

Annual Report 2018

Central Bank of the Republic of China (Taiwan)

Taipei, Taiwan
Republic of China

Foreword



Chin-Long Yang, Governor

Taiwan's economy grew at an annual pace of 3.22% in the first half of 2018 as solid global economic expansion and rising international oil prices significantly bolstered export performance. However, economic growth softened to 2.08% in the second half year with export momentum easing amid a sputtering global economy and private consumption slowing. For the year as a whole, the domestic economy expanded by 2.63%, lower than the 3.08% registered in 2017. Meanwhile, inflation was mild. The annual growth rate of consumer price index (CPI) rose from 0.62% a year ago to 1.35% owing mainly to international oil price surges and a deferred boost from the cigarette tax hike, while the annual core CPI growth rate increased from 1.04% to 1.21%.

In 2018, the Bank maintained a policy stance appropriate for the circumstances at home and abroad. Indeed, weakening global expansion and heightened international uncertainties weighed on domestic economic growth, in addition to a still negative output gap. Meanwhile, both inflation and the inflation outlook were mild, and Taiwan's interest rate was around the middle of the range as compared with a host of major economies. Against this backdrop, the Bank held the policy rates steady and kept an accommodative stance in support of adequate money supply and credit availability, so as to foster solid economic and financial development. Over the course of the year, the Bank managed market liquidity through open market operations. Bank loans and investments grew by 5.26% year on year and M2 increased by 3.52%. Both readings were higher than the GDP growth rate of 2.63% over the same period, indicating ample market liquidity to support economic activity.

Furthermore, the Bank began to provide a live stream of the post-Board Meeting press conferences last June. This represented a step forward in central bank transparency, just one year after the Bank started to publish the quarterly Board Meeting minutes. We hope these changes would bring the public closer to understanding what are shaping the monetary policy decisions.

Throughout 2018, Taiwan's FX market showed a supply-demand balance as the amount of net foreign capital outflows, which exceeded US\$10 billion, was approximately matched by that of net resident inflows. Despite a flurry of uncertainty shocks from US-China trade conflicts and currency crises of some emerging market economies, the NT dollar demonstrated dynamic stability under a managed floating regime as the Bank smoothed out excessive upward or downward swings in the NTD-USD exchange rate movements when needed. At the end of the year, foreign exchange reserves held by the Bank amounted to US\$461.8 billion, with an increase of US\$10.3 billion owing to rising returns from foreign exchange reserves management.

To enhance financial inclusion, the Bank kept up its efforts to improve financial infrastructure, along with a keen eye for the latest developments in financial technologies and an aim to encourage the use of electronic payment instruments. One of the examples was the blockchain-based platform for financial audit verification, freshly inaugurated in late 2018 by the Financial Information Service Co., Ltd. under the auspices of the Bank. Moreover, the Bank continued to assist financial institutions in promoting the government's mobile payment service "Taiwan Pay."

Looking ahead, uncertainty about US-China trade friction and monetary policy of major central banks, as well as geopolitical concerns, could roil international financial markets and dampen the global economic fortunes. In light of these risks, the Bank will continue to monitor domestic and external economic and financial developments and take appropriate monetary and FX policy actions in line with its legal mandate, including maintaining an orderly FX market to safeguard dynamic stability of the NT dollar.

Looking back, the hard work of my colleagues over the past year is reflected in this publication, with economic analyses and overviews on the Bank's operation. Going forward, we will stay on close watch for and rise to new monetary policy challenges.



Chin-Long Yang
Governor
April 2019

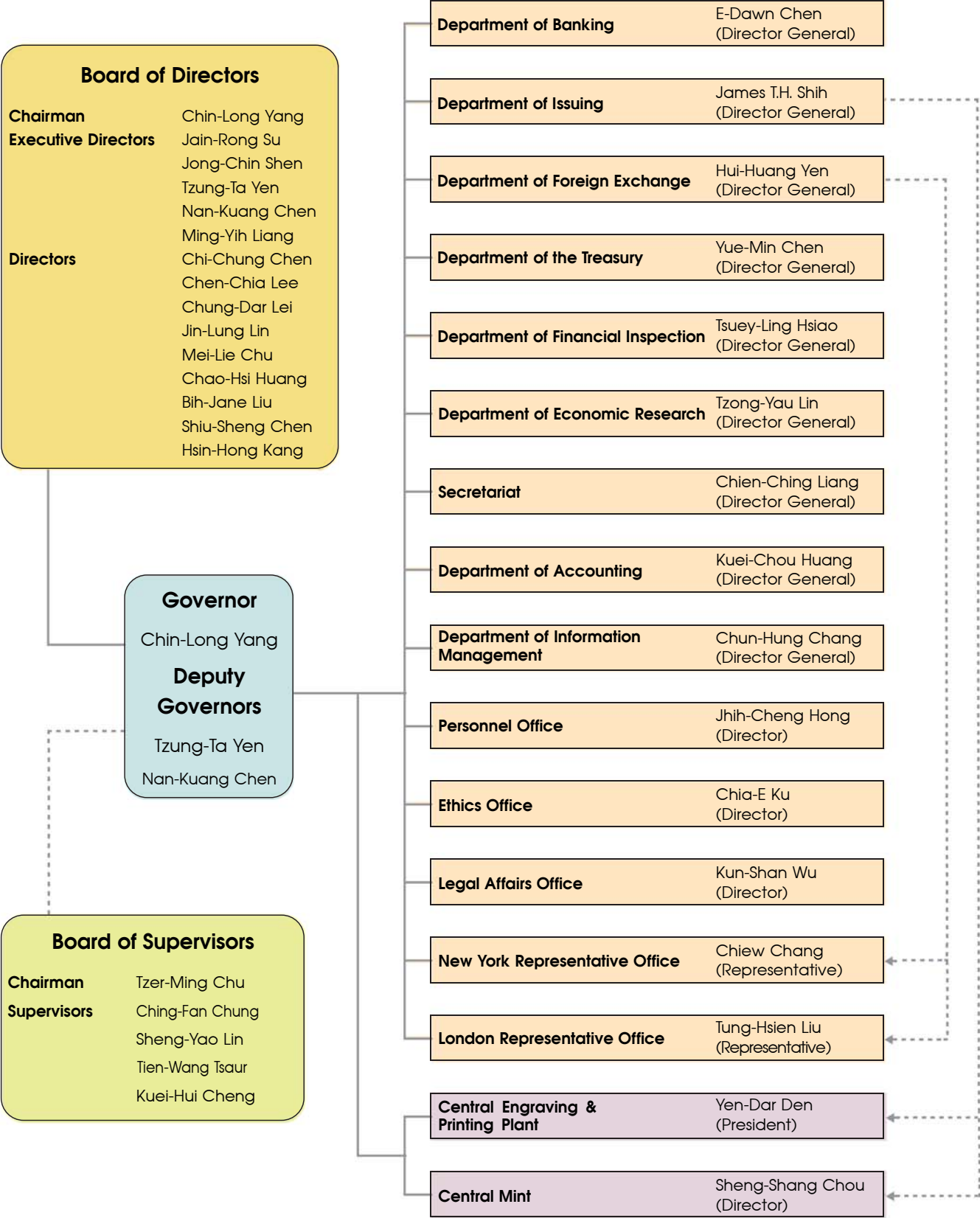
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Organization and Management of the CBC



As of April 2019



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
Ming-Yih Liang



Director
Chi-Chung Chen



Director
Chen-Chia Lee



Director
Chung-Dar Lei



Director
Jin-Lung Lin



Director
Mei-Lie Chu



Director
Chao-Hsi Huang



Director
Bih-Jane Liu



Director
Shiu-Sheng Chen



Director
Hsin-Hong Kang



Chairman
Board of Supervisors
Tzer-Ming Chu



Supervisor
Ching-Fan Chung



Supervisor
Sheng-Yao Lin



Supervisor
Tien-Wang Tsaur



Supervisor
Kuei-Hui Cheng

Economic Developments

I. Economic Developments

1. Overview

Taiwan experienced stable growth in domestic demand in the year of 2018, while external demand was dampened by a flagging global economy in the latter half of the year. For 2018 as a whole, the annual GDP growth rate fell from 3.08% the previous year to 2.63%. The balance of payments was healthy, with a continued current account surplus and a net asset increase in the financial account. The consumer price index (CPI) rose 1.35% year on year, owing to rising energy costs and the deferred effect of a tobacco tax hike. Meanwhile, the 2018 average unemployment rate went further down to 3.71%, the lowest in 18 years. Average non-farm monthly real earnings per employee increased by 2.43% to a historical high of NT\$51,389.

Moderate Economic Growth

In the first half of 2018, the global economy posted a steady expansion, the semiconductor industry enjoyed good business, and demand for machinery was strong, leading Taiwan's exports to grow further. Private and government consumption both increased steadily. As a result, the domestic economy expanded at a pace of 3.22%. However, economic growth slid to 2.08% in the second half of the year, burdened by significant moderation in export growth owing to a confluence of factors including a slowing global economy, escalating US-China trade friction, international financial market turmoil, and a higher base effect, as well as lukewarm private consumption and investment. For the year as a whole, Taiwan's economy grew by 2.63%, lower than the 3.08% of 2017.

In terms of GDP components by expenditure, private consumption grew steadily, government consumption rose significantly, and fixed capital formation returned to positive growth, driving domestic demand to expand by 3.22%. With a contribution of 2.81 percentage points, domestic demand continued to be the mainstay of domestic economic growth in 2018. On the other hand, import growth accelerated because of demand derived from exports and domestic demand. Therefore, despite stable export growth momentum, faster import growth led net external demand to slip to a negative contribution of 0.18 percentage points.

Meanwhile, with positive growth in private and public consumption, gross national saving was lower than the previous year, while gross domestic investment increased. As a result, the ratio of excess saving to gross national income dropped to 11.96% in 2018 from the 14.57% of 2017.

Healthy BOP Surplus

Taiwan's balance of payments remained healthy and steady in 2018, with a current account

surplus of US\$68,262 million and a net asset increase of US\$51,921 million in the financial account, and an increase of US\$12,499 million in the Bank's reserve assets.

In terms of the current account, the goods trade surplus remained the primary source of the surplus on the current account, despite a decline to US\$67,733 million owing to a larger increase in imports than exports. The services account deficit narrowed to US\$6,816 million, mainly owing to increases in travel receipts and income from professional and management consulting services. The primary income surplus shrank to US\$10,671 million, mainly because outward payments to nonresidents' portfolio investment income increased. The secondary income deficit decreased to US\$3,326 million. For the year of 2018, the ratio of current account surplus to GDP fell from the 14.4% of the previous year to 11.6%.

In the financial account, portfolio investment recorded a net asset increase of US\$80,695 million. Among the components, portfolio investment abroad by residents recorded an increase of US\$68,798 million, mainly because investment trust funds and insurers raised their holdings of overseas securities. Local portfolio investment by nonresidents posted a net decrease of US\$11,897 million from a net increase the previous year, mainly because foreign investors reduced their holdings of local equities and overseas corporate bonds.

Direct investment recorded a net asset increase of US\$11,026 million, with direct investment abroad by residents, at US\$18,024 million, and inbound direct investment by nonresidents, at US\$6,998 million, posting year-on-year increases. In terms of other investment, it showed a net asset decrease of US\$41,438 million, mainly because increases in nonresidents' bank deposits and foreign borrowing by the banking sector caused foreign liabilities to expand.

Mild Inflation

Against a backdrop of steady global economic expansion and price gains in international oil and other raw materials in the first half of 2018, domestic import prices were pushed up, hence an upturn in the annual growth rate of the wholesale price index ensued. Thereafter, the annual WPI growth rate went down as a cooling global economy weighed on international raw material prices. For the year as a whole, the WPI rose 3.63% over the previous year, with the categories of domestic sales excluding imports, imported goods, and exported goods up by 3.73%, 6.11%, and 1.45%, respectively.

In regard to consumer price trends in 2018, fruit prices fell on favorable weather conditions, while higher imported oil costs sent domestic fuel and gas fees higher, cigarettes priced in the tobacco tax hike, and away-from-home food prices went up in reflection of increased costs for staffing and raw food items. For the year as whole, the annual CPI growth rate was 1.35%, higher than the 0.62% of 2017, and core CPI (excluding fruit, vegetables, and energy prices) rose 1.21%, both representing mild inflation.

Unemployment Rate Further Down; Wage Growth Up

Labor market conditions were stable in 2018. The unemployment rate generally declined during the year, except in February (with the usual wave of job-transition after the Lunar New Year holidays) and the Jun.-Aug. period (the graduation season). The unemployment rate stood at 3.66% in December, while it averaged 3.71% for the year as a whole and hit the lowest on record in 18 years. The average labor force participation rate gained 0.16 percentage points over the previous year and reached 58.99% for 2018.

The average number of employed persons increased by 82 thousand or 0.73% to 11.43 million in 2018. Among the sectors, services gained the most, with an increase of 58 thousand workers or 0.86% from the previous year. Employment in the industrial sector ranked second with an increase of 20 thousand workers, a 0.50% rise year on year. The agricultural sector also hired four thousand persons more compared to the previous year, up by 0.73%.

Average non-farm (industrial and services sectors) monthly earnings per employee rose by 3.82% to NT\$52,407. This was the fastest rise since 2011, mainly attributable to public sector pay raises, a minimum wage hike, and private company pay increases. Among the components, regular earnings went up by 2.58% to NT\$40,959, and non-regular earnings gained 8.49%. Real monthly earnings adjusted for inflation climbed to a historical high of NT\$51,389 after a year-on-year increase of 2.43%.

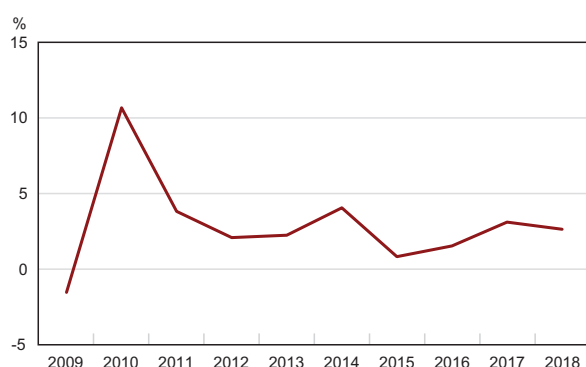
Labor productivity indices of the industrial sector and the manufacturing industry grew by 2.05% and 2.36% over the previous year, respectively. Unit labor costs rose by 3.42% in the industrial sector and by 3.23% in manufacturing, reflecting a larger increase in total earnings over that in production.

2. National Output and Income

In 2018, Taiwan's economy experienced a modest growth rate of 2.63%, slightly lower than the 3.08% of the previous year. Domestic demand made an appreciable contribution of 2.81 percentage points to real GDP growth in 2018, supported by a steady increase in private consumption and noticeable improvements in government consumption and fixed capital formation. In terms of external demand, the growth of exports was outpaced by a larger increase in imports owing to rising demand derived from exports and fixed capital formation, leading to a negative contribution of 0.18 percentage points to real GDP growth.

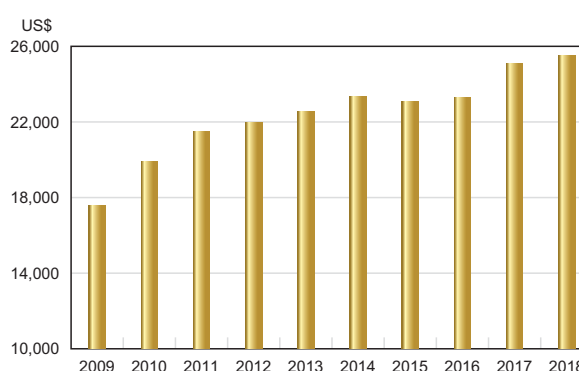
In the first quarter, strong export growth was led by advanced technology applications, higher demand for machinery, and favorable conditions in the semiconductor market. Although private consumption, as well as exports, grew at a robust pace, sluggish growth in private investment resulted in a real GDP growth rate of 3.15%. In the second quarter, despite a slight contraction in private investment, with the support of private and government consumption and external demand, economic growth reached its annual peak of 3.29%. In the third quarter, private investment recorded positive growth, underpinned by increases in semiconductor equipment procurement and construction investment. Meanwhile, public sector pension reform, weak consumer sentiment, and other factors contributed to a decline in private consumption growth. Deterioration in export growth on account of US-China trade tensions and a global economic slowdown further weakened real GDP growth to 2.38%. As the economy proceeded to the fourth quarter, weaker consumer sentiment and a dismal stock market dampened growth in private consumption. Cautious spending on capital equipment by the semiconductor and aviation industries caused private investment to contract. Against the background of tepid domestic demand and a slowing global economy, real GDP

Real Growth Rate of GDP



Source: *Statistical Abstract of National Income*, DGBAS, Executive Yuan, February 2019.

Per Capita GNI



Source: *Statistical Abstract of National Income*, DGBAS, Executive Yuan, February 2019.

in the fourth quarter grew by 1.78%, the lowest level over the year. In the meantime, nominal GNI (gross national income) grew at an annual rate of 0.73% and per capita GNI increased from US\$25,055 to US\$25,456.

Expenditure Components of GDP

All expenditure components of GDP recorded positive growth in 2018. Among all the components, exports of goods and services remained the primary source of economic growth and contributed 2.38 percentage points to GDP growth for the year. Private consumption, on the other hand, contributed 1.08 percentage points to GDP growth in 2018. Government consumption and gross fixed capital formation improved from the previous year and contributed to GDP growth by 0.49 and 0.43 percentage points, respectively. With respect to shares of GDP, exports of goods and services accounted for the largest share of GDP at 66.75%, followed by private consumption at 53.72% and gross fixed capital formation at 20.99%.

GDP by Expenditure

Unit: %

	2018			2017		
	Share	Real Growth Rate	Contribution to Real Growth Rate of GDP*	Share	Real Growth Rate	Contribution to Real Growth Rate of GDP*
Private Consumption	53.72	2.05	1.08	52.94	2.54	1.34
Government Consumption	14.51	3.51	0.49	14.07	-0.63	-0.09
Gross Fixed Capital Formation	20.99	2.10	0.43	20.48	-0.12	-0.02
Change in Inventory	0.34	-	0.80	-0.24	-	-0.14
Exports of Goods and Services	66.75	3.66	2.38	64.89	7.43	4.66
(Less : Imports of Goods and Services)	56.31	4.90	2.55	52.14	5.28	2.66
Expenditure-based GDP	100.00	2.63	2.63	100.00	3.08	3.08

Note: * Percentage point.

Source: *Statistical Abstract of National Income*, DGBAS, Executive Yuan, February 2019.

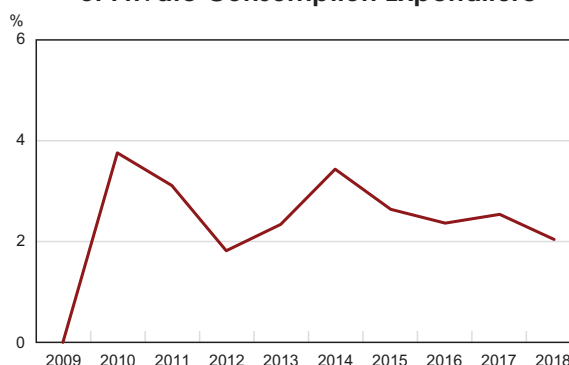
(1) Mild Expansion in Private Consumption

Private consumption grew by 2.05% in 2018, slightly lower than that of the previous year, and contributed 1.08 percentage points to GDP growth. The growth momentum was mainly driven by stable wage increases, an improvement in the employment situation, and higher trading volumes in the stock market. Yet, several unfavorable conditions emerged towards the second half of the year, putting downward pressure on overall consumer spending.

Growth in private consumption slowed gradually over the year with the first two quarters registering the highest growth in 2018 at 2.55% and 2.29%, respectively. In the second half of 2018,

private consumption growth appeared less promising on account of a number of cyclical and structural factors, such as public sector pension reform, lower trading volumes in the stock market, and anemic performances of new vehicle sales and smartphone sales. In addition, disruptions in global financial markets, partly triggered by US-China trade tensions, held down consumer sentiment in Taiwan, thereby softening private consumption. Given the above reasons, private consumption growth in the third and fourth quarters dropped to 1.69% and 1.67%, respectively.

**Real Growth Rate
of Private Consumption Expenditure**



Source: Statistical Abstract of National Income, DGBAS, Executive Yuan, February 2019.

(2) Modest Growth in Fixed Capital Formation

Fixed capital formation grew at a modest rate of 2.10% for the entire year, supported by construction investment and machinery and equipment investment. In the first and second quarters of 2018, fixed capital formation grew by 0.36% and 0.02%, respectively, restrained by a higher base effect and a reduction in machinery and equipment investment. Nevertheless, growth rebounded to 5.51% in the third quarter owing to higher demand for semiconductor equipment, stable growth in construction investment, and a lower base effect. In the fourth quarter, the semiconductor industry and the aviation industry became more cautious when making decisions on capital expenditure. Prudent spending by businesses partially offset the growth in construction investment, leading to a growth rate of 2.29% in gross fixed capital formation.

Regarding expenditure by type of purchasers, a higher base effect led to negative growth in machinery and equipment investment in the first half of 2018, offsetting growth in transportation investment and construction investment. Consequently, private sector investment in the first and second quarters grew by 0.62% and -0.12%, respectively. In spite of contracted transportation investment, private investment rose by 5.48% in the third quarter, on account of a lower base effect and an uptick in equipment expenditure by major semiconductor manufacturers. Subsequently, reductions in machinery and equipment investment and transportation investment partially offset the gains from construction investment, dragging growth in private investment down to a yearly low of -0.44%. For the year as a whole, growth in private investment reached 1.46%, higher than the -1.09% of 2017. Investment by public enterprises, on the other hand, performed extremely well because of robust growth in transportation investment and construction investment, leading to a growth rate of 13.56%. Finally, investment by general government recorded positive growth for the

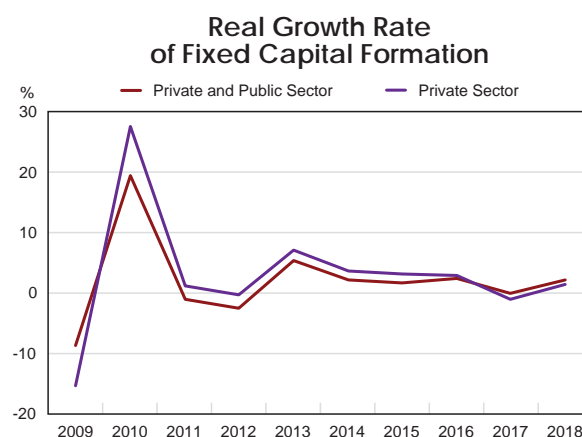
third consecutive year with an annual rate of 1.82% on the back of the government's active implementation of the Forward-Looking Infrastructure Development Program.

In terms of the type of capital formation, construction investment grew at a steady pace, with an annual growth rate of 3.31% in 2018. Meanwhile, growth in transportation investment had a strong start in the first half of the year, but softened over the second half of 2018 as the aviation industry cut back on its capital expenditure. For the entire year, transportation investment shrank by 0.01%. With regard to machinery and equipment investment, a substantial contraction appeared in the first half of 2018 because of a higher base effect. However, growth managed to maintain at a positive rate of 1.57% for the entire year, primarily influenced by a surge in capital expenditure by major semiconductor manufacturers in the third quarter and a steady increase in public investment in the second half of the year. Investment in intellectual property remained relatively stable and rose by 1.59% for the year as a whole.

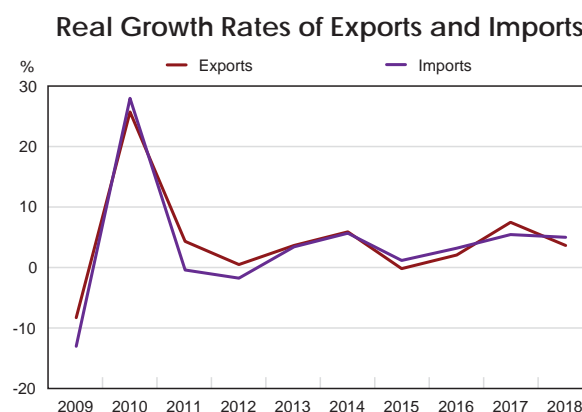
(3) Soft Growth in Exports and Imports

Taiwan's exports benefited from solid global economic growth and the development of advanced technology applications in 2018. Exports of goods and services grew at an annual rate of 3.66% and contributed 2.38 percentage points to real GDP growth.

In the first quarter, higher demand for machinery and favorable conditions in the semiconductor market drove exports to rise by 6.42%, the highest level over the year. In the second quarter, exports of goods continued to grow, yet a slowdown in exports of services caused by a decline in the number of tourists from abroad led growth in exports of goods and services to slightly decrease to 6.33%. In the third quarter, given a higher base effect from the previous year, growth in exports of goods and services fell sharply to 1.35%. In the fourth quarter, growth in exports of goods and services



Source: *Statistical Abstract of National Income*, DGBAS, Executive Yuan, February 2019.



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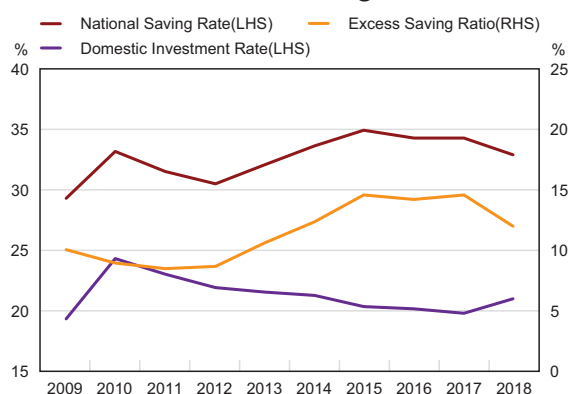
further declined to a yearly low of 1.29% as a result of US-China trade tensions and the weak performance of smartphone sales.

