603	4.09	2.61	2.74
2012	17	91.72	90.66	2.22	21,922	4.24	89.98	45,238	2.16	0.50	0.56
2013	20	98.07	94.54	2.48	22,552	4.18	92.20	45,448	-1.98	3.21	3.40
2014	25	100.59	98.45	4.72	23,942	3.96	95.82	47,018	-0.93	6.41	6.83
2015	17	93.91	89.36	1.47	23,367	3.78	95.00	48,713	6.31	-1.28	-1.16
2016	21	97.13	87.05	2.17	23,684	3.92	100.00	49,162	-0.44	1.97	1.91
2017	24	98.96	92.56	3.31	25,704	3.76	103.53	50,678	-0.65	5.00	5.27
2018	23	95.99	94.93	2.75	26,376	3.71	105.97	52,948	3.23	3.65	3.93
2019	21	93.86	92.27	2.71	26,528	3.73	105.81	53,776	0.95	-0.35	-0.45

Notes: (1) NDC: National Development Council.
(2) TIER: Taiwan Institute of Economic Research.

Year	II. National Income and Aggregate Demand														
	Annual Rate of Change in Private Consumption Expenditure (%)	Annual Rate of Change in Gross Fixed Capital Formation (%)		Gross National Savings / GNI (%)	Gross Domestic Investment / GNI (%)	External Trade of Goods on Customs Basis (in US Dollars)									
		Private Sector (%)	Change in Total Imports (%)			Capital Equipment (%)	Trade Balance (US\$ Million)	Annual Rate of Change in Export Orders (%)	Annual Rate of Change in Total Exports						
									China and H. K. (%)	U. S. (%)	Japan (%)	Europe (%)	ASEAN ⁽³⁾ (%)		
2010	3.71	19.05	27.34	32.83	24.37	35.2	37.5	33.6	26.3	30.3	37.3	44.4	66.1	21,606	26.1
2011	3.03	-1.41	0.82	31.16	23.01	12.6	8.3	15.5	3.7	6.3	23.1	12.3	-4.8	24,866	7.2
2012	1.92	-1.28	1.38	30.45	22.04	-2.2	-3.8	-9.1	2.1	-7.9	9.6	-3.8	-7.3	28,848	1.1
2013	2.55	7.03	9.16	32.39	21.96	1.8	3.5	-1.5	-0.6	-3.3	3.8	0.3	6.0	33,481	0.4
2014	3.70	3.50	5.48	34.35	21.97	2.7	2.5	7.4	3.8	4.2	1.5	1.3	4.6	38,318	6.7
2015	2.86	2.68	4.28	35.46	21.18	-11.0	-12.5	-1.7	-2.8	-11.0	-14.1	-15.9	-1.5	48,053	-4.4
2016	2.64	3.44	4.08	35.21	21.09	-1.8	-0.4	-3.1	-0.4	1.0	-0.7	-3.0	10.5	49,975	-1.6
2017	2.70	-0.26	-1.16	35.61	20.46	13.0	16.0	10.1	5.7	10.2	14.2	12.2	-1.3	58,287	10.9
2018	2.04	2.95	2.25	34.96	21.73	5.9	6.1	7.4	10.8	8.7	-0.7	10.7	3.2	49,216	3.9
2019	2.13	9.13	9.61	34.37	22.75	-1.4	-4.1	17.2	2.1	-4.8	-7.2	0.4	21.5	43,481	-5.3

Note: (3) ASEAN: The Association of Southeast Asian Nations.

Key Economic and Financial Indicators of the Republic of China (Taiwan) Cont.

Year	III. Prices					IV. Money, Banking and Finance					
	Annual Rate of Change of Price Indices (%)					Reserve Money (Daily Average)		Monetary Aggregates (Daily Average)			
	CPI	Core CPI ⁽⁴⁾	Wholesale Price	Import Price	Export Price	Amount (NT\$ Billion)	Annual Growth Rate ⁽⁵⁾ (%)	M1B		M2	
								Amount (NT\$ Billion)	Annual Growth Rate (%)	Amount (NT\$ Billion)	Annual Growth Rate (%)
2010	0.97	0.59	5.46	7.04	2.02	2,421.7	5.43	10,776.6	14.93	29,966.1	4.53
2011	1.42	1.25	4.32	7.65	0.09	2,632.3	7.24	11,547.8	7.16	31,713.9	5.83
2012	1.93	0.99	-1.16	-1.28	-1.62	2,761.6	4.91	11,946.7	3.45	33,037.6	4.17
2013	0.79	0.66	-2.43	-4.45	-2.06	2,959.9	7.18	12,815.8	7.27	34,616.7	4.78
2014	1.20	1.27	-0.56	-2.09	0.10	3,165.4	6.94	13,836.1	7.96	36,576.7	5.66
2015	-0.30	0.78	-8.85	-12.94	-4.67	3,348.8	5.79	14,680.0	6.10	38,894.1	6.34
2016	1.39	0.84	-2.98	-3.08	-2.70	3,547.2	5.92	15,609.8	6.33	40,646.9	4.51
2017	0.62	1.04	0.90	1.36	-1.46	3,725.9	5.04	16,336.3	4.65	42,170.8	3.75
2018	1.35	1.21	3.63	6.13	1.45	3,934.9	5.61	17,205.3	5.32	43,653.4	3.52
2019	0.56	0.49	-2.27	-1.46	-2.85	4,187.7	6.42	18,435.5	7.15	45,163.7	3.46