As for the imports of goods and services, notwithstanding limited growth in capital equipment imports, higher prices of international raw materials and strong export-derived demand caused imports to advance by 4.90% for the entire year.

Moderate Decline in Excess Saving Ratio

Private consumption continued to gain growth momentum as a result of improving labor market conditions and wage hikes. National consumption in nominal terms (including consumption by both the private and government sectors) went up by 3.43% over the year, with private consumption and government consumption increasing by 3.07% and 4.76%, respectively. Nominal GNI, in contrast, had a marginal increase of 0.73%. As a consequence, the national saving rate (the ratio of national saving to GNI measured at current prices) fell slightly from 34.29% in 2017 to 32.91% in 2018. Meanwhile, domestic investment as a share of GNI moved upward by a small margin, from 19.72% in 2017 to 20.95% in 2018. Overall, the excess saving ratio, defined as the excess of gross national saving over gross domestic investment to GNI, slid from 14.57% in 2017 to 11.96% in 2018.

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



Source: *Statistical Abstract of National Income*, DGBAS, Executive Yuan, February 2019.

3. Balance of Payments

In 2018, Taiwan's current account registered a smaller surplus of US\$68,262 million compared to the previous year, which accounted for 11.6% of nominal GDP, down from 14.4% in the previous year. The financial account posted a net asset increase of US\$51,921 million. The reserves and related items recorded a surplus of US\$12,499 million, which was reflected in the increase in foreign reserve assets held by the CBC.

Balance of Payments

Unit: US\$ Million

	(1) 2018	(2) 2017	(1)-(2)
A. Current Account	68,262	82,839	-14,577
Goods: credit (exports)	353,446	349,835	3,611
Goods: debit (imports)	285,713	268,966	16,747
Balance on Goods	67,733	80,869	-13,136
Services: credit (exports)	50,359	45,168	5,191
Services: debit (imports)	57,175	53,847	3,328
Balance on Services	-6,816	-8,679	1,863
Primary income: credit	39,248	34,230	5,018
Primary income: debit	28,577	19,472	9,105
Balance on primary income	10,671	14,758	-4,087
Secondary Income: credit	7,624	7,217	407
Secondary Income: debit	10,950	11,326	-376
Balance on secondary income	-3,326	-4,109	783
B. Capital Account	63	-12	75
C. Financial Account	51,921	70,955	-19,034
Direct investment: assets	18,024	11,552	6,472
Equity and investment fund shares	17,397	10,736	6,661
Debt instruments	627	816	-189
Direct investment: liabilities	6,998	3,291	3,707
Equity and investment fund shares	7,195	4,781	2,414
Debt instruments	-197	-1,490	1,293
Portfolio investment: assets	68,798	81,817	-13,019
Equity and investment fund shares	10,525	14,998	-4,473
Debt securities	58,273	66,819	-8,546
Portfolio investment: liabilities	-11,897	3,885	-15,782
Equity and investment fund shares	-11,110	4,211	-15,321
Debt securities	-787	-326	-461
Financial derivatives: assets	-16,748	-11,505	-5,243
Financial derivatives: liabilities	-18,386	-11,002	-7,384
Other investment: assets	-19,073	11,586	-30,659
Other investment: liabilities	22,365	26,321	-3,956
D. Net Errors and Omissions	-3,905	595	-4,500
E. Reserves and Related Items*	12,499	12,467	32

Note: * Excluding valuation changes in exchange rates.
Source: *Balance of Payments*, CBC, February 2019.

Narrow Current Account Surplus

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

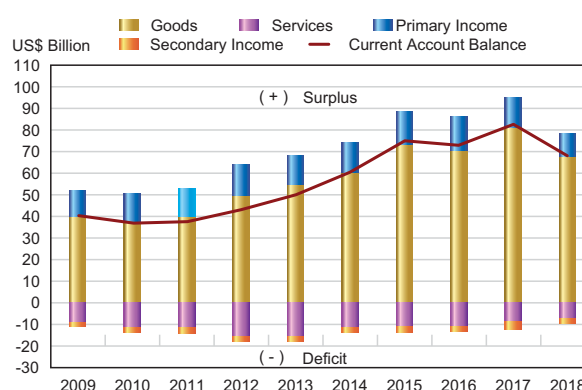
(1) Goods

Owing to soft global economic growth and a higher base effect, Taiwan's external merchandise trade experienced a slowdown in 2018, with the value of exports, on a BOP basis, increasing by 1.0% to US\$353,446 million from 2017. Among its components, net exports of goods under merchanting recorded a decline of 19.4% to US\$11,745 million. The value of imports increased by 6.2% to US\$285,713 million. Overall, as the increase in imports exceeded that in exports, the trade surplus narrowed from US\$80,869 million to US\$67,733 million in the year. The top five trading partners of Taiwan in 2018 were Mainland China including Hong Kong (hereafter in this chapter referred to as Mainland China), Japan, the US, Europe and ASEAN¹.

In terms of Taiwan's trade with Mainland China, the value of exports amounted to US\$138,391 million in 2018, 6.3% higher than the previous year. As a manufacturing center of the world, Mainland China remained Taiwan's largest export market, with its share of total exports rising to 41.2% in 2018. Of all the major products exported to Mainland China, electronic parts and components (especially integrated circuits) maintained the leading role, with a share of 47.2%, contributing 3.6 percentage points to the growth in Taiwan's exports to Mainland China. Imports from Mainland China grew by 7.1% to US\$55,207 million in 2018. With a share of 19.3%, Mainland China continued to be Taiwan's largest import source. Because the increase in exports exceeded that in imports, the trade surplus with Mainland China increased to US\$83,184 million in 2018 and remained the largest source of Taiwan's trade surplus.

Exports to the ASEAN economies decreased by 0.6% to US\$58,211 million in 2018, dragged down by the weak export performance of electronic parts and components. Their combined share of total exports shrank to 17.3%. Imports from the ASEAN economies increased by 11.3% to US\$34,532 million, with a steady share of 12.0% of total imports. Overall, the trade surplus with the ASEAN economies declined to US\$23,679 million, while Singapore, Vietnam, and the Philippines were the second, third, and fourth largest sources of Taiwan's trade surplus, respectively.

Current Account



Source: Balance of Payments, CBC, February 2019.

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

In 2018, Taiwan's exports to the US grew 7.5% to US\$39,701 million, comprising a higher share of 11.8% in total exports. Of all the major products exported to the US, machinery and base metals & articles thereof contributed the most by 2.0 and 1.6 percentage points, respectively. Imports from the US rose by 14.9% to US\$34,733 million, with its share in total imports climbing to 12.1%. The trade surplus with the US narrowed to US\$4,968 million for the year, ranking fifth among Taiwan's surplus sources.

Exports to Europe increased by 8.3% to US\$31,572 million, with its share of total exports increasing to 9.4%. The major products leading this growth were base metals & articles thereof, electronic parts and components, and transport equipment. Imports from Europe increased by 10.0% to US\$34,564 million, with the share of total imports remaining at 12.1%. In all, Taiwan's trade deficit with Europe expanded to US\$2,992 million in 2018.

Exports to Japan increased by 11.1% to US\$23,093 million, setting the fastest growth rate since 2011. Its share in Taiwan's total exports went up to 6.9%. As a result of higher raw material costs, mineral products, plastics, rubber and articles thereof, and machinery made higher contributions to the growth than the other major export products to Japan. Imports from Japan increased by 5.3% to US\$44,162 million, with its share of total imports dropping to 15.4%. Japan remained Taiwan's second largest source of imports in 2018. As the increase in exports surpassed that in imports, the trade deficit with Japan shrank to US\$21,070 million.

Trade in Goods by Country

Unit: %

	2018			2017		
	Amount (US\$ Million)	Share	Annual Change	Amount (US\$ Million)	Share	Annual Change
Exports						
Mainland China (including Hong Kong)	138,391	41.2	6.3	130,213	41.0	16.0
ASEAN	58,211	17.3	-0.6	58,573	18.5	14.2
US	39,701	11.8	7.5	36,942	11.6	10.2
Europe	31,572	9.4	8.3	29,155	9.2	11.2
Japan	23,093	6.9	11.1	20,782	6.6	6.3
Rest of the World	45,054	13.4	8.3	41,583	13.1	11.0
Total	336,023	100.0	5.9	317,249	100.0	13.2
Imports						
Mainland China (including Hong Kong)	55,207	19.3	7.1	51,555	19.9	13.8
Japan	44,162	15.4	5.3	41,943	16.2	3.3
US	34,733	12.1	14.9	30,237	11.7	5.7
Europe	34,564	12.1	10.0	31,423	12.1	8.6
ASEAN	34,532	12.0	11.3	31,028	12.0	14.3
Rest of the World	83,415	29.1	14.1	73,080	28.2	21.9
Total	286,613	100.0	10.5	259,266	100.0	12.4

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

(2) Services

In 2018, services receipts increased by US\$5,191 million to US\$50,359 million. Services payments increased by US\$3,328 million to US\$57,175 million. In all, the services deficit continued narrowing to US\$6,816 million.

Of the various components of the services account, 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\$195 million to US\$2,781 million in 2018. 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\$745 million to US\$2,796 million. In total, net manufacturing payments decreased from US\$955 million to US\$15 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 increased by US\$321 million and reached a record high of US\$1,639 million, attributable to increased receipts for aircraft repairs. On the other hand, the payments slightly decreased by US\$12 million to US\$962 million. Overall, the surplus widened from US\$344 million to US\$677 million.

Transport receipts increased by US\$1,041 million to US\$10,950 million, reflecting increases in international freight fares received by domestic carriers. Transport payments increased by US\$1,106 million to US\$12,435 million, resulting from increases in payments paid to foreign carriers on imports, charge of foreign ports, and passenger fares to foreign airlines. Overall, net transport payments slightly increased from US\$1,420 million to US\$1,485 million in the year.

Travel receipts increased by US\$1,389 million to US\$13,704 million, mainly because the number of inbound visitors climbed by 3.1% on year, reaching a record high, along with an increase in average daily expenditures per inbound visitor. Meanwhile, travel payments increased by US\$1,403 million to its highest ever level of US\$19,421 million. This was mainly due to a 6.3% increase in the number of outbound travelers. In sum, the deficit on the travel account expanded to US\$5,717 million, the largest deficit on record.

Other services receipts grew by US\$2,245 million to US\$21,285 million, and other services payments rose by US\$1,576 million to US\$21,561 million, both mainly attributable to increases in receipts and payments of professional and technical services (which is under other business services). In all, the deficit in other services shrank to US\$276 million in 2018.

(3) Primary Income

Primary income consists of compensation of employees, investment income, and other primary income. In 2018, primary income receipts increased by US\$5,018 million to US\$39,248 million, mainly caused by increasing interest received by banks. Meanwhile, primary income payments amounted to US\$28,577 million, US\$9,105 million more than the previous year, mostly attributable to an increase in income from equity securities paid to nonresidents. Consequently, the surplus on the primary income account narrowed to US\$10,671 million for the year of 2018.

(4) Secondary Income

For the year of 2018, secondary income receipts amounted to US\$7,624 million, reflecting increases in gifts and samples and inward workers' remittances. Secondary income payments amounted to US\$10,950 million, mainly owing to decreases in outward donations, support and workers' remittances. As a whole, the deficit in secondary income narrowed to US\$3,326 million in 2018.

Capital Account Surplus

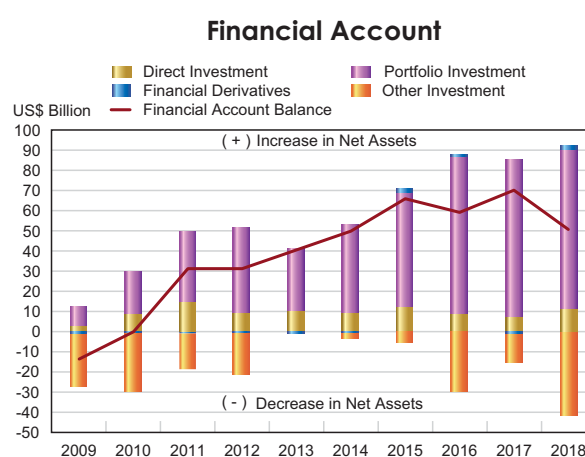
The capital account includes capital transfers and the acquisition and disposal of non-produced, non-financial assets. In 2018, the balance of the capital account turned from a deficit to a surplus of US\$63 million, mainly because foreign creditors wrote off the debts of domestic enterprises.

Net Asset Increase in Financial Account

In 2018, the financial account showed an increase of US\$51,921 million in net assets. In terms of sub-categories, direct investment, portfolio investment, and financial derivatives exhibited increases of US\$11,026 million, US\$80,695 million, and US\$1,638 million in net assets, respectively. Other investment exhibited a decrease of US\$41,438 million in net assets.

(1) Direct Investment

Direct investment abroad by residents exhibited an increase of US\$18,024 million in assets to reach a record high, and direct investment in Taiwan by nonresidents showed an increase of US\$6,998 million. Overall, the net assets in direct investment amounted to US\$11,026 million, US\$2,765 million more than the previous year.



Source: *Balance of Payments*, CBC, February 2019.

(2) Portfolio Investment

In 2018, portfolio investment abroad by residents increased by US\$68,798 million. Because mutual funds and insurance companies expanded their investment abroad, equity and investment fund shares increased by US\$10,525 million, and debt securities increased by US\$58,273 million.

On the other hand, local portfolio investment by nonresidents decreased by US\$11,897 million. As foreign investors reduced holdings of Taiwanese stocks and European Convertible Bonds, equity and investment fund shares decreased by US\$11,110 million, and debt securities decreased by US\$787 million.

(3) Financial Derivatives

Assets in financial derivatives decreased by US\$16,748 million, principally because of gains on transactions of financial derivatives received by other financial corporations.

Liabilities in financial derivatives decreased by US\$18,386 million, mainly because of losses on transactions of financial derivatives paid by other financial corporations.

(4) Other Investment

In 2018, other investment abroad by residents decreased by US\$19,073 million. Of the components, currency and deposits decreased by US\$17,142 million as a result of shrinking overseas deposits from domestic banks; loans dropped by US\$4,132 million because of a decrease in banks' short-term lending to nonresidents; trade credit decreased by US\$6,367 million; other accounts receivable increased by US\$8,563 million, owing to growth in banks' accounts receivable from nonresidents.

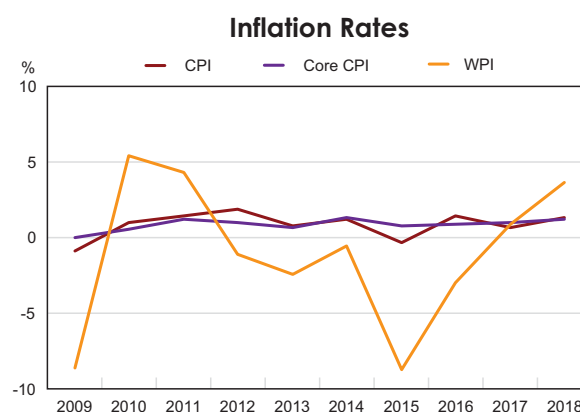
Other inward investment by nonresidents increased by US\$22,365 million. Of the components, currency and deposits increased by US\$4,186 million, because of growing deposits from nonresidents; loans increased by US\$7,382 million, owing to expanded short-term external borrowing and repurchase agreement transactions by domestic banks; trade credit increased by US\$7,487 million; other accounts payable increased by US\$3,310 million, owing to an increase in banks' accounts payable to nonresidents.

Increase in Foreign Exchange Reserves

The foreign exchange reserve assets held by the Bank increased by US\$12,499 million mainly owing to increased investment income on foreign reserve assets.

4. Prices

In 2018, Taiwan's wholesale price index (WPI) rose by 3.63% from the previous year's 0.90%. The rise in WPI inflation was largely attributable to elevated international oil prices amid robust growth in the global economy in the first half of the year. Headline inflation, measured by the consumer price index (CPI), averaged an annual rate of 1.35% in the year, showing a further increase from a rise of 0.62% in 2017, mainly reflecting price rises in fuel, gas, cigarettes, and food away from home. However, it was partly offset by a reduction in fruit prices induced by abundant supply amid favorable weather conditions. The core CPI, which excludes fruit, vegetables, and energy, rose by 1.21% compared with a 1.04% increase in the previous year.



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

Moderate Increase in Wholesale Prices

The WPI increased by 3.63% in 2018, up from 0.90% a year before. In terms of monthly movements, the annual WPI inflation rate generally posted an uptrend and reached an all-year high of 7.04% in July, driven by higher commodity prices amid continued global economic expansion. Afterwards, the rate gradually abated and slid to 0.77% in December owing to falling international raw material prices, reflecting slower growth in the global economy.

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 increased moderately in 2018 on the back of steady global economic growth in the first half of the year.

Import prices, weighted at 31.92% of the WPI, rose by 7.09% in US dollar terms in 2018. However, a modest NT dollar appreciation against the US dollar over 2018 led the annual growth rate of import prices to narrow to a 6.11% increase in NT dollar terms. Among the components of import prices in terms of NT dollars, prices of raw materials went up by 8.45% and accounted for 6.12 percentage points in the import price increase, mainly caused by rising prices of mineral products and base metals. Prices of capital goods rose by a mere 0.01%, whereas consumer goods prices dropped by 0.44%.

Export prices, weighted at 40.04% of the WPI, averaged a 2.42% increase in US dollar terms in

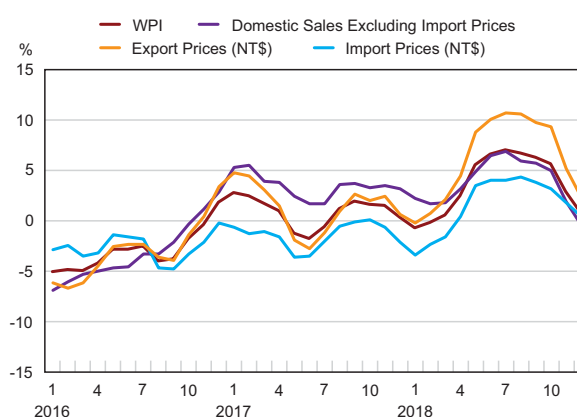
2018. As the NT dollar appreciated against the US dollar, export prices rose mildly by 1.45% in terms of the NT dollar. Among the components of export prices in terms of NT dollars, prices of raw materials moved up by 2.29%, contributing 1.84 percentage points to the export price increase, mainly led by higher prices of mineral products. In contrast, prices of consumer goods and capital goods decreased by 2.47% and 0.49%, respectively.

Driven by rising import costs of primary commodities, prices of domestic sales excluding imports, weighted at 28.04% of the WPI, increased by 3.73% in 2018. In terms of the basic groups, prices of manufacturing products accounted for the largest increase at 4.59%, largely attributable to rising prices of gasoline and diesel as well as the deferred effect from 2017's cigarette tax hike. On the other hand, prices of agriculture, forestry, fishing, and animal husbandry products slid by 5.29%, mostly dragged by falling prices of fruit because of abundant supply resulting from favorable weather conditions during the year.

Uptick in Consumer Prices

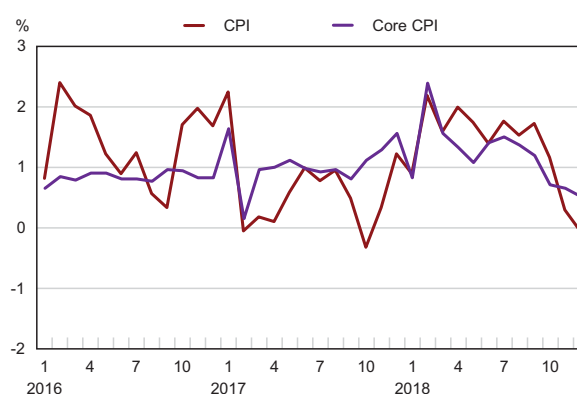
The CPI rose by 1.35% in 2018, higher than the 0.62% increase in the previous year. From the beginning of the year, owing to rises in vegetables, oil, and cigarette prices, the annual CPI inflation rate stepped up and climbed to 2.0% in April. From May onwards, the CPI increased at a slower pace and posted a growth rate of 1.54% in August on account of lower telecommunications rates, the receding effect of the cigarette tax hike, as well as declining prices of vegetables because of a higher base effect. The CPI inflation rate rebounded to 1.72% in September, affected by crop damage from torrential rain and higher oil prices. Afterwards, it went down and registered an all-year low of -0.66% in December, as prices of vegetables and fruit slumped amid favorable weather conditions, the effect of the previous year's cigarette tax hike diminished, and domestic oil prices plunged because of the downtrend in global oil prices.

Annual WPI Rates



Source: Price Statistics Monthly, DGBAS, Executive Yuan.

Annual CPI Rates



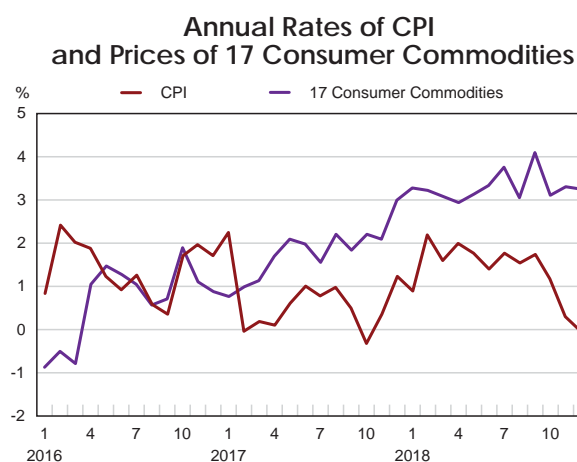
Source: Price Statistics Monthly, DGBAS, Executive Yuan.

The core CPI inflation rate was 1.21% in 2018. In the first two months of the year, the rate fluctuated on account of the seasonal factor of the Lunar New Year holidays. From March to July, monthly core CPI inflation rates hovered between 1.07% and 1.56%. Later, the rate trended downward and slowed to an all-year low of 0.51% at the end of the year, mainly influenced by the fading effect of mid-2017's cigarette tax hike and a decline in prices of durable consumer goods.

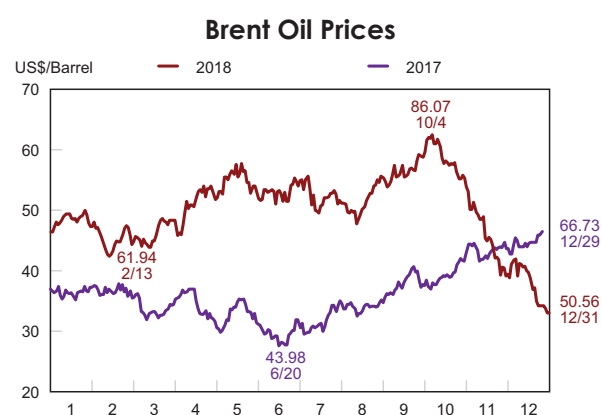
Among the items people buy more frequently, the prices of 17 consumer commodities, weighted at 5.48% of the CPI and closely monitored by the Cabinet's task force on price stabilization, trended up and recorded an annual growth rate of 3.29% in 2018, much higher than the overall CPI inflation of 1.35%, and thus had a far larger impact on consumers' perceptions of price rises. The increase was primarily driven by steeper price rises in eggs, toilet paper, and milk, which climbed by 17.59%, 7.98%, and 6.90%, respectively.

The main factors contributing to the rise of CPI inflation in 2018 were as follows:

- (1) In early 2018, international petroleum prices moved down because of increased oil production in the US. From mid-February onwards, global oil prices rebounded and peaked in October, resulting from intensified geopolitical tensions in the Middle East, reduced Iranian oil exports, a decrease in US crude oil inventory, along with restricted oil supply after the OPEC and Russia decided not to lift output. Afterwards, international oil prices plunged and hit a yearly low at the end of the year, mostly dragged by increased production by the US, Russia, and the OPEC members, as well as weaker demand for oil amid a moderating global economy. Compared with 2017, the average Brent oil price rose by 30.97%. As a result, higher imported costs of petroleum and natural gas pushed up domestic oil and gas prices, which climbed by 13.27% and 6.06% and accounted for 0.37 and 0.06 percentage points in the CPI increase, respectively.
- (2) Reflecting the lingering effect of the previous year's cigarette tax hike, prices of tobacco and betel nuts rose by 25.19%, accounting for 0.37 percentage points in CPI inflation.
- (3) The rise in wages and higher prices of gas and raw food pushed up prices of food away from



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



Source: Thomson Reuters Datastream.

home by 2.03%, contributing 0.18 percentage points to CPI inflation.

- (4) Prices of residential rent continued a mild uptrend and rose by 0.86%, contributing 0.14 percentage points to CPI inflation.
- (5) Affected by an increase in tour group fees, prices of education and entertainment services grew by 0.76%.

The main factors contributing to downward pressure on the CPI in 2018 were as follows:

- (1) Owing to ample supply amid stable weather conditions, prices of fruit fell by 10.72%, subtracting 0.26 percentage points from CPI inflation.
- (2) As consumer electronics products retailers continued discount promotions, prices of durable consumer goods decreased by 1.11%, accounting for -0.10 percentage points in CPI inflation.
- (3) Lower telecommunications rates from May onwards brought down communications fees by 2.62%, deducting 0.07 percentage points from the CPI inflation rate.