Notes: (4) Core CPI refers to CPI excluding the categories of fruit, vegetables and energy.

(5) The annual growth rates are adjusted for most recent changes in required reserve ratios on Jan. 1, 2011, and in the share of required reserves deposited with the Bank's B account in Nov. 2001.

Year	IV. Money, Banking and Finance										
	Monetary Financial Institutions (End of Period)				Non-performing Loan Ratio of Domestic Banks ⁽⁶⁾ (End of Period) (%)	Interest Rates (%)					
	Deposits		Loans & Investments			CBC's Discount Rate (End of Period)	Interbank Call Loan Rate (Average)	31-90 Days CP Rate in Secondary Market (Average)	10-year Gov't Bond Rate in Secondary Market (Average)	Five Major Domestic Banks ⁽⁷⁾	
	Amount (NT\$ Billion)	Annual Rate of Change (%)	Amount (NT\$ Billion)	Annual Rate of Change (%)						1-year Deposit Rate (End of Period)	New Loan Rate (Average)
2010	31,006.3	5.29	22,803.7	6.15	0.61	1.625	0.185	0.38	1.37	1.13	1.45
2011	32,302.2	4.18	24,172.9	6.00	0.43	1.875	0.341	0.70	1.38	1.36	1.54
2012	33,300.4	3.09	25,548.8	5.69	0.40	1.875	0.428	0.79	1.21	1.36	1.61
2013	35,062.4	5.29	26,720.6	4.59	0.38	1.875	0.386	0.69	1.46	1.36	1.70
2014	37,133.9	5.91	28,110.6	5.20	0.25	1.875	0.387	0.62	1.60	1.36	1.68
2015	39,355.8	5.98	29,406.3	4.61	0.23	1.625	0.353	0.58	1.39	1.21	1.67
2016	40,717.4	3.46	30,549.2	3.89	0.27	1.375	0.193	0.39	0.82	1.04	1.47
2017	42,094.0	3.38	32,022.7	4.82	0.28	1.375	0.178	0.44	1.06	1.04	1.41
2018	43,195.8	2.62	33,747.5	5.39	0.24	1.375	0.183	0.49	0.94	1.04	1.37
2019	45,086.1	4.38	35,422.4	4.96	0.21	1.375	0.182	0.55	0.74	1.04	1.39

Notes: (6) The data are based on the new NPL definition released by the Financial Supervisory Commission in Dec. 2001, which include loans under surveillance.

(7) The five major domestic banks are Bank of Taiwan, Taiwan Cooperative Bank, First Commercial Bank, Hua Nan Commercial Bank and Land Bank of Taiwan.

Key Economic and Financial Indicators of the Republic of China (Taiwan) Cont.

Year	V. Securities Market					VI. Balance of Payments and Foreign Exchange Market						
	TWSE® Stock Market		Bond Market			Balance of Payments				Foreign Exchange Reserves	Exchange Rate	Daily Average Value in Foreign Exchange Transactions
	Stock Price Index (1966=100) (Average)	Total Trading Value (NT\$ Billion)	Outstanding (End of Period) (NT\$ Billion)	Total Trading Value		Current Account	Capital Account	Financial Account	Changes in Reserve Assets			
				Share of Outright Transactions (%)						(End of Period) (US\$ Billion)	(End of Period) (NT\$/US\$)	(US\$ Billion)
2010	7,950	28,218.7	6,364.1	106,318.0	40.12	36,726	-49	339	40,173	382.01	30.368	20.23
2011	8,156	26,197.4	6,897.6	97,809.1	27.46	37,914	-36	32,027	6,239	385.55	30.290	24.17
2012	7,481	20,238.2	7,530.3	86,551.7	21.30	42,925	-24	31,465	15,484	403.17	29.136	23.41
2013	8,093	18,940.9	8,020.7	69,226.1	19.78	49,937	67	41,053	11,318	416.81	29.950	28.93
2014	8,992	21,898.5	8,639.1	68,032.4	21.62	60,607	-8	50,531	13,015	418.98	31.718	31.29
2015	8,959	20,191.5	8,778.1	67,725.7	22.76	72,769	-5	65,012	15,011	426.03	33.066	33.35
2016	8,763	16,771.1	8,712.7	66,817.9	21.81	71,259	-9	58,530	10,663	434.20	32.279	28.92
2017	10,208	23,972.2	8,801.5	61,583.5	20.36	83,093	-12	71,343	12,467	451.50	29.848	28.62
2018	10,620	29,608.9	8,942.2	64,822.1	17.79	70,843	63	54,220	12,499	461.78	30.733	32.08
2019	10,790	26,464.6	8,977.8	57,888.5	18.47	64,350	-3	52,857	16,658	478.13	30.106	32.54