Percentage Changes in the Major Components of the CPI in 2018

Item	Annual Rate of Change (%)	Contribution to CPI Inflation Rate (Percentage Point)
CPI	1.35	1.35
Fuels & Lubricants	13.27	0.37
Tobacco & Betel Nuts	25.19	0.37
Food away from Home	2.03	0.18
Residential Rent	0.86	0.14
Vegetables*	-3.37	0.12
Gas	6.06	0.06
Education & Entertainment Services	0.76	0.06
Transportation Fees	1.89	0.05
Total		1.35
Fruit	-10.27	-0.26
Durable Consumer Goods	-1.11	-0.10
Communication Fees	-2.62	-0.07
Total		-0.43
Others		0.43

Note: * Since the weight of vegetables is altered monthly, the direction and extent of its effect on the general CPI may not correspond with those comparing with the previous period.
Source: *Price Statistics Monthly*, DGBAS, Executive Yuan.

5. Labor Market

Increase in Employment

Taiwan posted moderate economic growth and stable labor market conditions in 2018. For the year as a whole, annual average employment was 11.43 million persons, an increase of 82 thousand persons or 0.73% from the previous year.

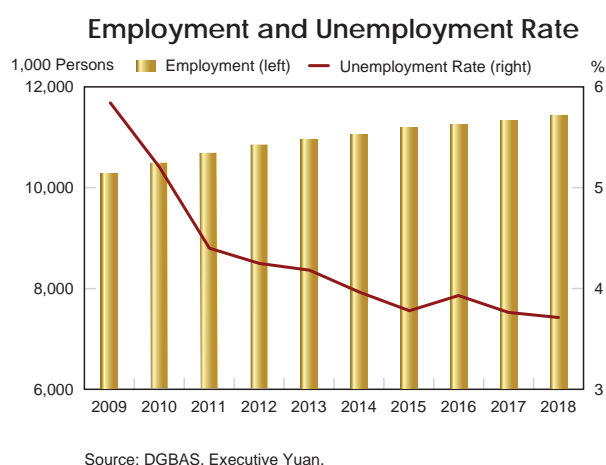
In terms of employment by sector, employment in the services, industrial and agricultural sectors increased by 58 thousand persons or 0.86%, 20 thousand persons or 0.50%, and four thousand persons or 0.73%, respectively. Of total employment, the services sector accounted for 59.38%, up by 0.07 percentage points from the previous year, while the shares of the industrial and the agricultural sectors were 35.71% and 4.90%, respectively.

In terms of employed persons by occupation, employment of white collar workers (legislators, senior officials, managers, professionals, technicians, associate professionals, and clerical support workers, etc.) increased by 47 thousand persons or 0.92%. Services and sales employment increased by 28 thousand persons or 1.26%, while employment of blue collar workers (skilled agricultural, forestry, fishing, and animal husbandry industries, craft and machinery related workers, etc.) increased by seven thousand persons or 0.17%.

Improvement in Unemployment

For year 2018, the unemployment rate only increased in February (owing to post-Lunar New Year job switching) and in June to August (as new graduates entered the job market) because of seasonal factors, while in the other months, the unemployment rate exhibited a downward trend. In December it went to the level of 3.66%. For the year as a whole, the unemployment rate was 3.71%, the lowest since 2001.

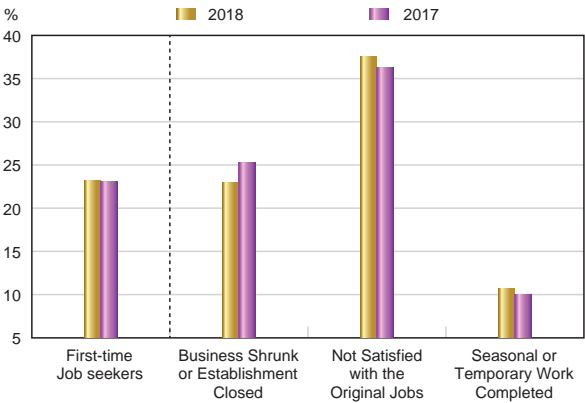
As labor market conditions improved, unemployment duration decreased by 1.40 weeks to 22.82 weeks. In terms of age, unemployment durations of the age groups 25-44 and 45-64 improved most, decreasing by 1.90 and 2.21 weeks to 23.57 and 24.11 weeks, respectively. However, unemployment duration of the age group of 15-24 increased by 0.28 weeks to 20.20 weeks. The average number of the long-term unemployed



(those who have been unemployed for 53 weeks or more) was 61 thousand persons, a decrease of two thousand persons compared to that in the previous year.

In terms of causes of unemployment, total unemployment in 2018 was 440 thousand persons, a slight decrease of 3 thousand persons or 0.70% from the previous year, mainly because of a decrease in unemployment of experienced job seekers. Among them, unemployment because business shrunk or establishment closed recorded the greatest decrease, by 11 thousand persons or 9.33%, and its share of total unemployment also decreased to 23.40%, compared to 25.63% in the previous year. Continuous economic growth helped in reducing such unemployment. On the other hand, unemployment because workers were not satisfied with their original jobs still accounted for the largest share of total unemployment, with the number up by five thousand persons or 2.76% from the previous year. The share of unemployment because of the conclusion of seasonal or temporary work also increased by three thousand persons or 6.68%.

Causes of Unemployment

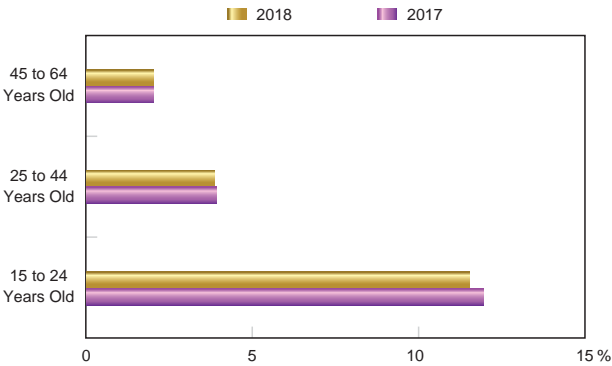


Source: DGBAS, Executive Yuan.

In terms of age groups, in year 2018 the unemployment rate of the 15-24 age group was 11.54%, which was a decrease of 0.38 percentage points from the previous year. Yet, it was still the highest among all the age groups. The unemployment rates of the age groups 25-44 and 45-64 slightly decreased by 0.07 and 0.01 percentage points to 3.86% and 2.00%, respectively, from the previous year.

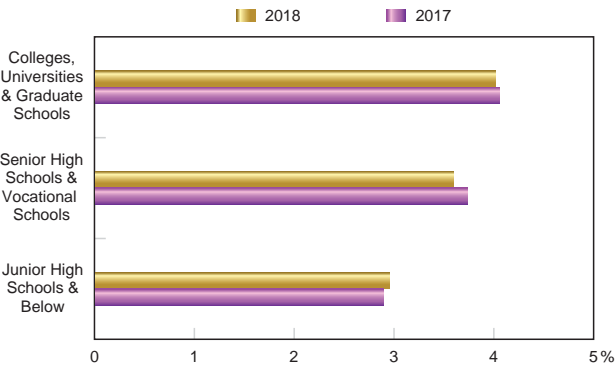
In terms of educational background, the unemployment rate of people with a college degree

Unemployment Rate by Age



Source: DGBAS, Executive Yuan.

Unemployment Rate by Education Background



Source: DGBAS, Executive Yuan.

or above and the unemployment rate of people with a senior high school or vocational school diploma decreased to 4.02% and 3.60%, respectively, which were 0.04 and 0.14 percentage points lower than the previous year. On the other hand, the unemployment rate of people with a junior high school degree or below increased to 2.96%, a year-on-year increase of 0.06 percentage points.

Increase in Labor Force Participation Rate

The labor force (employed and unemployed combined) increased by 79 thousand persons or 0.67% to 11.87 million persons in 2018, while the labor force participation rate reached 58.99%, a 0.16 percentage point increase compared to the previous year.

In terms of gender, the male labor force participation rate was 67.24%, an increase of 0.11 percentage points from the year before, while the female rate also rose by 0.22 percentage points to 51.14%, reflecting that government policies have been quite effective in promoting gender equality, improving the work environment, and facilitating female employment in recent years.

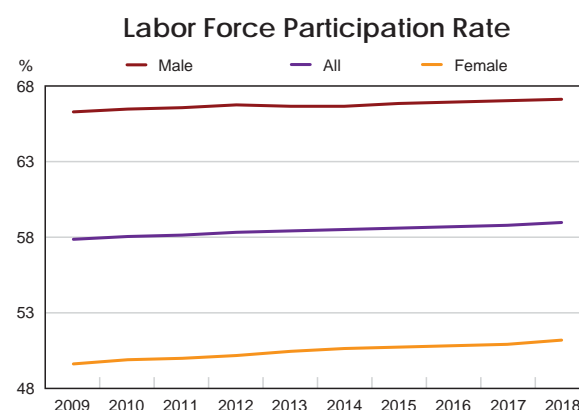
In terms of age groups, the labor participation rates of all age groups went up in 2018, with those of the 16-24, 25-44, and 45-64 age groups increasing by 1.66, 0.59, and 0.39 percentage points to 34.34%, 88.85%, and 63.21%, respectively.

Although Taiwan's total labor force participation rate has increased steadily to reach 58.99% in 2018, it is still lower than those of Japan (61.5%), the United States (62.9%), South Korea (63.1%), and Singapore (67.7%). The main reasons behind this are the extension of schooling and early retirement. In recent years the government has actively promoted employment of middle-aged workers and enhanced the program of diverse youth employment in an effort to address these issues.

In terms of educational background, the labor force participation rates of workers with a junior high school degree or below and those with a senior high school or vocational school diploma increased by 0.36 and 0.32 percentage points to 40.93% and 62.56%, respectively, while the participation rate of those with a college degree or above decreased by 0.57 percentage points to 66.10%.

Increase in Earnings and Labor Productivity

As there were increases in the salary of military personnel, civil servants and teachers, the



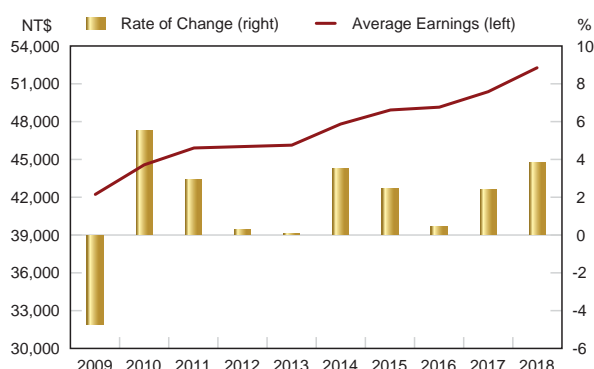
Source: DGBAS, Executive Yuan.

minimum wage, and the wages in the private sector in 2018, the average monthly earnings per worker of the non-farm sector climbed to NT\$52,407, a 3.82% increase from the previous year and the biggest increase since year 2011. After adjustment for inflation, the average real monthly earnings increased by 2.43% to NT\$51,389, an all-time high, mainly because firms increased their payouts of year-end bonuses and performance bonuses.

In terms of major sectors, in 2018, the average monthly earnings of industrial sector and services sector workers increased by 4.20% and 3.53% to NT\$52,005 and NT\$52,708, respectively, and their real earnings also increased by 2.81% and 2.15%. The electricity and gas supply sector had the highest average monthly earnings with NT\$96,054; the financial and insurance sector came in second place with NT\$89,215. On the other hand, workers in education services sector and accommodation and food services sector earned NT\$26,033 and NT\$34,077, the two lowest sectors in terms of monthly earnings. In terms of growth rates, all sectors witnessed increases in average monthly earnings with the real estate sector registering the largest increase at 6.16% and the wholesale and retail trade sector in second place with an increase of 5.37%.

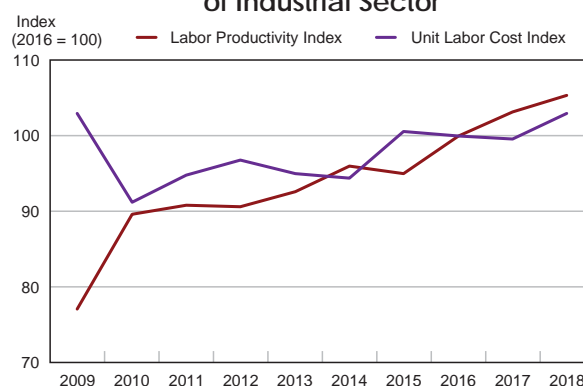
As growth in total production outpaced that in total working hours, labor productivity of the industrial and the manufacturing sectors increased by 2.05% and 2.36%, respectively. In the manufacturing sector, manufacture of computers, electronic and optical products saw the highest increase in labor productivity with 11.65%, and manufacture of other products came in second with 9.82%. Since the increase in total earnings was higher than that in production, unit labor costs of the industrial and manufacturing sectors increased by 3.42% and 3.23%, respectively, compared to those of the previous year. Unit labor cost of the manufacture of the wearing apparel and clothing accessories sector increased the most, by 22.51%, followed by that of the leather, fur and related products sector at 10.28%.

Average Earnings of Non-farm Workers and Their Rates of Change



Source: DGBAS, Executive Yuan.

Labor Productivity and Unit Labor Cost of Industrial Sector



Source: DGBAS, Executive Yuan.

Financial Developments

II. Financial Developments

1. Overview

In 2018, the Bank's policy rates remained unchanged, banks' posted interest rates and the weighted average interest rate on deposits stayed stable, while the base lending rate and the weighted average interest rate on loans slightly moved downward. The interbank overnight call loan rate hovered at a low level, whereas bills market rates rose modestly. The average 10-year government bond yield dropped on account of ample market liquidity. Loans and investments of monetary financial institutions grew at a pace faster than that of the previous year as loan growth picked up owing to the economic recovery, increased housing transactions, one big merger deal, and greater financing demand from government enterprises. Meanwhile, M2 growth slowed because of net foreign capital outflows and a broader asset allocation strategy beyond just deposits.

With respect to the exchange rate, the NT dollar against the US dollar fluctuated in the year, against a backdrop of the US-China trade conflicts and the Fed's rate hikes. At the end of 2018, the NT dollar depreciated against the US dollar compared with a year ago, but, on a daily average basis, the NT dollar appreciated against the US dollar in 2018.

In the stock market, driven by factors including US stocks renewing record highs and net purchases in the local market by foreign investors, the Taiwan Stock Exchange Capitalization Weighted Stock Index, the TAIEX, reached 11,253 points on January 23, a record high in the past 28 years. In the fourth quarter, affected by the US-China trade conflict and global stock markets crashes, the TAIEX dropped and closed the year lower, but the daily average transaction value expanded.

M1B Growth Increased but M2 Growth Slowed

The monetary aggregate M2, measured on a daily average basis, recorded an annual growth rate of 3.52% in 2018. This was lower than the 3.75% registered in 2017 yet remained within the Bank's 2.5% to 6.5% target range for the year. The drop was because of a partial shift of bank deposits to life insurance policies and net foreign capital outflows. The annual growth rate of M1B, measured on a daily average basis, rose to 5.32% in 2018 from 4.65%, mainly because of increased stock market turnover in the course of the year and the implementation of pension reform in July. Meanwhile, the annual growth rate of reserve money went up in 2018 as a result of higher growth in transaction deposits.

Bank Loans and Investments Grew Faster

The annual growth rate of bank loans and investments increased from 4.82% at the end of 2017 to 5.39% at the end of 2018. The increase was due to faster loan growth amid the economic recovery, a moderate housing market rebound, one big merger deal, and greater demand from Taiwan Power Company to finance its plant expansion and energy transition-related plans. 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 3.85% at the end of 2018, higher than the 3.68% recorded a year earlier.

Deposit Rates Stayed Steady While Loan Rates Slightly Declined

In 2018, the Bank's policy rates remained unchanged, and banks' posted interest rates on deposits stayed steady. At the end of 2018, the average fixed rate on one-year time deposits of the five major domestic banks was 1.04%, the same as a year earlier, and the base lending rate was 2.631%, slightly lower than 2.632% in 2017. The weighted average rate on new loans decreased from 1.414% the previous year to 1.370%, mainly because of a drop in the rate on loans for current operations.

For domestic banks as a whole, the weighted average interest rate on deposits was unchanged. Meanwhile, the weighted average interest rate on loans slightly declined by 0.02 percentage points, mainly owing to increases in low-interest loans of some banks to local governments and government enterprises.

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

Against the background of a domestic economic recovery and stable prices, 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 stable lower level, fluctuating between 0.178% and 0.183% during the year of 2018. With regard to the bills market, money market rates fluctuated in a narrow range and slightly increased compared with last year because of stronger demand for funds amid the economic recovery.

The yield on the benchmark 10-year government bond trended downward, mainly because of ample market liquidity. In terms of issuance, as tax revenue increased and the amount of issuance was approaching the statutory limit, the total amount of government bonds issued decreased by NT\$52.7 billion over the previous year.

Exchange Rate Swung Up at the End of the Year, but the Average Exchange Rate Rose Slightly

At the beginning of 2018, the US dollar was dampened by the US Treasury Secretary's remarks that a weak US dollar would benefit the US economy. As a Result, the NT dollar appreciated against the US dollar. In April, because of the US-China trade conflict and rising US government bond yields, the NT dollar depreciated against the US dollar. Later, the US and China imposed tariffs on each other's exports. Tensions over the US-China trade conflict induced international capital outflows from emerging Asia, causing the NT dollar to depreciate against the US dollar and to fall to a yearly low on October 11. At the end of 2018, the NT dollar depreciated by 2.88% against the US dollar compared with the end of the previous year. On a daily average basis, the NT dollar appreciated against the US dollar by 0.94% in 2018.

Stock Index Swung Higher but Closed Lower

In the beginning of 2018, the TAIEX rose to a yearly high of 11,253 on January 23, a record unseen for 28 years, bolstered by active trading from domestic individual investors driven mainly by the domestic economic recovery, US stocks renewing record highs, and net purchases by foreign investors. In the fourth quarter, affected by the global stock market crash, rising US bond yields and foreign investors' sell-offs in emerging Asia, the TAIEX slid from 11,052 on October 1 to 9,489 on October 26. Thereafter, the TAIEX fell on weak international stock markets, the US-China trade friction, and domestic uncertainty over major elections. The TAIEX closed at 9,727 points at the end of the year, declining by 8.6% compared with the previous year end.

2. Banking Sector

Number of Monetary Financial Institutions

At the end of 2018, the number of monetary financial institutions (defined hereafter in this chapter as excluding the central bank) decreased to 402. The number of domestic banks decreased by one as Ta Chong Bank was merged into Yuanta Commercial Bank, while the numbers of the other types of monetary financial institutions all remained unchanged.

Number of Monetary Financial Institutions by Type

Types of institutions	End of 2018	End of 2017	Annual Change
Total Number of Main Offices	402	403	-1
Domestic Banks	38	39	-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	6,083	6,106	-23
Local Branches	5,879	5,898	-19
Overseas Branches	144	147	-3
Offshore Banking Units	60	61	-1

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

At the end of 2018, there were no money market mutual funds offered by banks, while the number of financial holding companies remained at 16, the same as 2017.

Market Shares of Deposits and Loans

In terms of deposits, the market share of domestic banks rose to 78.25% at the end of 2018, mainly attributable to the fact that some domestic banks successively provided preferential interest rates for large-value transaction deposits and foreign currency deposits. As a result of deposit inflows to domestic banks, the market shares of foreign and Mainland Chinese banks, Chunghwa Post, credit departments of farmers' and fishermen's associations, and credit cooperatives declined to 1.56%, 14.30%, 4.32%, and 1.57%, respectively.

In terms of loans, the market share of domestic banks continued to slip to 89.57%, mainly as the government collected more tax and treasury revenues, causing a decrease in its borrowings from

domestic banks. Meanwhile, foreign and Mainland Chinese banks' market share climbed to 4.58% as their lower lending rates boosted private corporate lending. Chunghwa Post's market share rose to 0.07%, reflecting an increase in lending to bills finance companies. As for the other institution types, the market share of credit departments of farmers' and fishermen's associations edged up to 4.05%, whereas that of credit cooperatives slightly fell to 1.73%.

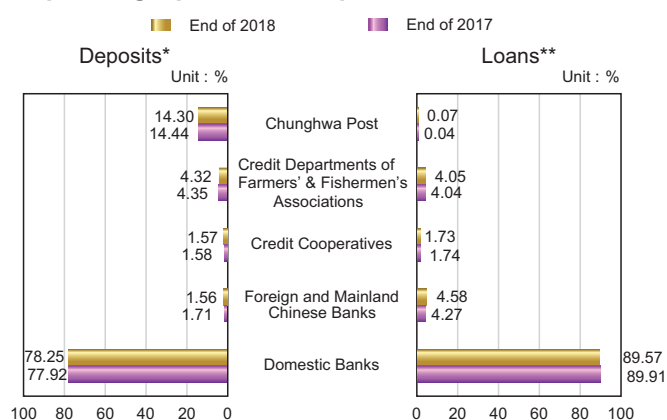
Sources and Uses of Funds

At the end of 2018, the total amount of funds in monetary financial institutions was NT\$49,193 billion, increasing by NT\$1,097 billion compared to the end of 2017. The combined share of transaction and non-transaction deposits was nearly 85%. While transaction deposits kept growing, the annual growth rate of non-transaction deposits fell sharply to -0.03% owing to a higher comparison base and marked decreases in foreign currency deposits along with NT dollar depreciation in the second half of the year.

In the case of fund uses, bank loans still accounted for over 50% of total uses of funds at the end of 2018. Both the share and growth in loans increased compared to the previous year, mainly owing to greater demand from government enterprises and individuals supported by the recovering housing market. As for growth in net foreign assets, it dropped sharply from 5.36% at the end of 2017 to -15.46%, mainly driven by large net foreign capital outflows and slower trade surplus growth.

Portfolio investments by monetary financial institutions continued to post year-on-year rises at the end of 2018. This mainly reflected the effect of the US-China trade conflict and a slowdown in the global economy, which caused monetary financial institutions to increase holdings of government bonds for hedging. As for banks' purchases of CDs issued by the CBC, both its share and growth decreased compared with the end of the previous year.

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



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

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

Source: *Financial Statistics Monthly*, CBC.

Sources and Uses of Funds in Monetary Financial Institutions¹

Unit: NT\$ Billion

	End of 2018			End of 2017			Annual Change	
	Amount	Share (%)	Annual Growth Rate (%)	Amount	Share (%)	Annual Growth Rate (%)	Amount	Share (%)
Sources:								
Transaction Deposits ²	15,773	32.06	5.51	14,950	31.08	3.12	823	0.98
Non-transaction Deposits ³	26,189	53.26	-0.03	26,197	54.47	5.27	-8	-1.21
NT Dollar Deposits	20,440	41.55	0.40	20,357	42.33	1.17	82	-0.78
Foreign Currency Deposits	5,750	11.69	-1.54	5,840	12.14	22.61	-90	-0.45
Government Deposits	1,043	2.12	11.13	938	1.95	4.82	104	0.17
Other Items	6,188	12.56	2.94	6,011	12.50	4.84	177	0.06
Total	49,193	100.00	2.28	48,096	100.00	4.53	1,097	0.00
Uses:								
Net Foreign Assets ⁴	3,675	7.47	-15.46	4,347	9.04	5.36	-672	-1.57
Loans	27,660	56.26	5.06	26,328	54.74	4.96	1,332	1.52
NT Dollar Loans	26,666	54.21	5.36	25,309	52.62	4.18	1,357	1.59
Foreign Currency Loans ⁴	994	2.02	-2.41	1,018	2.12	29.11	-24	-0.10
Portfolio Investments ⁵	6,088	12.37	6.34	5,725	11.90	5.48	363	0.47
Purchases of CDs Issued by CBC	7,741	15.74	-0.67	7,793	16.20	4.04	-52	-0.46
Deposits with CBC	4,030	8.21	3.22	3,904	8.12	0.52	126	0.09

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, Chungwa 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

Because of people's changing asset allocation behavior, such as increased purchases of life insurance products or exchange traded funds (ETFs), the annual growth rate of deposits in 2018 was 2.60%, a significant decline from the 3.46% in 2017. Moreover, as the previous year's net foreign capital inflow turned into a net outflow in 2018, the annual growth rate of deposits showed a general downtrend as a result.

In terms of monthly movement, in the first half of the year, most months recorded declines except for April and May. In April, along with stronger growth momentum for bank loans and investments, the annual growth rate of deposits also rose. In May, because of faster growth in bank loans and investments and decreased net foreign capital outflows, the annual growth rate of deposits significantly increased.

In the second half of the year, the annual growth rate of deposits generally trended down, except for September and November when the growth momentum for bank loans and investments increased and net foreign capital outflows turned into inflows.