Notes: (®) TWSE: Taiwan Stock Exchange Corporation.

Sources: 1. National Development Council.

2. Taiwan Institute of Economic Research.

3. Department of Statistics, Ministry of Economic Affairs.

4. DGBAS, Executive Yuan, February 2020.

5. Department of Statistics, Ministry of Finance, February 2020.

6. Banking Bureau, Financial Supervisory Commission.

7. *Financial Statistics Monthly*, CBC, February 2020.

8. *Balance of Payments*, CBC, February 2020.

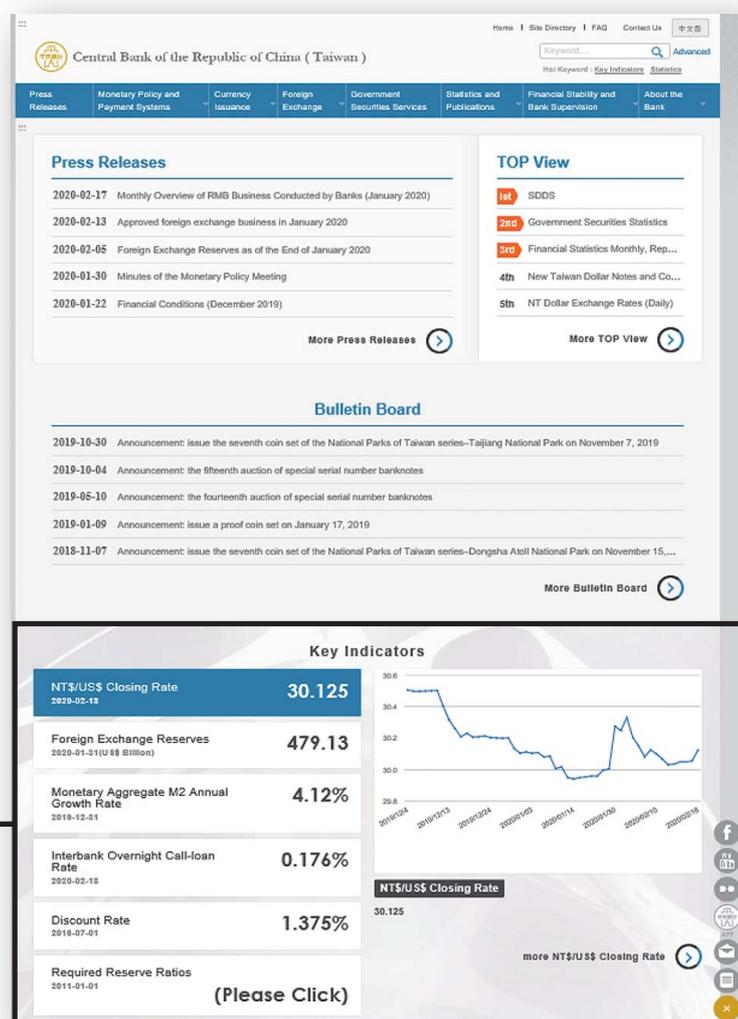
9. Taiwan Stock Exchange Corporation.

APPENDIX: CENTRAL BANK OF THE REPUBLIC OF CHINA (TAIWAN) WEBSITE

I. The Bank's Homepage

 <https://www.cbc.gov.tw/en/mp-2.html>

Introduces the Bank's operations on monetary policy and payment systems, currency issuance, foreign exchange, government securities services, as well as financial stability and bank supervision, and contains other crucial information such as press releases, statistics and publications, and general information about the Bank.



▼ Key Indicators

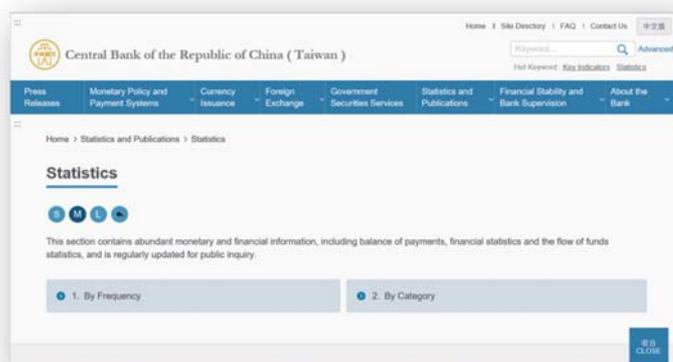
Displays visual charts of the Bank's key indicators that are periodically updated, such as the NT\$/US\$ closing rate, foreign exchange reserves, monetary aggregate M2 annual growth rate, and interest rates.