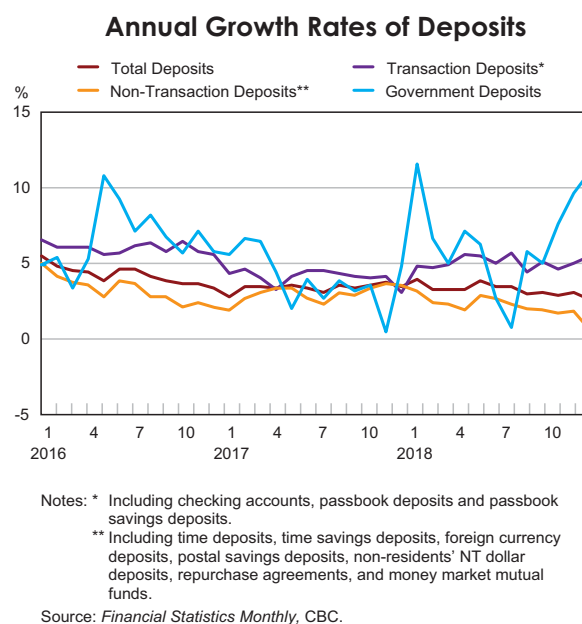
For transaction deposits, because banks rolled out more preferential interest rate deposit programs in March and April, the annual growth rate went up. However, in May and June, as some firms parked their funds in time deposits in preparation for dividend issuance and more effective allocation for higher returns, which caused transaction deposits to temporarily flow to time deposits, the annual growth rate of transaction deposits fell. In the other months, the rate generally fluctuated in tandem with the annual change of deposit balances of securities giro accounts. Overall, for transaction deposits, the annual growth rate roughly trended up in 2018 and its share in total deposits increased

to 36.68% at the end of 2018. The uptrend was most significant in July, when pension reform caused some time savings deposits to flow to passbook savings deposits.

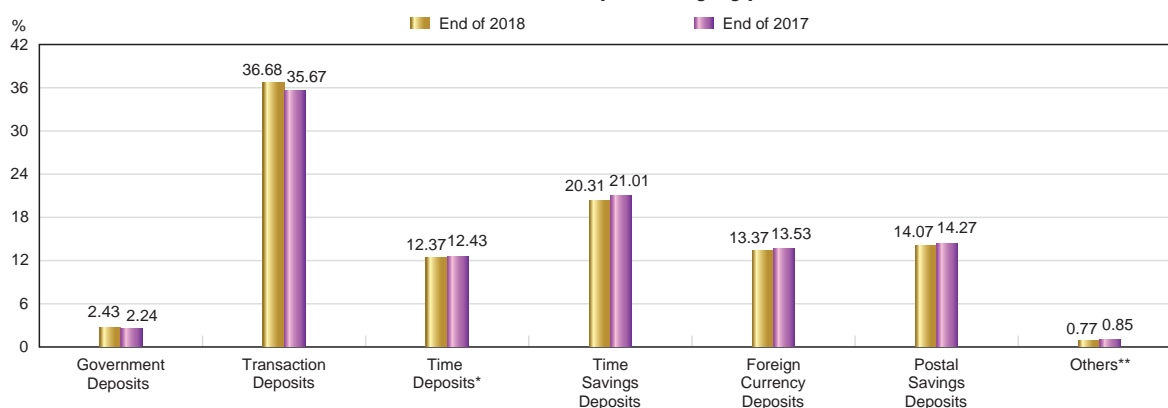
For the year as a whole, non-transaction deposits posted a fall in the annual growth rate from 3.60% at the end of 2017 to 0.62% at the end of 2018, on account of a higher comparison base, preferential interest rate programs for transaction deposits and changes in people's asset allocation behavior.

By type of non-transaction deposits, the annual growth rate of time deposits declined largely owing to a higher base effect, and the share of time deposits dropped to 12.37% at the end of 2018. The shares and the annual growth rate of time savings deposits declined because of the above-mentioned influence from pension reform. The annual growth rate of postal savings deposits rose owing to a lower comparison base, but its share fell to 14.07%.

For foreign currency deposits, the share and the annual growth rate in 2018 decreased to 13.37% and 1.38%, respectively. This was mainly attributable to a shift to foreign currency-denominated insurance products. In addition, NT dollar depreciation pushed up the cost of purchases of foreign currency, thus weakening the incentive to hold foreign currency deposits. Owing to increased tax revenue, the annual growth rate of government deposits went up to 11.20%, and its share in total deposits also rose to 2.43%.



Shares of Deposits by Type



Notes: * Including NCDs.

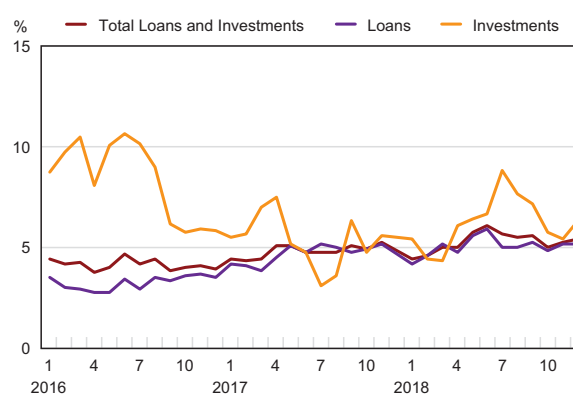
** Including repurchase agreements, non-residents' NTD deposits and money market mutual funds.

Source: *Financial Statistics Monthly*, CBC.

Bank Loans and Investments

The annual growth rate of loans and investments of monetary financial institutions was 5.39% at the end of 2018, increasing from 4.82% at the end of 2017. Growth in loans increased to 5.18% at the end of 2018 from 4.68% at the end of the previous year, owing to a moderate housing market recovery, one big merger deal, and greater demand from Taiwan Power Company to finance its plant expansion as well as national energy transition. Meanwhile, growth in portfolio investment accelerated to 6.34% at the end of 2018 from 5.48% a year earlier because insurance companies partially sold their massive government bond holdings to banks in order to increase their overseas investments, resulting in faster 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) rose to 5.44% at the end of 2018 from 5.16% at the end of 2017. The upturn was mainly due to a recovering housing market and one big merger deal. The annual growth rate of loans to government enterprises returned to positive territory, registering 11.00% at the end of 2018 from

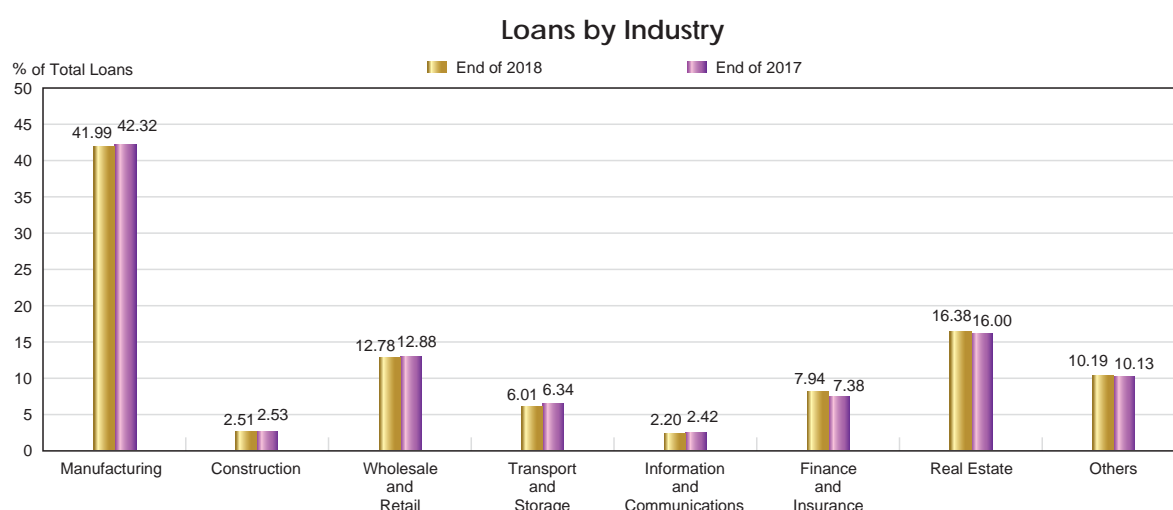
-3.34% at the end of 2017, as Taiwan Power Company increased borrowing from banks to facilitate its plant expansion and energy transition policies. Meanwhile, the annual growth rate of loans to government agencies was -1.52% at the end of 2018 because of reduced demand thanks to increased tax revenues. The growth rate, though negative, still represented an improvement compared to -5.44% the previous year as a result of a lower base effect.

In terms of loan composition, loans extended to the private sector and government enterprises accounted for 93.06% and 2.15% of total loans at the end of 2018, respectively, higher than the 92.84% and 2.03% recorded at the end of 2017. Loans extended to government agencies accounted for 4.79% at the end of 2018, lower than 5.12% 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 41.99% at the end of 2018 compared to 42.32% at the end of 2017, with its annual growth rate also down from 6.88% to 4.76%. The fall was mainly attributable to slower growth in loans extended to electronic parts and components manufacturing, as one semiconductor manufacturing company fully repaid its borrowing for an acquisition completed in 2016 and exports declined in the fourth quarter of the year. While the share of loans extended to the construction industry slightly decreased at the end of 2018, its annual growth rate rose from -8.40% to 4.72% at the end of 2018, in line with a housing market recovery.

The recovering housing market also kept the share of loans extended to the real estate industry on an upward track. However, following the slowdown in export orders and vehicle sales, the share



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.

of loans extended to the wholesale and retail industry shrank. Both the share and the annual growth rate of loans extended to the finance and insurance industry bounced back as a result of one big merger deal, which induced a significant volume of bank loans to this industry.

Consumer loans

The annual growth rate of consumer loans extended by banks increased from 3.80% at the end of 2017 to 4.42% at the end of 2018. Among them, house-purchasing loans grew by NT\$329.6 billion, or 4.96%, in 2018, a higher year-on-year increase mainly because home sales rose as more owner-occupied buyers entered the market and sellers cut prices. As for the shares of various consumer loans, house-purchasing loans remained the largest component, with its share rising from 83.59% at the end of 2017 to 84.02% at the end of 2018. Car loans accounted for 1.69%, increasing from 1.67%, mainly because of car loan promotion schemes. Meanwhile, house-repairing loans, revolving credit for credit cards, employee welfare loans, and other consumer loans accounted for 1.10%, 1.36%, 0.67%, and 11.16%, respectively.

Investments

Owing to valuation changes, portfolio investments by monetary financial institutions, measured at fair value, recorded a year-on-year increase of NT\$408.4 billion, while the increase was smaller, at NT\$363.1 billion, when measured on a cost basis.

Portfolio investments by monetary financial institutions measured on a cost basis grew at a faster pace of 6.34% in 2018, mainly because banks increased government bond holdings to hedge risks in response to a number of uncertainties such as the US-China trade conflict and slow growth in the global economy.

Among the investment instruments, government bonds accounted for the largest share with 62.85%, higher than the 61.87% registered a year ago, mainly bolstered by massive purchases of government bonds by banks and the Department of Savings and Remittances of Chunghwa Post to seek low-risk investments. At the end of 2018, commercial paper accounted for a share of 16.72%, lower than a year ago, mainly because commercial paper issuance decreased and banks cut back such holdings. Corporate bonds accounted for a share of 14.43%, increasing from the end of 2017.

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

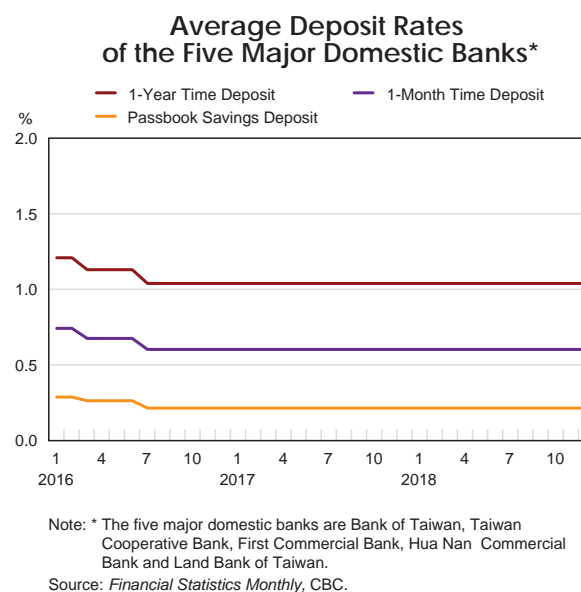
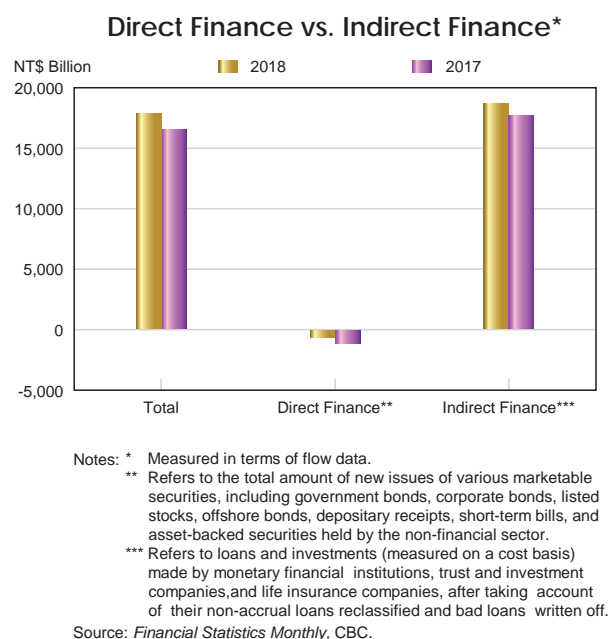
NT\$1,658.1 billion to NT\$1,794.7 billion in 2018. Direct finance decreased by NT\$80.2 billion during 2018, smaller than the decrease of NT\$118.9 billion last year. Indirect finance increased from the previous year's NT\$1,777.2 billion to NT\$1,874.9 billion, which was mainly due to higher growth in loans and investments by financial institutions.

Based on the outstanding balance, the share of direct finance in total funds raised decreased from 19.81% a year before to 18.93% at the end of 2018, while the share of indirect finance increased from 80.19% to 81.07%.

Bank Interest Rates

In the first half of 2018, the domestic economy grew steadily. However, entering the second half of the year, with the Fed interest rate increase and the US-China trade war, global financial markets fluctuated drastically. As the global economic climate cooled, and uncertainty over international economic and financial prospects increased, domestic economic growth slowed down, and inflation expectations remained mild. Against this backdrop, the Bank decided to keep policy rates unchanged; hence 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 2018, 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 2018. Because of an increase in the share of transaction deposits, of which the interest rates were lower, in total deposits, the weighted average deposit rate slightly decreased



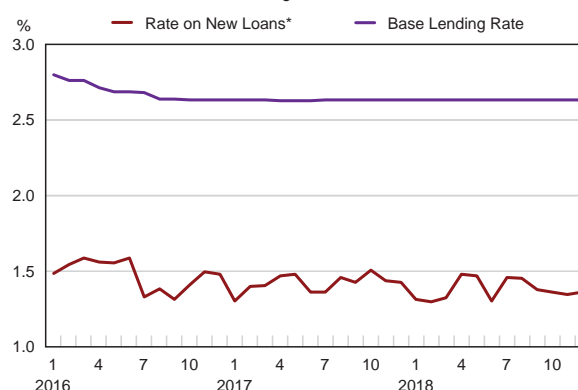
to 0.55% in the fourth quarter of 2018 from 0.56% a year ago. The weighted average interest rate on deposits of domestic banks was stable at 0.56% in the first three quarters of 2018 but slightly dropped to 0.55% in the fourth quarter, averaging 0.56% for the whole year, which was the same as that recorded in the previous year.

As banks' rates on current operations loans dropped in 2018, the weighted average interest rate on new loans of the five major domestic banks edged down from 1.414% in the previous year to 1.370% in 2018. Excluding central government loans, the weighted average interest rate on new loans decreased from 1.472% in the previous year to 1.414% in 2018, down by 0.058 percentage points. Moreover, the average base lending rate decreased to 2.631% at the end of 2018 from 2.632% at the previous year-end.

In the first quarter of 2018, owing to an increase in bank claims on local governments and government enterprises and fierce competition in the mortgage market, some banks offered lower rates on new mortgage loans. The weighted average interest rate on total loans of domestic banks slightly decreased from 1.92% in the previous quarter to 1.91%. The rate dropped to 1.90% in the second quarter, owing to increases in low-interest loans to government enterprises and large-value loans to renowned firms. 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 1.90%, which was 0.02 percentage points lower than that recorded in the previous year.

Because the average lending rate was slightly lower and the average deposit interest rate was stable, the average interest rate spread between deposits and loans slightly shrank to 1.34 percentage points in 2018, which was 0.02 percentage points smaller than that recorded in the previous year.

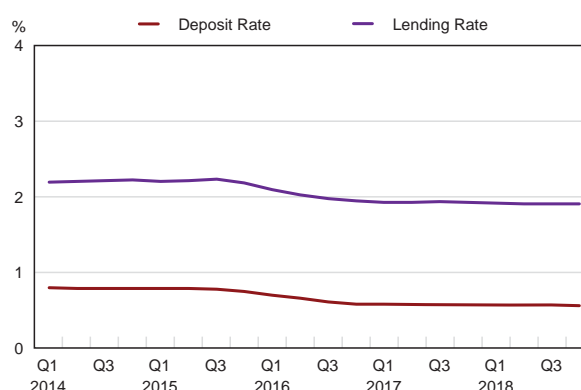
**Average Lending Rates
of the Five Major Domestic Banks**



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

In 2018, the total turnover in the interbank call loan market decreased by 5.70%, while that in the short-term bills market increased by 9.18%. In terms of money market rates, the interbank overnight call loan rate remained at low levels, whereas bills market rates displayed a modest uptrend, as the Bank maintained an accommodative monetary policy stance against a background of slower global and domestic economic growth, heightened uncertainties over international economic and financial prospects, and mild inflation expectations.

Interbank Call Loans Decreased

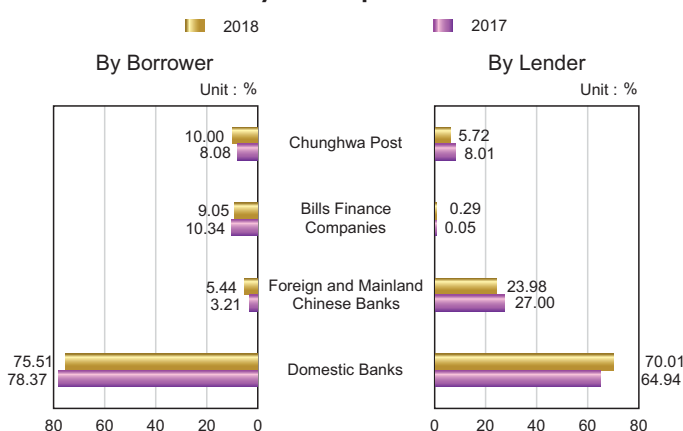
In the first half of the year, banks' demand for call loans rose because of steady growth in bank loans and investments amid robust expansion in the domestic economy. Nevertheless, the escalating US-China trade conflict weighted on the global economy and caused growth in domestic bank loans and investments to decrease in the second half of the year. Total annual turnover of interbank call loans for 2018 decreased by NT\$2,913.5 billion, or 5.70%, to NT\$48,192.7 billion. The outstanding amount of interbank call loans stood at NT\$384.0 billion at the end of the year, recording a slight decrease of 2.28% from the previous year end.

With regard to borrowers, domestic banks were still the largest player during the year, making up 75.51% of total transactions, followed by Chunghwa Post, bills finance companies, and foreign and Mainland Chinese banks, with shares of 10.00%, 9.05%, and 5.44%, respectively. The amount borrowed by domestic banks fell by NT\$3,663.4 billion, or 9.15%, over the previous year because ample liquidity in the banking system caused banks' demand for borrowing to soften. Meanwhile, with market liquidity remaining sufficient, private and government enterprises resorted to other sources for borrowing, leading to weaker demand from bills finance companies for funds used for underwriting commercial paper. Therefore, the amount borrowed by bills finance companies dropped by NT\$922.0 billion or 17.46% during the year. On the other hand, the amount borrowed by Chunghwa Post grew by NT\$691.8 billion or 16.75%, primarily resulting from increased investment in government bonds. The amount borrowed by foreign and Mainland Chinese banks rose substantially by NT\$980.2 billion or 59.67% over the previous year, reflecting greater demand for funds because of net foreign capital outflows.

In terms of lenders, domestic banks continued to be the largest supplier of funds, contributing to 70.01% of total transactions in 2018. Following domestic banks were foreign and Mainland Chinese banks, Chunghwa Post, and bills finance companies, with respective shares of 23.98%, 5.72%, and 0.29%. The amount lent by domestic banks only expanded by NT\$553.3 billion, or 1.67%, compared

with the previous year because of abundant liquidity in the banking system. As for foreign and Mainland Chinese banks, the funds they gained from the custodian business for foreign investors were insufficient because of net foreign capital outflows, bringing down the interbank lending amount of foreign and Mainland Chinese banks by NT\$2,245.6 billion or 16.27%. Meanwhile, the amount lent by Chunghwa Post contracted significantly by NT\$1,335.9 billion or 32.65% over the previous year, largely attributable to less available funds as it increased investment in government bonds.

Composition of Interbank Call Loan Market by Participant



Source: Financial Statistics Monthly, CBC.

In respect of maturity, interbank overnight call loans remained the most actively traded instrument in the market with a predominant share of 63.19%, down by 4.30 percentage points from that of the previous year. Second were those with a maturity of 1 week, accounting for 25.61%, up by 1.62 percentage points from that of the previous year. The share of loans with a 2-week maturity increased by 2.00 percentage points to 8.28%.

Short-Term Bill Transactions Increased

In 2018, newly issued short-term bills amounted to NT\$14,971.9 billion, representing an increase of NT\$93.4 billion or 0.63% over the previous year. Of the new issues, commercial paper still accounted for a dominant share at 86.60%, followed by negotiable certificates of deposit with a share of 12.21%.

As banks issued more negotiable certificates of deposit in an attempt to fill the funding gap or increase the deposit base, the amount of negotiable certificates of deposit issued rose by NT\$267.2 billion from a year before. In contrast, issuance of commercial paper registered a decrease of NT\$112.8 billion compared with the previous year. The decline was mostly because enterprises were less willing to issue commercial paper on account of weakened funding needs and a slight uptrend in money market rates, along with abundant liquidity in the banking system leading banks to actively expand their lending business. The amount of treasury bills and bankers' acceptances fell by NT\$60.0 billion and NT\$0.9 billion, respectively, over the previous year.

As of the end of 2018, total outstanding short-term bills stood at NT\$2,223.1 billion, 3.18% more than that of the previous year end.

Short-Term Bills Market

Unit: NT\$ Billion

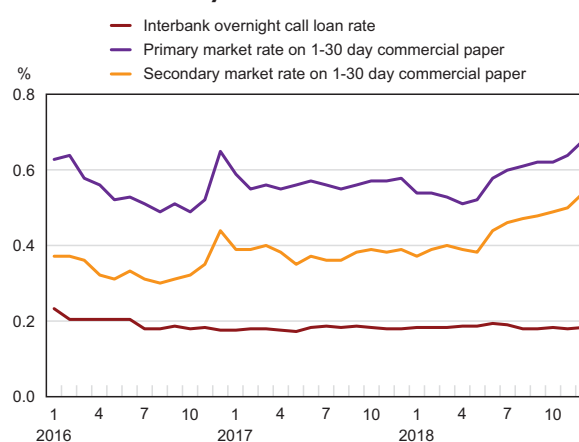
Year	Total		Treasury Bills		City Treasury Bills		Commercial Paper		Bankers' Acceptances		Negotiable Certificates of Deposit	
	Issues	Year-end Outstanding	Issues	Year-end Outstanding	Issues	Year-end Outstanding	Issues	Year-end Outstanding	Issues	Year-end Outstanding	Issues	Year-end Outstanding
2009	6,293.4	1,043.1	435.0	215.0	-	-	5,397.7	651.3	21.9	4.9	438.8	171.9
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

The total turnover of short-term bills in 2018 expanded by 9.18% to NT\$41,255.9 billion. Of the total transactions, commercial paper still made up the lion's share with 89.04%, showing a decrease of 1.67 percentage points from a year earlier. Second were negotiable certificates of deposit with a share of 10.58%, recording an increase of 1.74 percentage points over the previous year. Treasury bills and bankers' acceptances made up negligible shares of transactions. With respect to market participants, private enterprises remained the largest player in the market with a share of 42.89%, followed by banks with a share of 31.35%.

Money Market Rates Remained at Low Levels

For the year 2018, the weighted average interbank overnight call loan rate remained at a low level because of ample market liquidity. In the first half of the year, banks' funding conditions slightly tightened on account of the US-China trade dispute, net foreign capital outflows, enterprise mergers and acquisitions, and income tax collections. As a result, the weighted average interbank overnight call loan rate went up from 0.180% in January of 2018 to 0.192% in June. Later in the year, net foreign capital inflows helped increase market liquidity, thereby sending the rate down to 0.178% in September. However, the weighted average interbank overnight call loan rate slightly fluctuated between 0.179% and 0.183% in December, reflecting higher funding needs of enterprises at the end of the year.

Money Market Interest Rates



The primary market rate on commercial paper with a maturity of 1-30 days moved within a range between 0.51% and 0.68%, while the secondary market rate on commercial paper with a maturity of 1-30 days remained between 0.37% and 0.54% throughout the year.

Money Market Funds Contracted

Amid global financial market turbulence in the year 2018, money market funds were often seen as an ideal investment option to park short-term capital given the benefits of low risk and high liquidity, yet investment trust companies adopted a product diversification strategy which affected their asset allocation during the year. In addition, money market funds tend to generate relatively lower returns. These factors combined to lend to a continuous decline in the size of money market funds. At the end of 2018, there were a total of 43 money market funds in Taiwan with total assets reaching NT\$683.6 billion, down by NT\$99.4 billion or 12.70% from the previous year end.