II. Statistics and Publications

▼ Statistics

 <https://www.cbc.gov.tw/en/np-507-2.html>

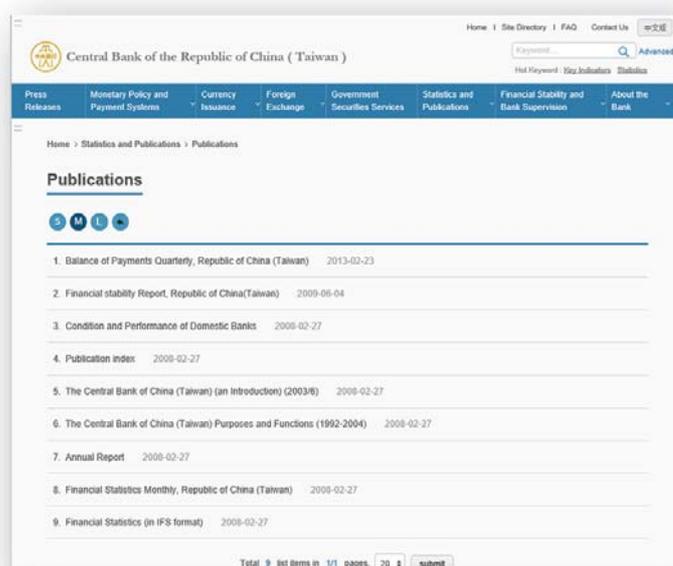
Presents statistical data released by the Bank for browsing, querying, and downloading.



▼ Publications

 <https://www.cbc.gov.tw/en/lp-535-2.html>

- Provides access to periodical publications, including statistical publications (e.g., financial statistics, balance of payments, and condition and performance of domestic banks), financial stability reports, and annual reports.
- Offers occasional notes or reports on topics related to the Bank's operations or international and domestic economic and financial conditions.



III. Virtual Money Museum and Virtual Exhibition Hall

▼ Virtual Money Museum

 <https://museum.cbc.gov.tw/en/public.aspx>

Introduces information about currency issuance from the history of banknotes and coins, banknotes and coins in circulation, coin sets and commemorative banknotes and coins, as well as security features of the New Taiwan Dollar.



▼ Virtual Exhibition Hall (in Chinese Only)

 <https://museum.cbc.gov.tw/vr/museum.aspx>

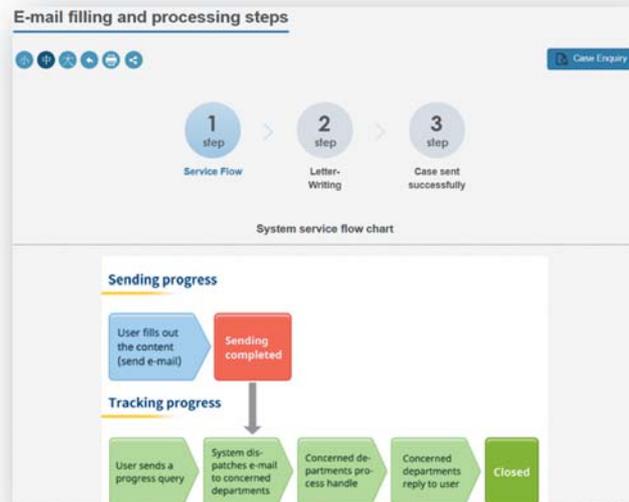
Allows viewers to browse banknotes categorized in various themes.



IV. Contacting the Bank

 <https://www.cbc.gov.tw/en/sp-opma-form-2.html>

For questions or suggestions, please contact the Bank through the following steps. We will reply to you within 7 working days.



V. Official Social Media Channels and Mobile Apps (in Chinese Only)

The Bank also provides latest news and announcements on social networking sites and official mobile apps. Stay up-to-date and communicate with us by following the Bank's social media accounts below or downloading our mobile apps on iOS or Android devices.

Facebook	https://www.facebook.com/cbc.gov.tw/
YouTube	https://www.youtube.com/user/TheCBCTube
Flickr	http://www.flickr.com/photos/cbcbank
Android App	https://play.google.com/store/apps/details?id=hyweb.mobilegip.gip_cbc
iOS App	https://appsto.re/tw/LyAH6.i

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