In respect of portfolio composition, the largest use of the funds was bank deposits with a share of 66.56% at the end of the year. Following bank deposits were short-term bills and repurchase agreements, accounting for 22.10% and 11.25% 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 (%)
2016	848.3	551.1	64.97	144.2	17.00	134.7	15.88	18.2	2.15
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
2018/ 1	813.5	551.3	67.77	154.6	19.01	106.7	13.11	0.9	0.11
2	828.5	557.0	67.23	164.5	19.85	106.0	12.80	1.0	0.12
3	826.3	567.7	68.70	155.7	18.84	102.0	12.34	1.0	0.12
4	831.8	571.4	68.69	160.3	19.28	99.0	11.90	1.0	0.12
5	798.9	557.6	69.80	141.2	17.67	99.1	12.40	1.0	0.13
6	725.5	500.9	69.04	129.4	17.83	94.6	13.03	0.7	0.09
7	736.0	503.1	68.36	137.0	18.61	95.3	12.94	0.6	0.09
8	751.6	509.9	67.85	146.3	19.47	94.7	12.60	0.6	0.08
9	716.6	483.1	67.41	150.6	21.02	82.3	11.48	0.6	0.09
10	730.2	483.6	66.23	157.3	21.54	88.7	12.15	0.6	0.09
11	730.6	468.0	64.05	175.2	23.97	86.9	11.89	0.6	0.09
12	683.6	455.0	66.56	151.1	22.10	76.9	11.25	0.7	0.10

4. Foreign Exchange Market

The NT Dollar Exchange Rate

In 2018, on a daily average basis, the NT dollar appreciated slightly against the US dollar but depreciated against the euro, the Korean won, the renminbi (RMB) and the Japanese yen. The trade-weighted nominal effective exchange rate index of the NT dollar decreased by 0.60% on a daily average basis. The exchange rate movements of the NT dollar vis-à-vis each of the above foreign currencies are analyzed as follows.

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

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

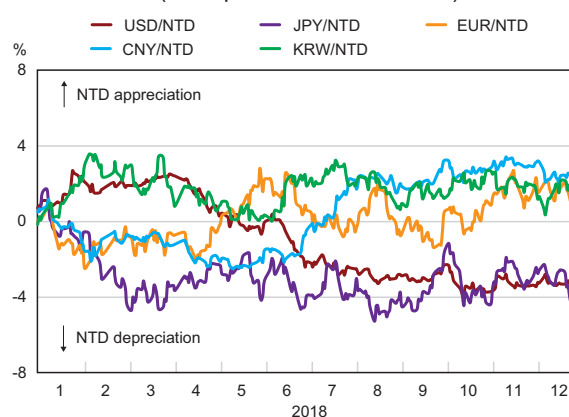
In 2018, the NT dollar depreciated against the yen in the first quarter and fluctuated in the following three quarters. Early in the year, the BoJ announced it would taper bond purchases and start thinking about how to exit its massive monetary stimulus program around the fiscal year starting in April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

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

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

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

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



Source: Department of Economic Research, CBC.

Annual Changes of NTD Exchange Rate Against Major Currencies

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

Source: Department of Economic Research, CBC.

Foreign Exchange Market

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

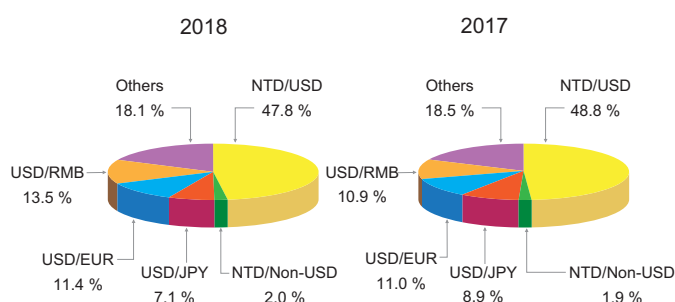
In terms of trading partners, transactions between banks and non-bank customers accounted for 31.9% of the total turnover, while interbank transactions made up 68.1%, including 24.0% for transactions among local banks and 44.1% for those between local banks and overseas banks.

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

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

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

Composition of Foreign Exchange Transactions by Currency Pair



Source: Department of Foreign Exchange, CBC.

Turnover of Major Products in the Taipei Foreign Exchange Market

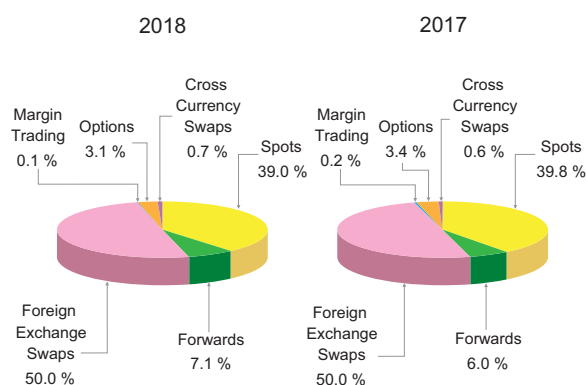
Unit: US\$ Million

Year	Spots	Forwards	Forex Swaps	Margin Trading	Options	Cross Currency Swaps	Total
2014	2,869,175	408,770	3,352,584	20,379	1,134,172	37,365	7,822,445
2015	3,405,177	475,473	3,292,799	25,055	973,082	33,023	8,204,608
2016	2,780,002	477,036	3,430,524	17,437	358,694	50,109	7,113,802
2017	2,826,236	423,119	3,550,558	12,402	242,537	43,934	7,098,786
2018	3,111,414	567,790	3,992,873	7,876	249,254	58,354	7,987,560
2017-2018 Growth Rate (%)	10.1	34.2	12.5	-36.5	2.8	32.8	12.5

Source: Department of Foreign Exchange, CBC.

For other foreign currency derivatives, including forwards, swaps, and options based on foreign currency interest rates, stock price indices, commodity prices, and credit derivatives, the total turnover amounted to US\$260.9 billion. Of this amount, interest rate-related derivatives accounted for the lion's share with US\$254.1 billion, or 97.4%, with its turnover increasing markedly by 43.0% from the previous year. Interest rate futures accounted for the majority of this increase, up by US\$32.4 billion.

Composition of Foreign Exchange Transactions by Type of Product



Source: Department of Foreign Exchange, CBC.

Turnover of Other Products in the Taipei Foreign Exchange Market

Unit: US\$ Million

Year	Interest Rate-Related Products					Commodity-Related Products	Stock Index Options	Credit Derivatives	Total
	Forward Rate Agreements	Interest Rate Swaps	Interest Rate Options	Foreign Currency Interest Rate Futures	Subtotal	Commodity Options			
2014	22	43,179	1,657	122,236	167,093	3,870	302	1,401	172,666
2015	4,928	42,763	2,152	56,088	105,930	4,058	486	1,122	111,596
2016	120	41,952	5,743	51,222	99,037	3,053	145	933	103,168
2017	-	49,453	11,412	116,911	177,776	2,802	121	857	181,556
2018	-	78,848	25,974	149,310	254,132	3,524	403	2,861	260,920
2017-2018 Growth Rate (%)	-	59.4	127.6	27.7	43.0	25.8	232.9	233.7	43.7

Source: Department of Foreign Exchange, CBC.

RMB Business

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

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

RMB Business Conducted by Financial Institutions

Unit: RMB Billion

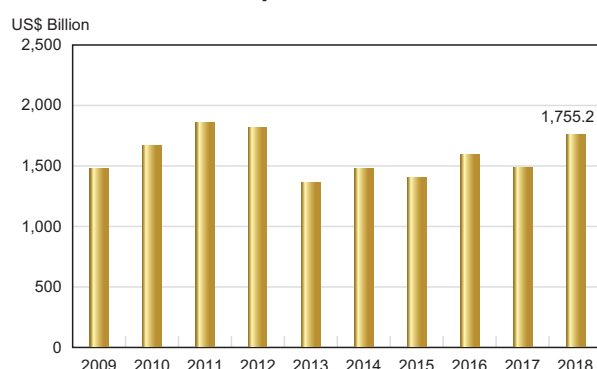
Business Items	Amount
Deposit balance (include NCDs, end of 2018)	298.4
Total remittances (February 2013 to December 2018)	9,706.3
Total settlement through the Taipei Branch of the Bank of China (February 2013 to December 2018)	23,106.2
Total value of 136 RMB-denominated bonds issued (up to the end of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

Source: Department of Foreign Exchange, CBC.

Foreign Currency Call Loan Market

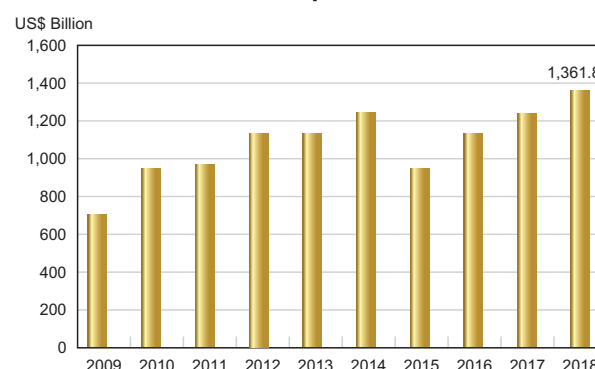
The transaction volume in the foreign currency call loan market in 2018 was US\$1,755.2 billion, an increase of 18.2% over the previous year. Of this amount, US dollar transactions accounted for a dominant share with US\$1,638.2 billion, making up 93.3% of the total while increasing by 19.0% from 2017.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

Transactions in the Taipei Foreign Currency Call Loan Market



Source: Department of Foreign Exchange, CBC.

Transactions in the Foreign Currency Swap Market



Source: Department of Foreign Exchange, CBC.

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

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

OBU Assets

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

In terms of the uses of funds, loans to non-financial institutions, at US\$82.2 billion, represented the majority share of 40.9% of total OBU assets. Securities investments came in second place, accounting for 29.4% of total OBU assets. In terms of the destination for funds, Asia accounted for the majority with 52.0%, followed by America at 31.0%.

The OBUs' main source of funds was due to financial institutions, making up 48.1% of total liabilities and equity. Furthermore, deposits of non-financial institutions accounted for 39.2% of the total. The main funding origin of OBUs was Asia, accounting for the majority with 62.0%, followed by America, with a share of 24.0%.

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

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

Balance Sheet of OBUs in Banking System

Unit: US\$ Million

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

Source: Financial Statistics Monthly, CBC.

5. Stock Market

Strong volatility associated with international financial market turbulence marked the year of 2018 for Taiwan's benchmark stock index, the Taiwan Stock Exchange (TWSE) weighted stock price index (TAIEX). For the first three quarters of the year, the TAIEX fluctuated wildly at relatively high levels, reflecting a mix of bullish and bearish influences such as US-China trade conflicts, international market movements, geopolitical concerns, and investor expectations of the Federal Reserve's policy rate paths. However, the TAIEX retreated from above the 10,000 mark in the fourth quarter, as global stock market crashes, rising US bond yields, and foreign investor sell-offs in Asian emerging markets (EM) dragged the local stock index out of a 1-year plus streak of strength.

At the end of 2018, the TAIEX dropped by 8.6% compared with the end of the previous year. Most categories lost ground, except for Cement, Textile, Trading & Consumers' Goods, Iron & Steel, and Building Material & Construction. The two worst-performing groups were Glass & Ceramics and Paper & Pulp, posting year-on-year declines of 38.3% and 31.7%, respectively as their 2017 surges were contrasted by plunges in 2018. Tourism shares also suffered a fall of 26.0%, owing to a dwindling number of Chinese tourists and a rush of hotels scrambling out of the market.

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
2016	9,253.5	68.7	64.6	27,247.9	320.2	-19.9	-86.6
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
2018/ 1	11,103.8	127.5	8.4	33,277.3	75.5	-1.3	17.2
2	10,815.5	127.0	5.1	32,434.1	-99.4	1.8	-11.2
3	10,919.5	113.3	8.0	32,748.5	-45.1	-5.1	-21.9
4	10,657.9	124.5	7.0	31,872.8	-82.3	0.9	-9.4
5	10,875.0	132.1	8.9	32,527.6	-28.1	-3.8	-10.9
6	10,836.9	150.1	9.3	32,437.0	-83.2	-0.1	2.1
7	11,057.5	132.7	8.8	33,122.3	8.3	4.8	-1.3
8	11,063.9	116.7	8.1	33,241.1	32.8	9.2	-23.5
9	11,006.3	118.7	6.8	33,057.5	65.9	-0.9	-1.8
10	9,802.1	109.5	8.2	29,529.6	-143.0	-7.7	-12.3
11	9,888.0	103.2	7.6	29,753.8	10.4	1.1	-9.1
12	9,727.4	88.7	6.4	29,318.5	-66.9	-0.5	-17.4

Source: Securities and Futures Bureau, FSC.

The TAIEX daily average trading value was NT\$119.9 billion in 2018, a year-on-year increase of 23.0%, as the extension of the day-trading transaction tax break shored up market momentum.

The Taipei Exchange (TPEX) weighted stock price index for the over-the-counter market slipped by 16.8% in 2018, with most categories posting year-on-year declines. Among them, the Electric Machinery and Electronics categories sank by 24.2% and 23.6%, respectively, affected by the US-China trade conflict and weakness of technology shares in the US market. For the year of 2018, the TPEX daily average trading value increased by 5.8% to NT\$33.0 billion.

The TWSE Market

Listings Increased; Capitalization Shrank

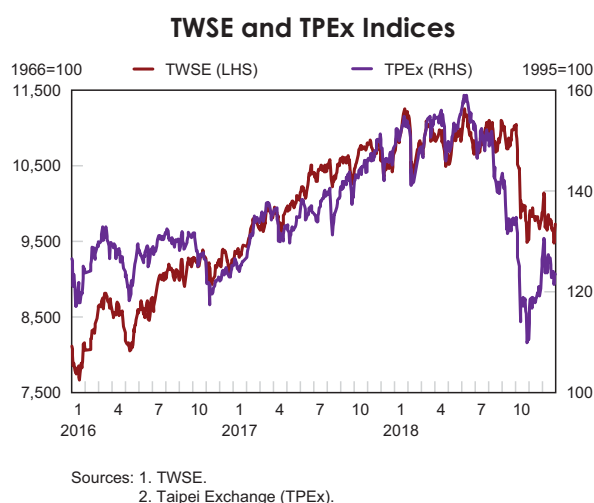
At the end of 2018, the number of TWSE listings totaled 928, with the number of initial public offerings reaching a 5-year record of 31. The par value of total shares issued rose by a modest 0.3% to NT\$7.2 trillion, while total market capitalization shed 7.9% to NT\$29.3 trillion. The number of Taiwan Depository Receipts (TDRs) remained 17.

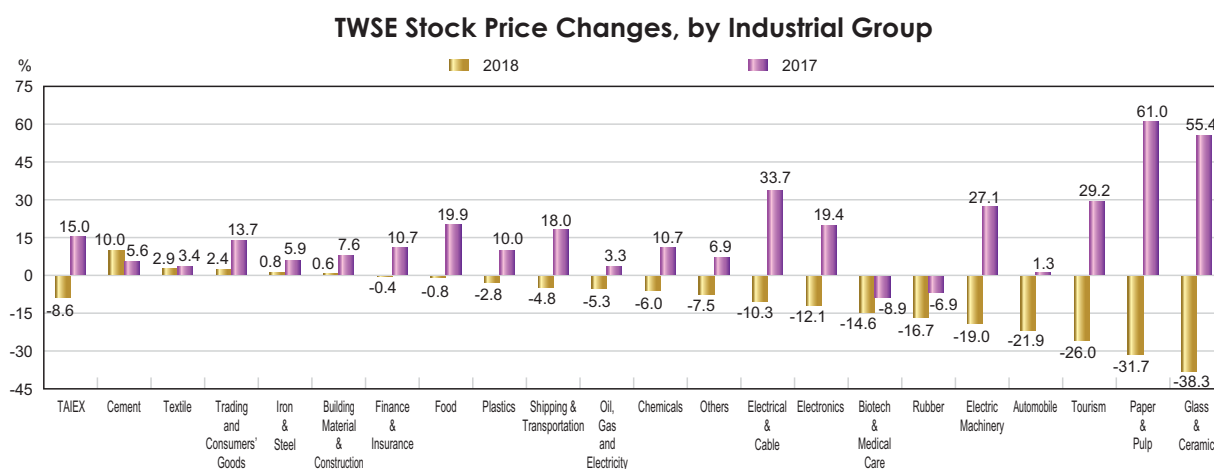
TAIEX's Record Start Was Reversed by Market Downswings amid International Slump

At the start of 2018, as US equities hit multiple historical records and foreign investors bought heavily in the local market, the TAIEX set off a gaining streak and peaked at 11,253 points on January 23, the highest mark in 28 years. The index pulled back afterwards and dropped to 10,372 points on February 9, owing to European and US stock market crashes and investor concern about steeper US rate hikes, as well as profit-taking sell-offs on the TWSE.

Thereafter, up until the end of the third quarter, the TAIEX fluctuated sharply at high levels. The local benchmark oscillated wildly in the interim, reflecting the upside and downside developments on the international scene, including US-China trade talk progress, global stock market performance, geopolitical risks, and investor expectations about the Fed's rate decisions.

The fourth quarter, though, was characterized by a broader downtrend. With global equities crumbling, the US bond yield climbing, and foreign investors offloading a lot of their Asian EM positions, the TAIEX plunged to 9,489 points on October 26 from 11,052 points on October 1, halting a bull run that had lasted for more





Source: TWSE.

than one year. In the final months of 2018, uncertainties including trade conflicts among major economies and domestic elections caused the main board shares to seesaw at lower price levels. The TAIEX closed the year at 9,727 points, down by 8.6% compared to 10,643 points a year before.

Broken down by subcategory, most industrial groups registered lower prices than the previous year. Glass & Ceramic and Paper & Pulp shares suffered the hardest, as high comparison bases in 2017 and steeper corrections in 2018 dragged them down by 38.3% and 31.7%, respectively. Tourism shares decreased by 26.0%, affected by a fall in Chinese tourism to Taiwan and the ensuing spate of hotel shutdowns. The stocks in the Automobile subcategory also slipped by 21.9%, owing to trade war-related impacts and declining car sales. By contrast, shares in Cement, Textile, Trading w& Consumers' Goods, Iron & Steel, and Building Material & Construction all recorded positive year-on-year growth, with Cement shares harvesting the biggest rise of 10% thanks to record-high corporate earnings.

Market Turnover Increased

In 2018, trading momentum built up mainly because the day-trading tax cut was extended until the end of 2021. For the year of 2018, the TWSE market turnover, measured on a daily average basis, increased by 23.0% to NT\$119.9 billion from the NT\$97.5 billion recorded the previous year. Robust trading activity also sent the turnover rate higher from the 78.4% of 2017 to 92.6%.

TWSE Witnessed Net Sales by Institutional Investors

In 2018, all three major types of institutional investors net sold in the local stock market. Foreign investors offloaded a net NT\$355.1 billion of TAIEX shares, an amount unseen since the 2009 global financial crisis. Meanwhile, local securities investment trust companies and securities dealers recorded net sales of NT\$1.5 billion and NT\$9.94 billion, respectively, in the TWSE market.

Looking at foreign investor behavior in 2018, they collectively became net sellers in the TWSE market in months other than January, July, August, September, and November. The net sales were mainly attributable to international headwinds, including escalating US-China trade friction, growing expectation of the Fed's rate hikes, increased geopolitical tensions, and slumping global equities. Indeed, the global stock market crash triggered the year's heaviest net sale of NT\$143.0 billion of main board shares in October and pushed the TAIEX below the 10,000 mark.

In terms of local securities investment trust companies, they were net buyers in February, April, July, August, and November. In the rest of the year, they became net sellers with profit-taking transactions for the purpose of fund redemption, financial statement boosting, or portfolio adjustments.

Local securities dealers, with inclination for short swing trading, net bought during the bullish months of January and June in 2018 and net sold in the rest of the year to hedge their positions or lock in gains.

The TPEX Market

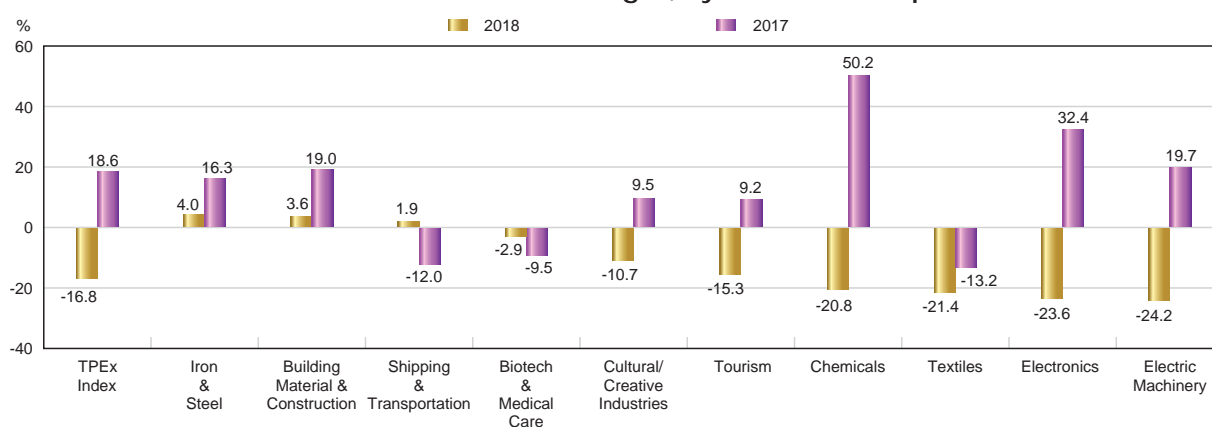
Listings Increased but Capitalization Fell

At the end of 2018, the number of TPEX listings increased to 766, with 31 new listings mostly from the technology industry. The total par value rose by 2.2% year on year to NT\$738.5 billion, while market capitalization fell 14.8% to NT\$2.83 trillion.

TPEX Index Rallied but Then Dropped with Sharp Swings

In 2018, the TPEX experienced wilder fluctuations than the TWSE. The index opened the year with upswings and peaked at 159.1 points on June 6 but sharper corrections followed. Amid economic worries and financial market turmoil at home and abroad, the TPEX Index plummeted to 109.9 points

TPEX Stock Price Changes, by Industrial Group



Source: TPEX.

on October 26. Despite a rebound afterwards, the index closed the year at 123.5 points. Not only did it fall by 16.8% compared to the previous year's 148.5 points, it also suffered a decline nearly twice as large as that in the TAIEX.

For the year of 2018, net sales by foreign investors, local securities investment trust companies, and local dealers were NT\$13.5 billion, NT\$7.6 billion and NT\$156.4 billion, respectively. The historical record of net sales by local dealers was because these investors offloaded in large quantity their holdings of bond ETFs and call/put warrants.

The daily average turnover in the TPEx market increased by 5.8% from the NT\$31.2 billion of the previous year to NT\$33.0 billion.

Key Measures for the Stock Markets

Key measures for Taiwan's stock markets in 2018 include the following:

- (1) January 1: The withholding tax on dividends paid to foreign shareholders would be raised from 20% to 21%.
- (2) January 18: With the passing of tax reforms, the tax credit imputation of the integrated income tax system was abolished. Resident shareholders may now be levied for income from dividends in either of the following ways — a 8.5% deduction on dividend income as part of total taxable income, up to a maximum of NT\$80,000, or a flat tax rate of 28% on dividend income only.
- (3) April 13: With the passage of an amendment to the Securities Transaction Tax Act, the transaction tax cut for day trading would be extended to December 31, 2021, effective from April 28, 2018. The extended tax reduction also applies to day trading by securities dealers.
- (4) May 29: The Financial Supervisory Commission (FSC) announced that qualified securities firms may issue exchange-traded notes (ETNs), an instrument to be officially defined as a security from July 2, 2018.
- (5) August 9: A draft amendment to the *Futures Trading Act* was approved by the Cabinet, paving the way for a central counterparty clearing mechanism of over-the-counter derivatives transactions. In addition, the maximum administrative fine for violations against futures trading regulations would be raised from NT\$0.6 million to NT\$2.4 million.
- (6) September 10: The FSC announced that, starting in 2019, the TWSE would no longer offer makeup sessions for trading and settlement on those Saturdays adjusted to be work days, which used to be the norm under the government's mechanism to substitute a Saturday for an extra weekday off in order to complete an extended national holiday weekend.

6. Bond Market

For the year 2018, the total volume of bond issuance displayed a downtrend. New issues of bonds amounted to NT\$1,930.5 billion, decreasing by NT\$191.6 billion or 9.03% over the previous year. At the end of 2018, the total outstanding of bonds issued stood at NT\$13,564.3 billion, rising by NT\$904.4 billion or 7.14% from the previous year end.

Central government bond issuance for 2018 totaled NT\$347.3 billion, falling by NT\$52.7 billion or 13.17% from the previous year, mainly because the increase in tax revenues reduced fiscal funding needs.

Issuance of corporate bonds for 2018 posted an increase of NT\$26.6 billion or 6.90% to NT\$412.3 billion. The rise was primarily because corporations issued new bonds in order to roll over old ones and repay short-term loans.

In terms of bank debentures, the main purpose for banks to issue bonds was to strengthen their capital base and meet mid-to long-term operation funding needs. Bank debenture issuance amounted to NT\$231.8 billion for the entire year, increasing by NT\$42.3 billion or 22.31% over the previous year.

In 2018, 116 foreign currency-denominated international bonds were issued in Taiwan by foreign institutions with a total amount of NT\$903.7 billion, contracting by NT\$235.5 billion or 20.67% compared to the previous year. Meanwhile, foreign institutions issued 12 NT dollar-denominated foreign bonds totaling NT\$7.1 billion, down by NT\$0.6 billion or 8.44% over the previous year.

In the secondary market, abundant domestic liquidity and the international oil price slump brought down annual average yields on bonds with different maturities in 2018. For the 10-year government bond, its yield slid by 12 basis points to 0.942%.

In addition, with Taiwan's bond exchange-traded fund (ETF) market growing considerably, surging demand for bonds drove the bond trading volume higher. As a result, annual transactions reached NT\$64,822.1 billion, rising by NT\$3,238.7 billion or 5.26% over the previous year.

Reduction in Government Bond Issuance

With respect to central government bonds, as tax revenues increased and public debt approached the statutory ceiling, central government bond issuance declined by NT\$52.7 billion or 13.17% from the previous year to NT\$347.3 billion in 2018.

Among the total volume of government bonds issued by the Ministry of Finance, 10-year bonds accounted for the largest share with NT\$145.0 billion, while 5-year bonds came in second

with NT\$90.0 billion. 2-year, 20-year, and 30-year government bonds recorded issuance of NT\$27.3 billion, NT\$45.0 billion, and NT\$40.0 billion, respectively.

The weighted average issuing rates in 2018 on central government bonds with different maturities were all lower than the previous year, reflecting ample market liquidity and a drop in international oil prices. The issuing rate on 20-year bonds registered the largest decrease of 36 basis points, and second was that on 30-year bonds with a decrease of 34 basis points.

In terms of bonds issued by governments of special municipalities, all new bonds in 2018 were issued by the government of Kaohsiung Special Municipality with a total amount of NT\$14.6 billion. At the end of the year, the outstanding amount of bonds issued by governments of special municipalities totaled NT\$43.9 billion, up by NT\$2.3 billion or 5.65% from the previous year end.

Growth in Corporate Bond Issuance

Corporate bonds refer to NT dollar- or foreign currency-denominated bonds issued in Taiwan by domestic corporations. For the year 2018, the issuing amount of corporate bonds increased by NT\$26.6 billion or 6.90% to NT\$412.3 billion, mainly because corporations issued new bonds in order to roll over old ones and repay short-term loans.

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
2016	2,522.1	11,581.9	563.5	5,542.3	0.0	63.1	286.0	1,898.3	140.1	1,209.5	5.0	97.8	3.0	9.8	1,524.6	2,761.0
2017	2,122.1	12,659.9	400.0	5,594.8	0.0	41.6	385.7	1,938.1	189.5	1,227.3	0.0	95.6	7.7	14.5	1,139.2	3,748.0
2018	1,930.5	13,564.3	347.3	5,558.6	14.8	43.9	412.3	2,023.0	231.8	1,320.2	13.6	104.2	7.1	15.1	903.7	4,499.3
2018/ 1	207.9	12,712.7	25.0	5,504.8	0.0	41.6	43.8	1,945.8	6.8	1,232.7	0.0	95.8	0.0	14.3	132.3	3,877.9
2	209.8	12,852.3	25.0	5,499.9	0.0	41.6	2.4	1,936.1	31.8	1,257.5	0.0	96.0	1.8	16.1	148.8	4,005.3
3	266.8	12,971.8	25.0	5,449.9	0.0	41.6	23.5	1,941.3	53.1	1,291.0	0.0	92.8	0.0	15.9	165.2	4,139.4
4	275.6	13,214.4	25.0	5,474.9	0.0	41.6	18.3	1,936.8	26.5	1,312.8	0.0	92.5	0.0	15.3	205.8	4,340.6
5	222.4	13,358.3	20.0	5,494.9	0.0	41.6	70.2	1,984.1	15.9	1,310.0	0.0	91.6	0.6	15.9	115.7	4,420.2
6	170.0	13,458.7	37.3	5,532.2	0.0	41.6	65.1	1,998.0	9.9	1,308.7	3.0	94.3	0.4	16.1	54.4	4,467.9
7	126.3	13,546.3	25.0	5,557.2	0.0	41.6	56.6	2,027.8	11.5	1,311.6	0.0	94.3	0.6	15.5	32.6	4,498.5
8	76.4	13,557.6	25.0	5,582.2	0.0	41.6	25.5	2,018.2	7.5	1,309.5	0.0	94.3	0.9	13.9	17.5	4,498.0
9	95.9	13,524.1	40.0	5,542.2	0.0	41.6	31.7	2,029.5	19.9	1,312.9	0.0	94.2	0.6	14.1	3.7	4,489.7
10	83.0	13,493.4	25.0	5,513.6	14.8	43.9	20.2	2,024.0	3.8	1,302.6	0.0	94.7	1.0	14.8	18.3	4,499.8
11	97.7	13,521.9	40.0	5,523.6	0.0	43.9	31.0	2,033.0	19.9	1,307.2	0.0	93.5	0.4	14.5	6.4	4,506.3
12	98.8	13,564.3	35.0	5,558.6	0.0	43.9	24.0	2,023.0	25.4	1,320.2	10.6	104.2	0.8	15.1	3.1	4,499.3

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.

Regarding bond maturities, the majority of the issuance went for 5-year corporate bonds with a share of 43.92%, followed by 7-year bonds with 22.91%. The six largest corporate bond issuers were Taiwan Power Company, Fubon Life, China Steel Corporation, Hon Hai/Foxconn Technology Group, Far Eastern New Century Corporation, and Taiwan Mobile Co., Ltd., with a combined issuance amount of NT\$145.3 billion, accounting for 35.24% of total issuance.

At the end of 2018, the outstanding amount of corporate bonds totaled NT\$2,023.0 billion, expanding by NT\$84.9 billion or 4.38% from the previous year end.

Rise in Bank Debenture Issuance

For the year 2018, 28 domestic banks issued bank debentures in support of their funding needs, with an issuance amount of NT\$231.8 billion, increasing by NT\$42.3 billion or 22.31% over the previous year. The rise was largely because banks issued new debentures to lock in mid- to long-term funding costs at low levels amidst a low interest rate environment.

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. Subordinated debts made up the lion's share of 64.50% in total issuance.

As for 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. Therefore, the majority of the issuance went for senior bank debentures with lower issuing rates, amounting to NT\$99.0 billion.

In respect to the maturity of new issues, perpetual debentures made up a dominant 43.73% of total NT dollar bank debenture issuance, while 10-year, 3-year, and 7-year debentures accounted for 14.68%, 11.97%, and 11.63%, respectively.

In 2018, issuance of foreign currency bank debentures was primarily composed of 30-year debentures and perpetual debentures, with respective shares of 92.78% and 7.22%. At the end of the year, the outstanding amount of bank debentures was NT\$1,320.2 billion, expanding by NT\$92.8 billion or 7.56% from the previous year end.

Expanding Asset Securitization Products

New issues of asset securitization products amounted to NT\$13.6 billion for the entire year. The outstanding amount of asset securitization went up by NT\$8.6 billion or 8.94% from the previous year end to NT\$104.2 billion.

Contraction 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).

For the year 2018, issuance of foreign bonds totaled NT\$7.1 billion, a decrease of NT\$0.6 billion or 8.44% from a year earlier. At the end of the year, the outstanding amount of foreign bonds stood at NT\$15.1 billion, growing by NT\$0.7 billion or 4.50% over the previous year end.

Deceleration in International Bond Issuance

International bonds refer to corporate bonds issued in Taiwan by foreign institutions and are currently denominated in foreign currencies. In 2018, international bond issuance fell by NT\$235.5 billion or 20.67% from a year before to NT\$903.7 billion.

The Financial Supervisory Commission (FSC) announced the amendments to the Regulations Governing Foreign Investments by Insurance Companies on November 21, 2018. According to Article 10 of the Regulations, the total foreign investment amount (including investments in international bonds) of an insurer shall not exceed 145% of the insurer's approved foreign investment limit. Furthermore, the aforementioned total amounts of some insurers had nearly reached the limit prior to the promulgation of the amended regulations. Both factors caused demand for international bonds to soften compared to the previous year.

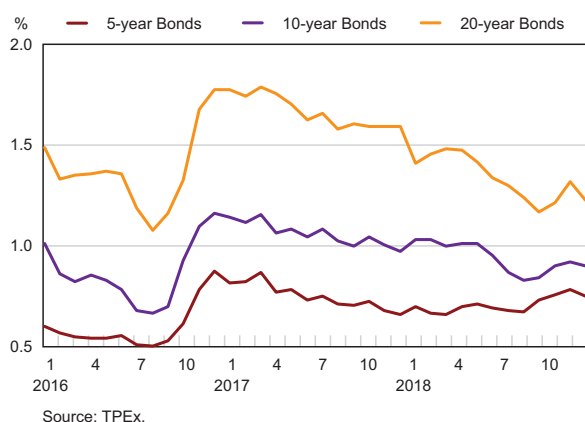
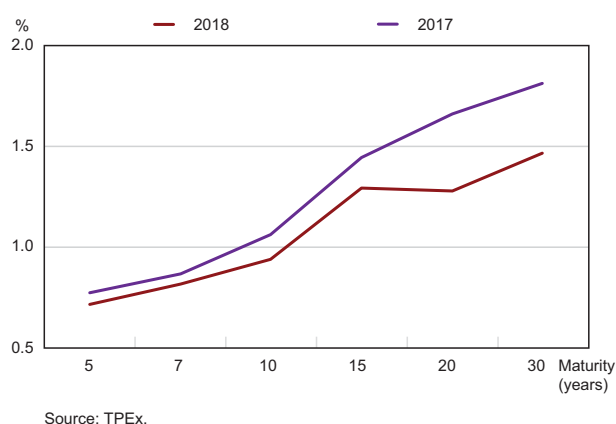
In terms of currency composition, issuance of US dollar-denominated, RMB-denominated, and ZAR-denominated bonds in 2018 stood at NT\$822.1 billion, NT\$79.6 billion, and NT\$0.3 billion, respectively. At the end of the year, the outstanding amount of international bonds reached NT\$4,499.3 billion, an increase of NT\$751.3 billion or 20.04% over the previous year end.

Downtrend in Average Government Bond Yields yet Uptick in Transactions

In 2018, on account of sufficient domestic liquidity and plunging international oil prices, the 10-year government bond yield moved downward and averaged 0.942% for the entire year, 12 basis points lower than the 1.064% of the previous year.

Compared to the previous year, the average yield curve of central government bonds shifted downward for the year 2018. The average yield on 20-year bonds recorded the biggest decline of 38 basis points over the previous year. Second was that on 30-year bonds with a decrease of 35 basis points. Moreover, average yields on 5-year, 7-year, and 15-year bonds in 2018 dropped by 6, 5, and 15 basis points, respectively, compared to 2017.

With regard to transaction volume, total bond transactions expanded by NT\$3,238.7 billion or 5.26% from the previous year to NT\$64,822.1 billion for the year 2018. The rise was because the growing domestic bond ETF market helped push up demand for bonds.

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

By type of bonds, the majority of total bond transactions went for government bonds with a share of 65.36% and an annual trading volume of NT\$42,369.8 billion. The second most actively traded were corporate bonds, making up 28.60% of total transactions with an annual trading volume of NT\$18,536.3 billion. Bank debentures came in third, contributing to 4.11% of total transactions with an annual trading volume of NT\$2,665.3 billion.

Meanwhile, international bonds, foreign bonds, and asset securitization products made up marginal shares of 1.17%, 0.14%, and 0.02% in total transactions, with their respective annual trading reaching NT\$1,149.7 billion, NT\$88.5 billion, and NT\$12.5 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				
2016	66,817.9	45,243.5	16,546.7	655.3	2,376.9	19.4	29.4	1,946.8
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
2018/ 1	6,394.2	4,392.1	1,556.2	88.5	190.0	1.3	5.4	160.7
2	3,889.1	2,506.3	1,009.1	61.0	141.9	0.2	8.7	162.0
3	5,711.7	3,825.9	1,377.3	82.8	249.6	1.3	7.9	166.9
4	4,865.1	3,238.9	1,228.0	63.8	228.0	1.2	5.7	99.4
5	5,872.9	3,873.6	1,541.5	77.8	253.3	1.2	8.3	117.1
6	5,509.4	3,503.6	1,572.2	102.0	212.9	1.2	6.8	110.8
7	5,858.1	3,764.6	1,690.1	77.0	264.7	1.2	7.3	53.1
8	5,933.3	3,897.7	1,616.7	88.2	256.9	1.2	7.0	65.6
9	5,047.2	3,303.8	1,396.5	78.5	216.2	0.0	4.7	47.5
10	5,683.6	3,763.6	1,522.3	88.7	234.3	1.2	14.1	59.5
11	5,196.3	3,332.9	1,514.8	76.4	207.5	1.2	5.8	57.8
12	4,861.1	2,966.9	1,528.4	98.4	210.1	1.2	6.8	49.2

Source: TPEX.

Central Bank Operations

III. Central Bank Operations

1. Overview

In 2018, the Bank observed that heightened uncertainties surrounding international economic and financial prospects could soften momentum for domestic economic expansion. Meanwhile, the output gap remained negative, and the inflation outlook was mild. Taiwan's interest rates still registered around the middle range among a host of economies. Against such a backdrop, the Bank kept policy rates on hold for the year 2018 to help foster price and financial stability and sustain economic growth.

To reinforce communication with the public about monetary policy, the Bank decided to live-stream the press conference following each Monetary Policy Meeting from June 2018 onwards. Furthermore, beginning from September 2018, the Monetary Policy Meeting would be held one hour earlier to allow sufficient time for the board directors to consider and discuss factors affecting economic and financial conditions and make appropriate monetary policy decisions.

In response to economic and financial conditions, the Bank continued to conduct open market operations by issuing certificates of deposit (CDs) to manage market liquidity, maintain reserve money at appropriate levels, and sustain steady growth in monetary aggregates.

In addition, to enhance financial institutions' flexibility in funding arrangements, the auction schedule of CDs would be announced on a quarterly basis instead of a monthly basis, starting from the third quarter of 2018. The outstanding amount of CDs issued by the Bank stood at NT\$7,816.7 billion at the end of the year, down by NT\$63.4 billion or 0.80% from the previous year end. In terms of money supply, the annual growth rate of reserve money averaged 5.61%, while M2 posted an annual growth rate of 3.52% for the year as a whole, within the Bank's target range of 2.5% to 6.5%.

With regard to macroprudential policy on the housing sector, as prices for high-value housing tend to be more volatile than ordinary housing, which raises banks' real estate-associated credit risks, the Bank decided to keep the regulations governing high-value housing loans in place over the year and continued to urge banks to strengthen risk management of real estate lending so as to sustain financial stability.

In respect of foreign exchange (FX) management, the Bank was dedicated to maintaining dynamic stability of the NT dollar throughout the year. The trading volumes of buying and selling currencies remained broadly balanced.

In addition, in order to promote authorized FX banks' competitiveness and quality of services, the Bank revised FX business related regulations, such as allowing authorized banks to accept customers' applications to open digital foreign currency deposit accounts online, and streamlining electronic FX services application procedures for banks.

In 2018, the Bank continued to improve financial market infrastructures to facilitate the development of financial inclusion. Meanwhile, the Bank stepped up efforts to closely monitor the latest trends in financial technology and assist financial institutions in developing innovative services and boosting the adoption of electronic payments. Related developments included suggesting the Financial Information Service Co., Ltd. to build a blockchain-based platform for financial audit verification, which commenced operation at the end of the year, and assisting financial institutions to promote the use of the mobile payment service "Taiwan Pay."

With the rapid development of electronic and mobile commerce, instant interbank clearing significantly increased year by year. To meet rising prefunding needs of financial institutions, the Bank raised the ceiling on the amount of financial institutions' end-of-day balances in the "Interbank Funds Transfer Guarantee Special Accounts" to be counted as part of the required reserves from 4% of the current month's required reserves to 8%, effective from January 4, 2019.

2. Monetary Management

Keeping Policy Rates Unchanged to Maintain Price and Financial Stability

While the global economy was clouded by many uncertainties in 2018, the domestic economy experienced a moderate recovery. The output gap remained negative, and inflation expectations were mild. Meanwhile, domestic nominal and real interest rates registered around the middle range among major economies. Against this backdrop, the Bank kept policy rates unchanged throughout the course of the year so as to maintain price and financial stability and achieve sustained economic growth.

At the end of 2018, 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 Sustain Steady Monetary Growth

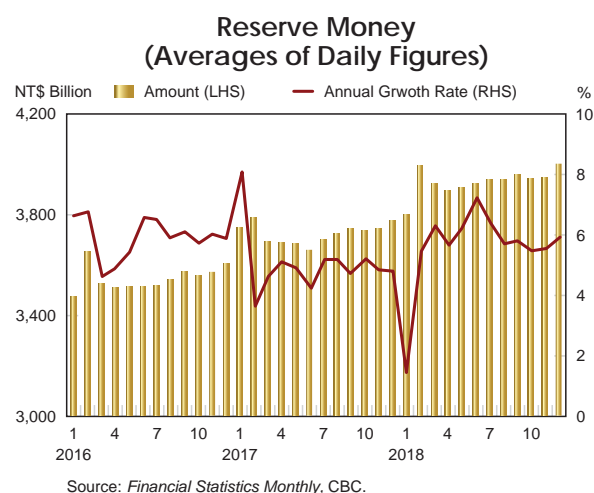
In 2018, the Bank managed market liquidity through open market operations by issuing certificates of deposit (CDs) in response to domestic economic conditions, which helped maintain reserve money, monetary aggregates and the overnight call loan rate at appropriate levels.

(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\$7,817 billion.

(2) Higher Growth in Reserve Money

Reserve money grew at a moderate pace for the year of 2018, recording a growth rate of 5.61%, 0.57 percentage points higher than the previous year's figure. In terms of the monthly movements of reserve money, the annual growth rates of reserve money for January and February are often more volatile as the exact timing of the Lunar New Year holidays shifts on the Gregorian calendar each year. In 2018, reserve money posted an average annual growth rate of 3.50% during this period. Monthly figures of



annual reserve money growth remained relatively stable from March onwards and reached a yearly high of 7.25% in June and a yearly low of 5.51% in October.

On the demand side, reserve money, measured on a daily average basis, increased by NT\$209 billion over the previous year. Of the components, net currency increased by NT\$135 billion and the annual growth rate slightly increased to 7.60% from 7.00% the previous year; reserves held by financial institutions expanded by NT\$74 billion, with the annual growth rate increasing to 3.80% from 3.32% 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.

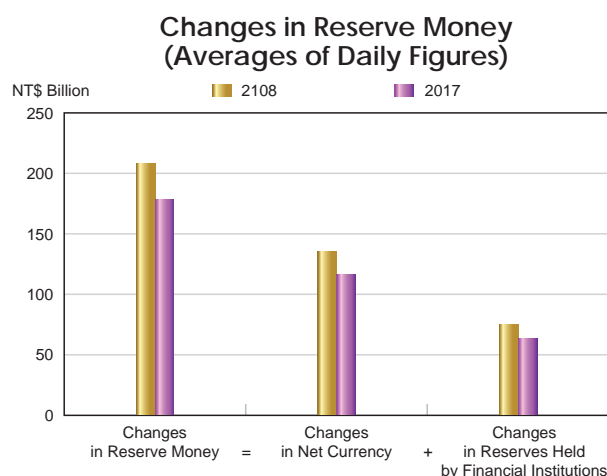
From the supply side perspective, reserve money increased by NT\$278 billion at the end of the year. The balance sheet of the Bank revealed the sources of changes in reserve money. The increase was mostly attributable to the growth in foreign assets held by the Bank and in claims on financial institutions, as well as the decrease in the issuance of CDs.

(3) Overnight Call Loan Rate Broadly Stable

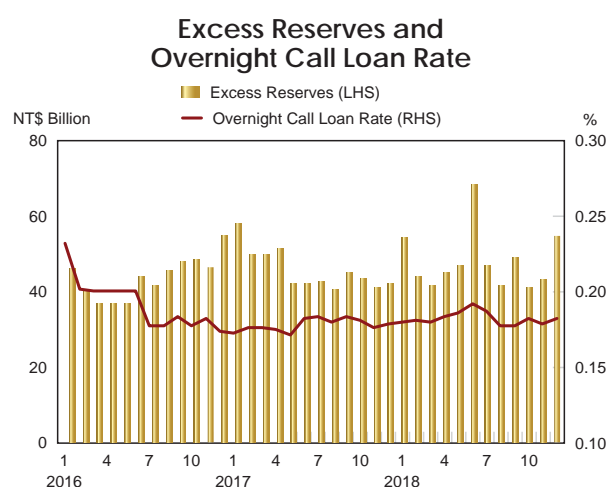
In 2018, the Bank continued to conduct open market operations to maintain excess reserves and the overnight call loan rate at appropriate levels. The annual average excess reserves of financial institutions reached NT\$48 billion, slightly higher than the NT\$46 billion of the previous year. The annual average overnight call loan rate remained broadly stable at around 0.180%.

(4) M2 Growth Slower but Within Target Range

The M2 growth target range for 2018 was set at 2.5% to 6.5%, same as the previous year. M2 recorded an annual growth rate of 3.52%, down by 0.23 percentage points from the previous year. The annual growth rates of M2 in every month of the year remained within the Bank's target range.



Source: *Financial Statistics Monthly*, CBC.



Source: *Financial Statistics Monthly*, CBC.

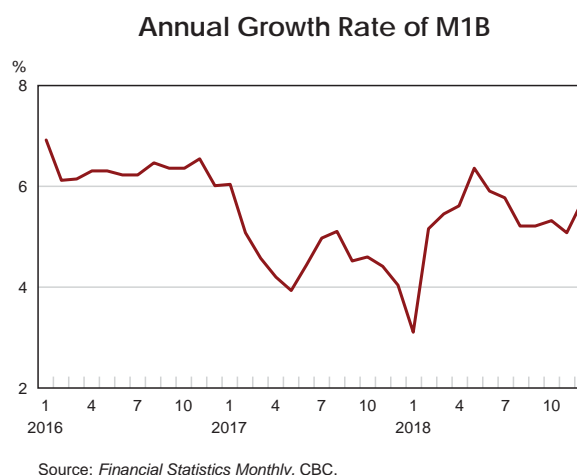
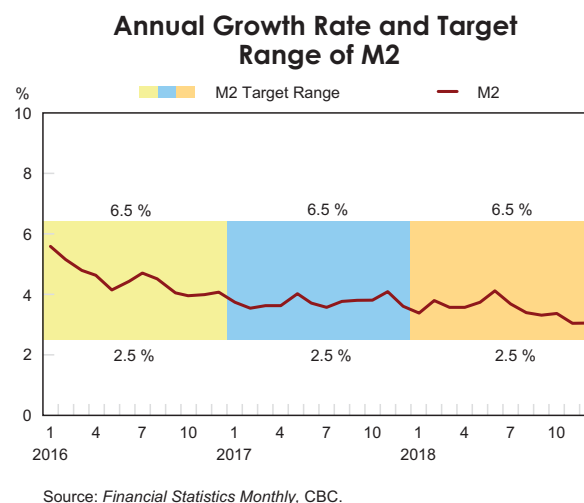
With regard to the monthly movements in 2018, the M2 growth rate trended upward for the first quarter, reflecting continuous growth in bank loans and investments, and reached 3.60% in March. Afterwards, despite net foreign capital outflows, stronger expansion in bank loans and investments lifted the pace of monthly M2 growth to its yearly high of 4.10% in June.

However, the M2 growth rate moved down to 3.68% in July, caused by slower growth in bank loans and investments and larger net foreign capital outflows. The M2 growth rate dropped further to 3.34% in September on account of softened growth in bank loans and investments and in foreign currency deposits. After slightly rising to 3.39% in October as growth in transaction deposits accelerated, the M2 growth rate declined in subsequent months and recorded an all-year low of 3.07% in December, dragged down by weaker growth in transaction deposits and net foreign capital outflows.

The monetary aggregate M1B rose at an annual rate of 5.32% in 2018 (on a daily average basis), 0.67 percentage points higher than the previous year's figure, primarily because of faster growth in transaction deposits.

As for the monthly movements of M1B, its annual growth rate reached a yearly low of 4.03% in January on account of diminished growth in bank loans and investments and a higher base effect with the Lunar New Year holidays falling in January in 2017. The M1B growth rate exhibited a steady uptrend from February to May owing to faster growth in transaction deposits and bank loans and investments and hit an all-year high of 6.35% in May.

From June onwards, the M1B growth rate moved downward as a result of softer growth in transaction deposits, slower expansion in bank loans and investments, and net foreign capital outflows. After ticking up in September and October, the M1B growth rate slid to 5.09% in November. Later, stronger growth in passbook savings deposits brought the M1B annual growth rate up to 5.69% in December.



Implementing the Net Stable Funding Ratio

To be in line with international standards and practices, the Financial Supervisory Commission (FSC) and the Bank jointly promulgated the net stable funding ratio (NSFR) regulations, effective from January 1, 2018. The introduction of the NSFR aims to strengthen the liquidity risk management of domestic banks. The NSFR is defined as the amount of available stable funding relative to the amount of required stable funding, and its statutory minimum standard is set at 100%. For the first three quarters of 2018, the NSFR of domestic banks averaged 133%, and all individual domestic banks' NSFRs met the minimum requirement during the period.

Continuing with Macroprudential Policy on High-Value Housing Loans

In 2018, housing prices fluctuated within a narrow range and home buyers remained cautious about the housing market outlook. However, given that largely volatile high-value housing prices could still raise banks' real estate-associated credit risks, the Bank kept the loan-to-value (LTV) ratio capped at 60% on high-value housing loans.

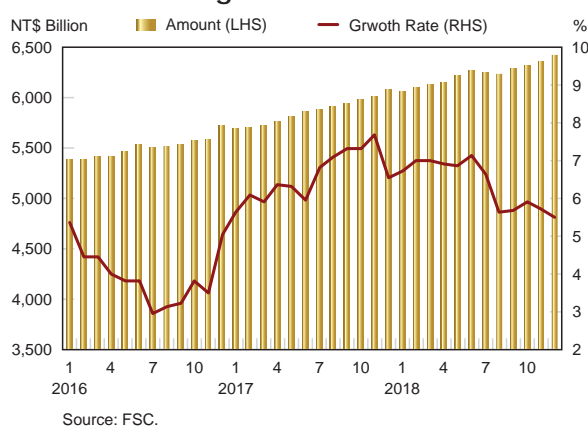
Looking ahead, the Bank will continue to keep a watchful eye on financial institutions' management of risks associated with real estate lending and developments in the housing market. Appropriate monetary policy actions will be adopted in a timely manner so as to ensure financial stability.

Facilitating SME Funding

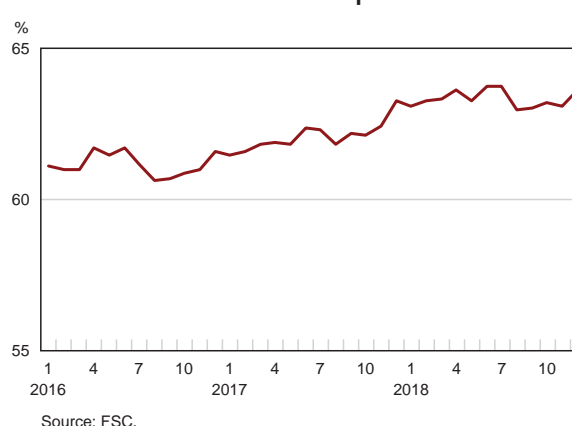
To sufficiently meet SMEs' funding needs, the FSC continued to encourage lending to SMEs by domestic banks, while the Bank also urged commercial banks to increase lending to SMEs.

At the end of 2018, the outstanding loans extended to SMEs by domestic banks amounted to

Outstanding Loans Extended to SMEs



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



NT\$6,438 billion, increasing by NT\$336 billion from the end of the previous year and far exceeding the annual target of increased lending of NT\$270 billion. Furthermore, the ratio of outstanding SME loans to those extended to private enterprises rose slightly from 63.28% at the end of 2017 to 63.63% at the end of 2018.

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 to promote financial stability. At the end of 2018, the outstanding redeposits of Chunghwa Post and the Agricultural Bank of Taiwan stayed broadly unchanged at NT\$1,624 billion and NT\$165 billion, respectively. Commercial banks' redeposits also remained unchanged at NT\$364 billion.

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

In early 2018, global trade growth gathered momentum, and the stock markets of major Asian emerging economies, including Taiwan, were favored by international investors. However, in the second quarter, as the escalation of US-China trade friction and financial turmoil in some emerging markets drove up pressures to sell in the Taiwan stock market, the NT dollar exchange rate against the US dollar significantly fluctuated. Therefore, in line with its legal mandate, the Bank stepped in as necessary to maintain the dynamic stability of the NT dollar exchange rate.

In the third quarter of 2018, global financial markets generally stabilized, though this was followed by a broad correction in the fourth quarter. Nevertheless, the NT dollar exchange rate against the US dollar was relatively stable. For the year as a whole, the Bank's total purchase and sale in the foreign exchange market roughly balanced each other out.

In 2018, the Bank continued to implement the Real-Time Reporting System for Large-Amount Foreign Exchange Transactions to maintain an orderly market. Moreover, reinforced examination efforts were made to ensure that forward transactions were based only on actual transactions. The Bank also urged authorized banks to enhance their exchange rate risk management in order to reduce FX market exposure of individual banks and to contain systemic risk. The Bank continued to strengthen targeted examinations on foreign exchange business in order to maintain the order of the FX market.

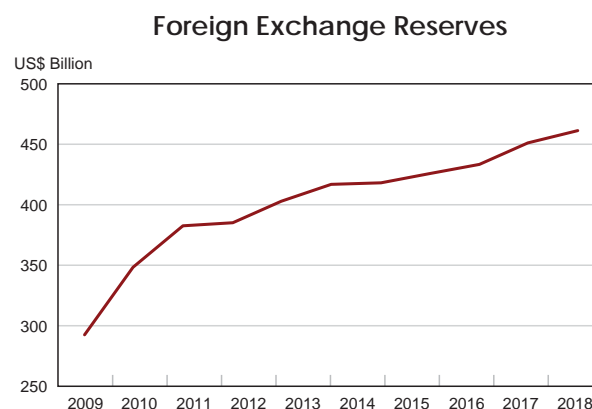
Foreign Currency Call Loan and Swap Market Management

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 provided seed funds for the Taipei Foreign Currency Call Loan Market, including US\$20 billion, €1 billion, and ¥80 billion.

Furthermore, to facilitate smooth corporate financing and provide sufficient foreign currency liquidity within the banking system, the Bank continued to conduct foreign currency swap transactions with banks and offered foreign currency call loans to banks.

Foreign Exchange Reserve Management

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.



Source: Department of Foreign Exchange, CBC.

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 the US dollar strengthened and US interest rates rose during 2018, Taiwan's total FX reserves stood at US\$461.8 billion at the end of the year, a US\$10.3 billion or 2.3% increase from the end of 2017, mainly attributable to returns from FX reserve investments after valuation effects.

Capital Flow Management

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 2018, 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 2018 included:

(1) Amending Corresponding FX Regulations

In line with the amendment to the *Company Act*, which abolished the foreign company approval system, the Bank amended the *Regulations Governing the Declaration of Foreign Exchange Receipts and Disbursements or Transactions* (hereinafter referred to as the *Regulations*), effective November 15.

Banking enterprises are now allowed to process settlements of foreign exchange sold by a representative office or a business office that does not have operating revenue in Taiwan to cover its office expenses, as defined in Article 3 of the *Regulations*.

In line with the relevant amendment of the *Regulations*, the Bank amended some contents in the *Directions for Banking Enterprises while Assisting Customers to Declare Foreign Exchange Receipts and Disbursements or Transactions*, and Table 1 of Direction 24 and Table 10 of Direction 26, effective November 15.

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

In 2018, the Bank approved fund-raising by domestic and foreign institutions through bond issuance, as shown in the following table.

CBC-Approved Fund-Raising by Domestic and Foreign Institutions

Institution	Method	Number	Amount
Foreign companies	NTD convertible bonds	15	NTD 7.7 billion
	IPO on TWSE & TPEX and registration on the Emerging Stock Board	19	NTD 8.5 billion
	International bonds	49	USD 27.8 billion
		13	RMB 20.3 billion
		3	ZAR 0.9 billion
Domestic companies	Overseas convertible bonds	2	USD 0.6 billion

Note: Taiwan Stock Exchange; Taipei Exchange.
Source: Department of Foreign Exchange, CBC.

In addition, on November 30, the Financial Supervisory Commission (FSC) gave the green light to the issuance of NTD-denominated foreign straight bonds domestically by foreign issuers, offered only to professional institutional investors. In the meantime, the Taipei Exchange promulgated the rules governing management of NTD-denominated international bonds.

(3) Approving Residents' Investments in Foreign Securities

In 2018, the Bank approved the following investments in foreign securities by residents:

Residents' investments in Foreign Securities Approved by the Bank

Institution	Method/Instrument	Amount
Securities investment trust enterprises (SITEs)	100 domestic SITE funds (including 52 NTD-foreign multiple currency SITE funds)	NTD 2,189.5 billion (including multiple currency funds: NTD 1,089.5 billion)
	4 SITE private funds	NTD 17.5 billion
	3 domestic futures trust funds for unspecified persons	NTD 60.0 billion
Life insurance companies	Non-discretionary money trusts managed by financial institutions	USD 0.7 billion
	Investment for their own accounts	USD 3.6 billion
	Lowering overseas investment hedge positions	USD 3.8 billion
Five major government pension funds and employment insurance fund	Investment for their own accounts	USD 2.3 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 2018, 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 2018 were as follows.

At the end of 2018, there were 3,444 authorized FX banks in total, which included 38 head offices and 3,368 branches of domestic banks, 35 branches of 29 foreign banks, three branches of Mainland Chinese banks, as well as 4,673 authorized money exchangers, post offices, and financial institutions authorized to engage in basic FX business.

On January 4, 2018, the Bank amended the *Regulations Governing Foreign Exchange Business of Banking Enterprises*, and the *Directions Governing Banking Enterprises for Operating Foreign Exchange Business*, and promulgated the *Directions Governing Authorized Banks for Operating Foreign Exchange Businesses Through Electronic or Communications Equipment*, in order to allow banking enterprises to open digital FX deposit accounts online for clients and simplify and upgrade the application for banks' FX business via electronic and communications equipment. The Bank also stipulated the procedures and rules for the authorized banks' various foreign currency trust businesses and foreign currency financial bonds issued abroad. The Bank urged banks to comply with the regulations on anti-money laundering/countering the financing of terrorism.

In accordance with the amendment of the *Company Act* and the recommendations of the Financial Action Task Force (FATF), on November 13, 2018, the Bank revised again the *Directions Governing Banking Enterprises for Operating Foreign Exchange Business*, amending the relevant regulations on grantors' remittances qualifications of non-discretionary money trust business and SWIFT messaging.

(2) Insurance Companies

Up to the end of 2018, 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 2018 foreign currency premium revenue was US\$33.5 billion, an increase of US\$1.8 billion or 5.55% over the previous year.

(3) Securities Firms

The approved cases granted by the Bank for securities firms to engage in FX business as of 2018 are shown in the following table.

Approved Cases for Securities Firms to Conduct FX Business in 2018

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	4
Foreign currency spot exchange transactions	1

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 2018 are shown in the following table.

Approved Cases for Investment Trust/Consulting Firms and Futures Firms to Conduct FX Business (as of the End of 2018)

Institution	FX Business	Number
Investment trust and investment consulting firms	Serving as mandated institution of private offshore funds	2
	Conducting public offer or private placement of foreign currency- denominated funds	7
Futures firms concurrently operating as leverage transaction merchants	Foreign currency margin trading	1

Source: Department of Foreign Exchange, CBC.

(5) Bills Finance Firms

In line with the opening of the foreign currency-denominated derivative business conducted by bills finance firms, on November 12, the Bank promulgated the rules for bills finance firms to, as business units, apply for operating the business of FX derivatives involving interest rates, as well as other matters for compliance.

(6) Offshore Banking Units (OBUs)

At the end of 2018, the number of OBUs was 60, and total OBU assets reached US\$201.0 billion, which was US\$2.0 billion or 1.0% less than the end of the previous year. The sum of OBU post-tax net profit was US\$2.8 billion, an increase of US\$0.1 billion or 5.2% from a year before.

(7) Offshore Securities Units (OSUs)

At the end of 2018, there were 19 OSUs, and total OSU assets reached US\$4.4 billion, which was US\$0.8 billion or 14.7% less than the previous year end. The total OSU profits turned into a net post-tax loss of US\$20.1 million in 2018, a decrease of US\$113.0 million from the net profits of US\$92.9 million of 2017.

(8) Offshore Insurance Units (OIUs)

As of the end of 2018, there were 20 OIUs, with a total amount of assets of US\$0.8 billion, which was US\$0.3 billion or 70.7% more than the previous year end. A total OIU post-tax loss turned into a net post-tax profit of US\$1.9 million in 2018, an increase of US\$16.2 million from the net loss of US\$14.3 million of 2017.

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. The platform offers services for domestic and cross-border remittances (including cross-strait) of the US dollar, the renminbi, the Japanese yen and the euro, and domestic remittances of 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.

The Development of Domestic Foreign Currency Settlement Business

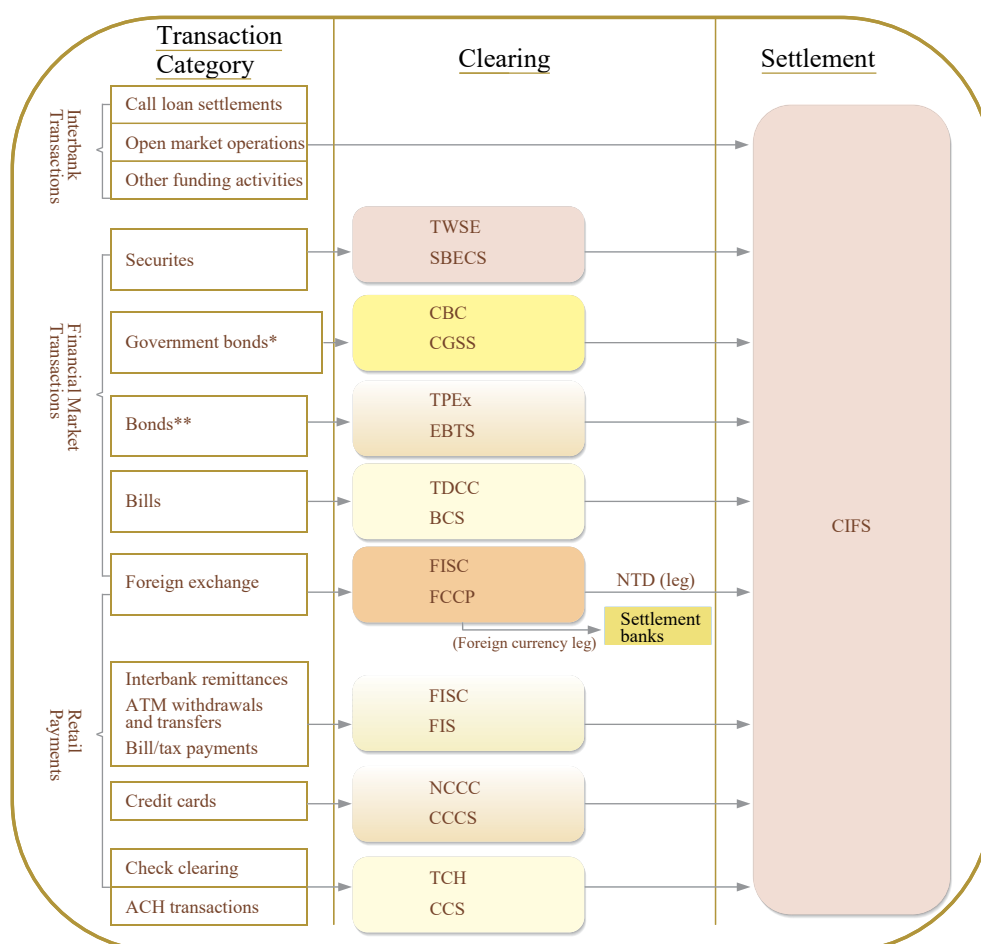
Currency	Domestic Participating Units	Settlements in 2018	
		Transactions	Amount
US dollar	69	1,247,693	USD 1,951.5 billion
Renminbi	61	2572,984	RMB 394.7 billion
Yen	41	32,082	JPY 1,231.2 billion
Euro	40	19,058	EUR 5.7 billion
Australian dollar	29	15,000	AUD 1.6 million

Source: Department of Foreign Exchange, CBC.

4. Payment and Settlement Systems

Serving as the hub of Taiwan's payment and settlement system, the Bank's CBC Interbank Funds Transfer System (CIFS) links 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 Central Government Securities Settlement System (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

The CIFS is a large-value electronic funds transfer system. In addition to dealing with interbank funding, open market operations, and funds settlements in financial markets, the CIFS also provides interbank final settlement services for each clearing institution.

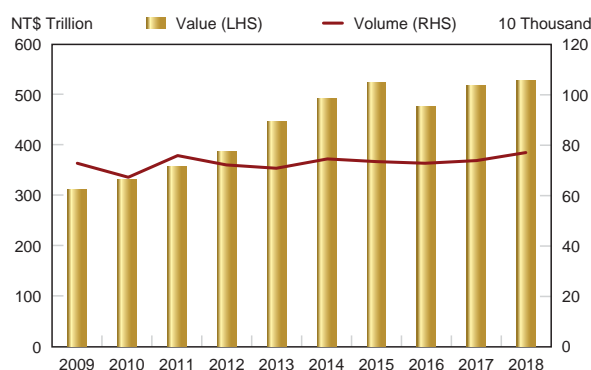
At the end of 2018, participants of the CIFS included 67 banks, eight bills finance companies, and seven other institutions including Chunghwa Post, the FISC, the TCH, the TWSE, the TPEX, the TDCC, and the NCCC. In the year 2018, the number of transactions via the CIFS was 766,419, and the amount of funds transferred totaled NT\$526 trillion. Meanwhile, the daily average number of transactions via the CIFS was 3,078 and the daily average amount of funds transferred was NT\$2,113.7 billion, increasing by 3.87% and 1.30% over the previous year, respectively.

(2) Transactions via the CGSS

The CGSS was established in September 1997. It 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.

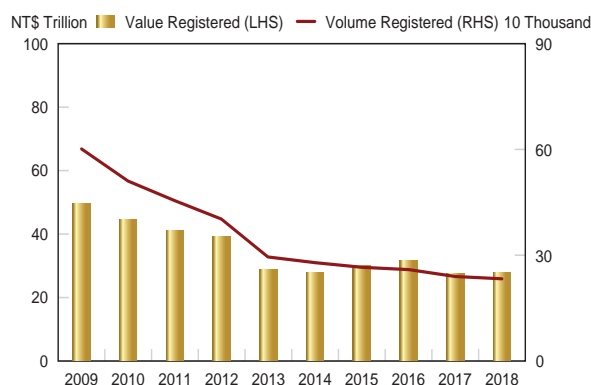
The CGSS linked up with the CIFS in April 2008. Since then, fund settlements, principal redemptions, and interest payments have been handled through the CIFS using a delivery-versus-payment (DVP) mode. The DVP mode, promoted by the BIS, is an arrangement in a securities settlement system

Transaction Value and Volume of the CIFS



Source: Department of Banking, CBC.

Transaction Value and Volume of the CGSS



Source: Department of Treasury, CBC.

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 2018, there were 17 clearing banks with 1,694 branches that handled the registration of central government securities transfers. In 2018 there were 229,983 transfers with a total amount of NT\$27.6 trillion were processed by this system.

Oversight of Payment and Settlement Systems

The Bank monitors the payment and settlement systems on a periodic basis to maintain their safety and efficiency. In 2018, the Bank's monitoring activities in this regard included the following:

- (1) Continuing to monitor the operation of the payment and settlement systems. In 2018, 14 applications for the CIFS operation time extensions were filed by participating institutions owing to system malfunctions or other contingencies. The Bank required these institutions to submit improvement reports.
- (2) Requiring payment system operators and payment instrument issuers to provide information about their operations and activities on a regular basis.
- (3) Supervising clearing institutions to perform dry runs on remote backup operations to ensure business continuity in case of emergency. For year 2018, the FISC conducted its drill in July, while the TDCC held its drills in May and November.
- (4) Inviting 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 closely monitor the development of financial technology (fintech), strengthen information security, and put backup systems in place.
The conferences were convened separately by type of business. The meeting 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) Enacting and revising rules and regulations associated with the *Foundations Act*, which was promulgated on August 1, 2018, and would be effective from February 1, 2019. Relevant regulations and amendments made by the Bank aimed to reinforce the oversight of the TCH and would come into force on February 1, 2019, to be in line with the *Act*.

Improving Financial Market Infrastructures to Promote Financial Inclusion

To foster the development of financial inclusion, the Bank continued to strengthen financial market infrastructures and undertook the following actions:

- (1) Raising the ceiling on the amount of financial institutions' end-of-day balances in the "Interbank Funds Transfer Guarantee Special Accounts" to be counted as part of the required reserves from 4% of the current month's required reserves to 8%, effective from January 4, 2019. This was to meet rising prefunding needs of financial institutions arising from significantly increased instant interbank funds transfers.
- (2) Urging the FISC to reduce service fees charged to banks for its interbank information service after the FSC requested the FISC and related banks to collaboratively consider lowering processing fees for small-value ATM interbank funds transfers. The preferential processing fees for interbank transfers under NT\$1,000, approved by the FSC, would go into effect on April 1, 2019.
- (3) Keeping close watch on fintech trends and assisting financial institutions to develop innovative services. For example, the Bank suggested the FISC construct a blockchain-based platform for financial audit verification, which was officially launched at the end of 2018. Meanwhile, the Bank continued to assist financial institutions to promote the adoption of Taiwan Pay, a QR code based mobile payment service. In addition, the Bank instructed the TCH to carry out an outsourced research program with a focus on the applications of distributed ledger technology (DLT) in the CGSS.

5. Currency Issuance

As the sole agency with the authority to issue banknotes and coins, the Bank is committed to providing the public with a stable and reliable currency to facilitate economic activity and maintain public confidence in the currency.

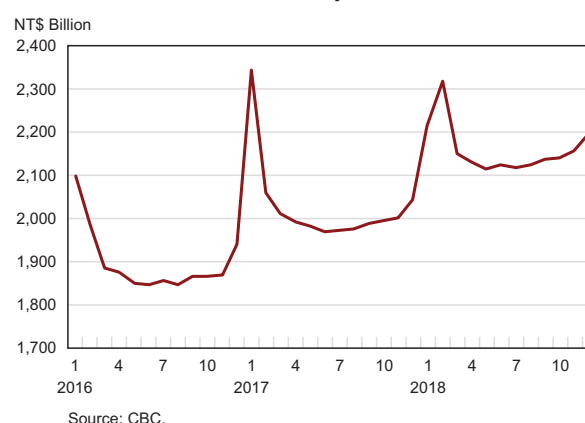
During 2018, the Bank ensured a stable currency supply in response to currency demand, which is dependent on domestic economic conditions, seasonal factors, and the development of non-cash payment instruments. The Bank also issued commemorative coin sets to mark national events. In addition, the Bank strove to promote public understanding regarding counterfeit deterrence and currency security.

Currency Issuance Increased to Meet Currency Demand

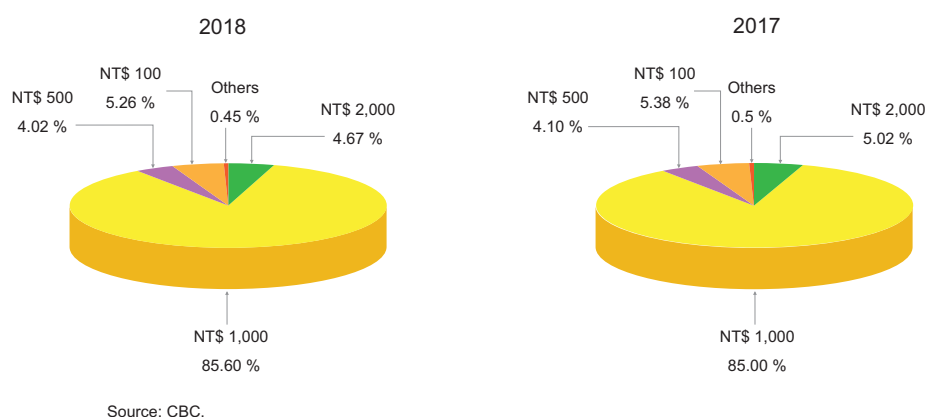
In 2018, the Bank provided an adequate amount of currency in response to currency demand. The currency issued peaked at NT\$2,474.3 billion on February 14, the last business day before the Lunar New Year holidays, reflecting a temporary seasonal surge in cash demand. At the year end, the outstanding amount of currency issued was NT\$2,197.3 billion, rising by NT\$155.1 billion or 7.60% over the previous year end.

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

Currency Issued



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

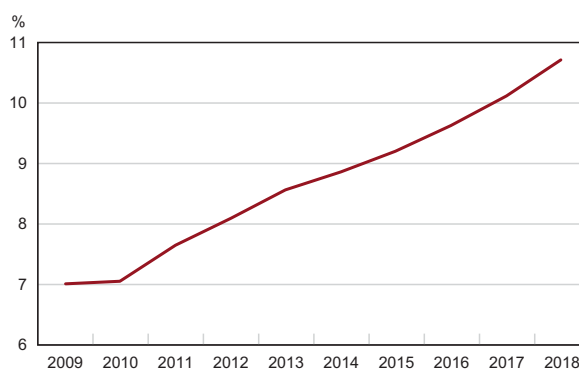


of 2018 was similar to the end of 2017. The majority of circulating banknotes went for the NT\$1,000 note with a share of 85.60%. The NT\$100 and NT\$2,000 notes came in second and third with shares of 5.26% and 4.67%, respectively.

Currency in Circulation to GDP Moved 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 10.73% in 2018, 0.60 percentage points higher than the 10.13% 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 2018, the Bank issued a casting set of coins for the Chinese Zodiac Year of the Dog, and the seventh coin set of the National Parks of Taiwan series - Dongsha Atoll National Park.



Source: CBC.

Efforts Were Made to Enhance Public Awareness of Counterfeit Currency

With the aim of protecting the rights of the public and the currency's credibility, the Bank continued its efforts on counterfeit prevention by raising awareness of counterfeit currency. In 2018,

the Bank strengthened public education on the security features of NT dollar notes and coins to help individuals quickly identify counterfeits. Educational materials were provided through various channels such as the Bank's website, the Virtual Money Museum of the Bank, television, radio, and YouTube. Leaflets were also distributed to the public, financial institutions and government agencies.

Box

The Role of Cash in Taiwan's Payment Systems

The rapid development of electronic payments in recent years has brought about the issue of whether to move toward a “cashless society.” The statistical data of most major economies point to the fact that their currency issuance has grown in synchronization with electronic payments, and Taiwan is no exception. Therefore, the news reports claiming that cash would disappear anytime soon seem to be exaggerated. In line with government policy, the Bank has continued its efforts to promote the development of electronic payments in Taiwan. Meanwhile, cash remains an integral part of real economic activity, and the Bank ensures an adequate supply of cash to meet the public's demand so as to maintain the smooth functioning of the economy and the financial system.

1. Continuous Growth in Cash Demand in Most Economies

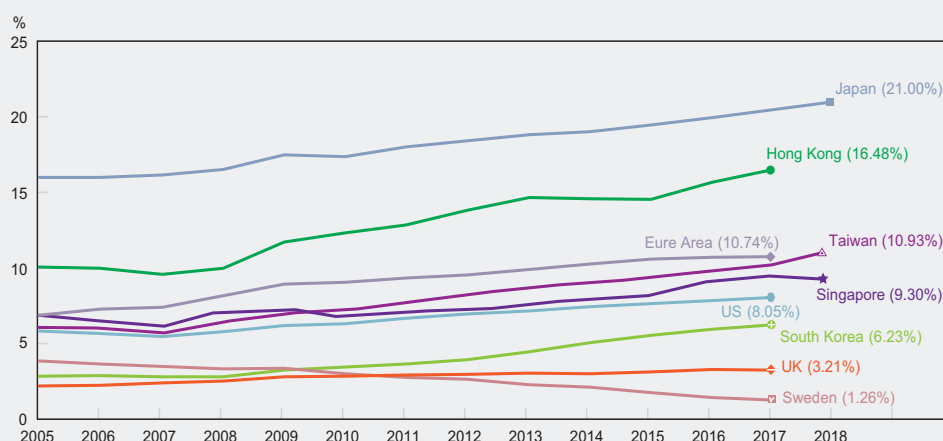
For more than a decade, the world has witnessed a broad trend of continuous expansion in currency issuance. The annual growth rates of currency issuance have been higher than those of nominal GDP, causing currency issuance to GDP ratios to display upward trends in most countries, including Taiwan. This demonstrates that cash is still an essential payment instrument despite the flourishing development of electronic payment services.

Among major economies, Sweden was the only one with a currency issuance to GDP ratio lower than 2% on average from 2005 to 2018 and declining, whereas such ratios in other countries broadly range from 5% to 20% for the same period and have shown steady uptrends. Taiwan has seen currency issuance as a percentage of GDP rise year by year from 6.04% in 2005 to 10.93% in 2018.

Demand for cash varies significantly across countries, mainly affected by a string of factors such as the usage habits of local consumers and retailers, the development of the payment market, and cultural differences. In Sweden, low population density adds to the difficulty in cash distribution, while a small number of banks dominate the market of electronic payment instruments, leading cash demand to decline year by year, which is quite different from Taiwan's case.¹

¹ Department of Statistics, Ministry of Economic Affairs (2018), “Trade and Food Services Operations Surveys,” Oct. According to the report, cash payments account for the largest share of retail payments in Taiwan. In supermarkets and convenience stores, nearly 80% of consumers pay in cash, indicating that cash remains a dominant means of payment in small-value retail transactions.

Ratios of Currency Issuance to Nominal GDP in Major Economies



Note: Data on currency issuance are year-end figures; GDP figures of 2018 for Japan, Taiwan, and Singapore are preliminary estimates.

Sources: Aremos; Thomson Reuters Datastream; Department of Issuing, CBC; DGBAS.

2. Unique Benefits and Necessity of Cash in Payment Systems

Sweden is considered a pioneer of the cashless society, yet the Riksbank, Sweden's central bank, pointed out several risks arising from a cashless economy. Moreover, an increasing number of central banks and relevant studies advocated the irreplaceable advantages of cash and the necessity of its existence.

2.1 Unique Benefits of Cash

For small retailers, benefits of cash payments include low transaction costs, real-time clearing, and a high prevalence. Furthermore, users do not need to afford additional service charges or install terminal devices. With its legal tender status,² cash is deemed the safest payment tool. An ECB study also found that cash has been a dominant payment instrument in small-value transactions.³

In addition, cash also serves as a store of value. As indicated in a study by the BIS,⁴ cash demand has risen in most advanced economies since the global financial crisis. This resurgence appeared to be driven in part by a lower opportunity cost of holding cash (primarily referring to bank deposit rates) and by store-of-value motives of the public to increase cash holdings, reflecting their loss of confidence in the banking system.

² This refers to the NT dollar as a legally defined means of payment valid for meeting debt obligations. If a creditor refuses payment when a debtor repays debt with legal tender, the creditor would be liable for the default, unless the creditor and the debtor have separate agreements.

³ Currency News (2017), "ECB Study: Cash Remains Dominant Throughout the Eurozone," Currency News, Volume 15, No.12, pp.6-7, Dec.; Esselink, Henk and Lola Hernandez (2017), "The Use of Cash by Households in the Euro Area," *European Central Bank Occasional Paper Series*, No. 201, Nov. The field work was carried out in three waves from October 2015 to July 2016 through online surveys, telephone interviews, and face-to-face interviews. Around 65,000 respondents from 17 member countries participated in the survey, reporting nearly 130,000 transactions in the euro area for analysis.

⁴ Bech, Morten, Umar Faruqui, Frederik Ougaard and Cristina Picillo (2018), "Payments are A-Changin' But Cash Still Rules," *BIS Quarterly Review*, Mar.11.

2.2 Potential Risks of a Cashless Society Reflecting the Necessity of Cash

Going completely cashless may cause hardship for the disadvantaged such as the elderly and the visually impaired in making payments and would further widen differences among social classes.⁵ In addition, if non-cash payment systems are concentrated in just a few private institutions, this would create potential risks of bankruptcy or monopoly, thereby leading users' rights to be exploited.

On top of that, the use of non-cash payment instruments must rely on electronic facilities. Once contingencies such as system malfunctions or power outages occur, the payment systems would be entirely paralyzed, thus compromising the smooth functioning of the real economy. It is also possible for electronic facilities to be invaded by hackers, which may cause unauthorized transactions or theft of users' assets.

3. Policy Stance of Major Central Banks and the Bank on Cash Payments

To deal with the issue of a cashless society, the Riksbank has urged the Swedish parliament to amend relevant regulations to ensure access to cash for the public. The People's Bank of China prohibits retailers or individuals from refusing cash payments to avoid undermining the legal tender status of the renminbi. Meanwhile, central banks in many countries share the view that cash remains needed as a well-functioning means of payment, and advocate to ensure the status of cash through agreements or legislation.⁶

In recent years, Taiwan has seen enhanced efforts in increasing the penetration rate of electronic payments. For example, the Financial Supervisory Commission has proposed a plan of boosting the ratio of electronic payments to private consumption to 52% by 2020. The Executive Yuan also announced a policy target of 90% mobile payment penetration by 2025. In the meantime, the Bank has instructed the Financial Information Service Co., Ltd. to take relevant measures in accordance with the policies above.

Moreover, the Bank raised the ceiling on the amount of financial institutions' end-of-day balances in the "Interbank Funds Transfer Guarantee Special Accounts" to be counted as part of the required reserves from 4% of the current month's required reserves to 8%, effective from January 4, 2019. This adjustment aimed to ensure that retail payment systems operate smoothly at all times.

Nevertheless, as a cashless economy may face a multitude of risks as mentioned before, cash remains an irreplaceable payment method in the short term. So long as the public still have needs for cash usage, the Bank would ensure an adequate supply of cash to maintain the smooth functioning of the economy and the financial system.

⁵ McCart, Melissa (2018), "The Problem with Cashless Restaurants," *Eater*, Feb. 15.

⁶ Scholten, Bram (2017), "Decline Management: The Case of Cash," presented at Deutsche Bundesbank International Cash Conference in Mainau Island, Apr. 25-27.

6. Fiscal Agency Functions

The Bank, as the fiscal agent of the government, provides services for the national treasury, including 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 offer convenient services for government agencies and the general public, the Bank delegates the handling of treasury business to 14 financial institutions and their 363 branches, including three overseas branches located in New York, Los Angeles, and Paris. In addition, there are another 4,731 national tax collection agencies set in financial institutions. In 2018, the Bank received a total of NT\$3,251.1 billion in treasury deposits, increasing by NT\$35.2 billion or 1.09% from 2017. Payments made on behalf of the national treasury were NT\$3,251.4 billion, an increase of NT\$27.9 billion or 0.87% over the previous year. At the end of 2018, the TDA balance was NT\$19.5 billion, a decline of NT\$0.3 billion or 1.52% from the end of 2017.

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 2018, the balance of central government agencies' deposits with the Bank amounted to NT\$170.9 billion, an increase of NT\$14.1 billion or 8.99% over the previous year. Deposits with other delegated banks were NT\$561.7 billion at the end of 2018, increasing by NT\$27.0 billion or 5.05%.

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 56 domestic dealers qualified to directly participate in the auctions, including 23 banks, 19 securities companies, eight bills finance companies, five insurance companies, and Chunghwa Post.

In 2018, the Bank conducted 16 issues of central government bonds in book-entry form worth NT\$347.3 billion. Of this amount, 10-year bonds accounted for the lion's share of 41.75%, with NT\$145.0 billion, followed by 5-year bonds, 25.91% with an amount of NT\$90.0 billion.

In addition, the Bank paid NT\$383.5 billion in principal and NT\$106.2 billion in interest for central government bonds. At the end of 2018, the outstanding amount of central government bonds was NT\$5,558.6 billion, slightly decreasing by NT\$36.2 billion or 0.65% from the end of 2017.

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 2018, the Bank conducted five issues of book-entry treasury bills with a total amount of NT\$160.0 billion. The majority of the issuance went for 182-day bills with NT\$60.0 billion, or a share of 37.5%. At the end of 2018, the outstanding amount of treasury bills was NT\$30.0 billion, an increase of NT\$5.0 billion or 20% from the previous year end.

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 an off-site monitoring 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.

On-Site Examination

Targeted examinations in 2018 were conducted on interbank funds transfers and settlements business, disclosure of housing loan information by financial institutions, high-priced housing loans, mortgage grace periods, counterfeit money detection (either in terms of the NT dollar or foreign currency), foreign exchange remittances, foreign exchange transfer telegrams or messages, foreign currency loans and guarantees, accuracy of submission of financial statements and reports of offshore banking units as well as reports of term-to-maturity analysis of NT dollar assets/liabilities, etc.

Follow-up on Examination Findings

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, the Bank continued to track whether the financial institutions under inspection had improved their operations to ensure the effectiveness of the Bank's policies.

Strengthening Off-Site Monitoring

To respond to changing financial conditions and regulatory amendments and to keep good track of financial institutions' business operations, 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 2018 included the following:

- (1) In accordance with the new version of *International Financial Reporting Standard 9 (IFRS 9)*, ratio formulas and analytical categories of the report audit system, the format of quarterly reports on the *Condition and Performance of Domestic Banks*, and the declaration format and content of the one-stop declaration window were all modified.
- (2) To meet the need for regulatory changes and financial supervision, several reporting requirements were modified. The Bank's newly required reporting of two forms, namely the *Concise Reporting*

Table of Financial Statements and Business Affairs of Overseas Branches of Domestic Banks, and the *Concise Reporting Table of Financial Statements and Business Affairs of Oversea Subsidiaries of Domestic Banks* was introduced. The Bank also modified the *Credit Services Reporting Table* for domestic banks and local branches of foreign and mainland banks, and the reporting formats and contents of the Term to Maturity analysis of NT Dollar Assets/Liabilities Reports by bills finance companies.

- (3) To meet regulatory requirements of banks' capital adequacy ratios and liquidity coverage ratios, minimum requirements and grading standards of the Common Equity ratio, Tier 1 Capital Ratio, Capital Adequacy Ratio of domestic banks and minimum standards of Liquidity Coverage Ratio were all modified.
- (4) To strengthen liquidity risks analysis and regulatory compliance of domestic banks, the grading criteria of the Net Stable Funding Ratio was added to the categories of liquidity and regulatory compliance analysis of financial supervision. The quarterly reports on *the Condition and Performance of Domestic Banks* would also need to include the Net Stable Funding Ratio item.
- (5) To understand credit risks in the transactions of financial derivatives, the grading criteria of the Gross Positive Fair Value of Derivative Financial Instruments (GPFV) was added to the categories of business strategy and stability analysis of financial supervision.
- (6) In line with relevant regulatory changes, the requirements concerning loan to equity ratios of local branches of foreign and mainland banks in the compliance analysis of financial surveillance were adjusted.
- (7) To monitor operational risks of bills finance companies, new categories, namely operating and management strategy and liquidity analysis, as well as relevant ratios, 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

In addition to the financial soundness indicators and credit and market risks models, the Bank also developed a Graphical User Interface of Credit and Market Risks Models and continued to regularly publish the Financial Stability Report to help financial authorities, financial institutions, and

the financial community understand current situations and sources of risks and to promote cross-border communication and information sharing.

International Cooperation in Financial Supervision

In 2018, the Bank continued to actively engage in international cooperation related to financial supervision, such as attending the 9th SEACEN Meeting of Deputy Governors in Charge of Financial Stability and Banking Supervision, the 20th SEACEN-FSI Conference of the Directors of Supervision of Asia-Pacific Economies, and the 31st Meeting of Directors of Supervision of SEACEN Members. The Bank also received high-level officials, who came to Taiwan to participate the Asia Financial Supervision Conference.

8. Participation in International Activities

The Bank continued its efforts in contributing to international activities during 2018. 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 information and exchange opinions on macroeconomic and financial issues.

In 2018, the Bank attended the 54th annual conference of governors held by SEACEN in Colombo, Sri Lanka, from November 29 to December 2. At this conference, the Bank exchanged views with other member banks on a number of issues, including the implications of rapid technological changes for future currency issuance, monetary policy challenges arising from a persistently low inflation environment, and policy responses to external shocks such as volatile capital flows. Moreover, the Bank hosted the SEACEN Signature Course on Macroeconomic and Monetary Policy Management during July 22 to 27.

Meanwhile, the Bank participated in the meetings held by other international organizations, such as the IDB's annual meeting of the Board of Governors held in Mendoza, Argentina, from March 22 to 25, the CABEI's Ordinary Meeting of the Board of Governors in La Romana, the Dominican Republic, on April 26 and 27, the ADB's annual meeting in Manila, the Philippines, from May 3 to 6, the BIS' annual general meeting in Basel, Switzerland, on June 23 and 24, and the APG's annual meeting in Kathmandu, Nepal, from July 23 to 27. In addition, the Bank attended the third round of the APG Mutual Evaluation in Taiwan from November 5 to 16.



Chronology of Events of the CBC in 2018

Chronology of Events of the CBC in 2018

Date	Event
Jan. 1	The Standards Implementing the Net Stable Funding Ratios of banks, enforced jointly by the FSC and the CBC, took effect.
4	The CBC amended the <i>Regulations Governing Foreign Exchange Business of Banking Enterprises</i> and the <i>Directions Governing Banking Enterprises for Operating Foreign Exchange Business</i> , and promulgated the <i>Directions Governing Authorized Banks for Operating Foreign Exchange Businesses through Electronic and Communications Equipment</i> to allow banks to open digital foreign exchange deposit accounts online for clients and to simplify application procedures for online foreign exchange businesses, effective from January 6, 2018.
25	The CBC issued a commemorative coin set for 2018, the Chinese Zodiac Year of the Dog.
Mar. 22	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. 19	To further promote public understanding of monetary policy making, the CBC decided to offer live streaming of the press conferences held after the quarterly rate-setting Board Meetings, beginning June 21, 2018.
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.
25	From the third quarter of 2018 onwards, the CBC would begin to announce the provisional auction schedule of CDs on a quarterly basis.
28	The CBC amended the <i>Regulations Governing the Establishment and Administration of Foreign Currency Exchange Counters</i> , taking effect from August 1, 2018, to urge such counters to comply with the relevant regulations on anti-money laundering and combating the financing of terrorism.

Date	Event
Sep. 27	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.
Nov. 13	In line with the amendment to the <i>Company Act</i> , in which the recognition regime for foreign companies was abolished, the CBC amended the <i>Directions Governing Banking Enterprises for Operating Foreign Exchange Business</i> , the <i>Regulations Governing the Declaration of Foreign Exchange Receipts and Disbursements or Transactions</i> , and the <i>Directions for Banking Enterprises while Assisting Customers to Declare Foreign Exchange Receipts and Disbursements or Transactions</i> , all of which to be effective from November 15, 2018.
15	The CBC issued the New Taiwan dollar uncirculated coin set of the National Parks of Taiwan series - Dongsha Atoll National Park.
21	The CBC raised the ceiling ratio for the daily balance of the “interbank funds transfer guarantee special accounts” of financial institutions to be counted as part of the required reserves from 4% to 8%, effective from January 4, 2019.
Dec. 20	<p>The CBC's Board decided on the following measures:</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. Keeping the target range of M2 growth for 2019 unchanged at 2.5% to 6.5%.

Financial Statements of the CBC

1. Balance Sheet

Unit: NT\$ Million				
	December 31 2018	December 31 2017	Change	
			Amount	%
Assets				
Foreign Assets	14,349,642	13,629,492	720,150	5.28
Due from Domestic Banks	981,958	898,461	83,497	9.29
Loans and Accommodations to Financial Institutions	227,314	225,532	1,782	0.79
Other Assets	921,312	1,008,787	-87,475	-8.67
Total Assets	16,480,226	15,762,272	717,954	4.55
Liabilities				
Currency Issued	2,197,292	2,042,185	155,107	7.60
Deposits of Financial Institutions	1,866,420	1,743,038	123,382	7.08
Certificates of Deposit Issued	7,816,730	7,880,140	-63,410	-0.80
Redeposits of Financial Institutions	2,163,450	2,161,255	2,195	0.10
Government Deposits	190,870	176,862	14,008	7.92
Other Liabilities	1,167,974	740,684	427,290	57.69
Total Liabilities	15,402,736	14,744,164	658,572	4.47
Equity	1,077,490	1,018,108	59,382	5.83
Total Liabilities and Equity	16,480,226	15,762,272	717,954	4.55

Note: Figures for 2018 are unaudited. Figures for 2017 are audited by the National Audit Office.

2. Income Statement

Unit: NT\$ Million		
	2018	2017
Income		
Interest Income	410,446	384,083
Fee Income	77	86
Foreign Exchange Gains	76,758	49,678
Revenue from Trust Investment	6,907	7,399
Subsidiaries Investment Income	1,790	1,821
Others	1,226	498
Total Income	497,204	443,565
Expenses		
Interest Expenses	84,742	73,658
Fee Expenses	203	191
Expenses for Coin Issuance	1,676	1,647
Expenses for Banknote Issuance	3,125	2,476
Allowances	179,331	137,349
Operating Expenses	1,475	1,448
Administrative Expenses	486	467
Others	756	930
Total Expenses	271,794	218,166
Net Income	225,410	225,399

Note: Figures for 2018 are unaudited. Figures for 2017 are audited by the National Audit Office.

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

Year / Month	I. Business Indicators			II. National Income and Aggregate Demand							
	NDC ⁽¹⁾ Total Score of Monitoring Indicators	TIER ⁽²⁾ Business Composite Index (2006=100) (average)		Economic Growth Rate	Per Capita GNI	Unemploy- ment Rate	Manufacturing Sector			Annual Rate of Change of Industrial Production Indices	
		Manufacturing	Services				Labor Productivity Index	Average Monthly Earnings (Per Employee) (NT\$)	Unit Labor Cost Index Growth Rate (%)	General	Manufacturing
(average)	Sector	Sector	(%)	(US\$)	(%)	(2016=100)	(Per Employee)	(%)	(%)	(%)	(%)
2009	19	97.36	95.54	-1.57	17,531	5.85	75.06	39,525	-6.99	-7.63	-7.80
2010	37	101.94	105.90	10.63	19,864	5.21	88.89	43,152	-12.57	27.63	29.72
2011	24	95.29	99.43	3.80	21,507	4.39	90.01	44,603	4.09	2.61	2.74
2012	17	91.72	90.66	2.06	21,967	4.24	89.98	45,238	2.16	0.50	0.56
2013	20	98.07	94.54	2.20	22,526	4.18	92.20	45,448	-1.98	3.21	3.40
2014	25	100.59	98.45	4.02	23,330	3.96	95.82	47,018	-0.93	6.41	6.83
2015	17	93.91	89.36	0.81	23,109	3.78	95.00	48,713	6.31	-1.28	-1.16
2016	21	97.13	87.05	1.51	23,289	3.92	100.00	49,162	-0.44	1.97	1.91
2017	24	98.96	92.56	3.08	25,055	3.76	103.53	50,678	-0.65	5.00	5.27
2018	23	95.99	94.93	2.63	25,456	3.71	105.97	52,948	3.23	3.65	3.93
2018/1	20	100.19	93.74			3.63	100.70	58,250	-43.09	9.38	9.54
2	24	98.24	93.16			3.70	114.83	90,530	112.97	-4.73	-5.22
3	23	100.02	94.55	3.15	6,585	3.66	105.43	45,228	-0.95	5.86	6.07
4	26	98.33	95.01			3.64	110.85	44,945	-3.98	8.32	8.87
5	29	101.47	97.96			3.63	102.20	47,939	-9.45	7.36	7.58
6	22	100.39	97.05	3.29	6,252	3.70	106.36	47,670	10.34	0.02	0.29
7	26	101.46	100.08			3.81	100.60	58,140	3.63	4.68	5.32
8	24	98.25	98.00			3.87	101.16	50,689	6.03	1.11	1.58
9	22	93.46	95.55	2.38	6,212	3.76	114.46	48,324	3.59	1.66	2.03
10	22	88.45	92.19			3.75	108.71	45,832	-6.85	8.78	9.81
11	17	85.57	90.78			3.70	104.47	47,930	1.62	2.59	2.74
12	16	86.00	91.10	1.78	6,407	3.66	106.12	50,167	26.40	-1.06	-1.22

Notes: (1) NDC: National Development Council.

(2) TIER: Taiwan Institute of Economic Research.

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

Year / Month	II. National Income and Aggregate Demand														
	Annual Rate of Change of Private Consumption Expenditure (%)	Annual Rate of Change of Gross Fixed		Gross National Savings / GNI (%)	Gross Domestic Investment / GNI (%)	External Trade of Goods on Customs Basis (in US Dollars)									
		Capital Formation (%)	Private Sector (%)			Annual Rate of Change of Total Exports					Annual Rate of		Trade Balance (US\$ Million)	Annual Rate of Change of Export Orders (%)	
							China and H. K. (%)	U. S. (%)	Japan (%)	Europe (%)	ASEAN ⁽³⁾ (%)	Change of Total Imports (%)			Capital Equipment (%)
2009	0.01	-8.81	-15.32	29.29	19.29	-20.3	-15.8	-23.5	-18.1	-24.3	-21.5	-27.4	-24.0	28,065	-8.3
2010	3.76	19.31	27.63	33.14	24.23	35.2	37.3	33.6	27.4	30.0	37.3	44.3	65.1	21,734	26.1
2011	3.12	-1.15	1.20	31.46	23.01	12.6	8.4	15.4	3.2	6.4	23.2	12.4	-4.2	24,861	7.2
2012	1.82	-2.61	-0.35	30.45	21.82	-2.1	-3.8	-9.1	2.0	-8.1	9.5	-3.7	-6.9	29,085	1.1
2013	2.34	5.30	7.09	32.00	21.46	1.6	3.4	-1.8	-1.2	-3.4	3.7	0.2	5.2	33,418	0.4
2014	3.44	2.05	3.58	33.58	21.23	2.8	2.6	7.6	3.9	4.4	1.6	1.4	4.7	38,242	6.7
2015	2.63	1.64	3.02	34.87	20.31	-10.9	-12.4	-1.6	-2.7	-10.8	-14.2	-15.8	-1.1	48,124	-4.4
2016	2.37	2.36	2.84	34.29	20.12	-1.8	-0.2	-3.0	-0.2	1.0	-0.7	-2.8	12.1	49,753	-1.6
2017	2.54	-0.12	-1.09	34.29	19.72	13.2	16.0	10.2	6.3	11.2	14.2	12.4	-0.4	57,983	10.9
2018	2.05	2.10	1.46	32.91	20.95	5.9	6.2	7.4	11.1	8.3	-0.6	10.4	2.0	49,576	3.9
2018/1						15.3	21.0	11.1	14.3	4.3	14.0	22.1	10.7	2,655	19.7
2						-1.3	-10.8	12.6	9.8	19.1	-9.1	-0.1	-14.5	3,085	-3.8
3	2.55	0.36	0.62	32.54	19.77	16.7	30.8	4.2	18.7	15.1	1.6	10.4	1.9	6,012	3.1
4						10.0	13.1	2.5	7.4	14.9	4.8	4.9	-9.4	4,154	9.8
5						14.1	19.2	13.4	16.5	8.9	10.6	11.9	3.5	4,420	11.7
6	2.29	0.02	-0.12	31.55	20.31	9.4	10.0	5.4	21.2	20.0	5.7	15.2	8.2	5,239	-0.1
7						4.7	8.2	2.1	5.0	2.6	-2.2	20.1	17.5	2,308	8.0
8						1.9	3.0	2.6	7.5	7.4	-11.5	7.4	19.0	4,612	7.1
9	1.69	5.51	5.48	33.89	22.62	2.6	1.9	9.4	3.4	1.6	-4.1	13.7	10.2	4,367	4.2
10						7.3	5.5	10.3	18.0	8.5	4.0	17.4	-1.6	3,388	5.1
11						-3.5	-8.0	3.7	7.2	-4.3	-4.7	0.9	-20.2	4,667	-2.1
12	1.67	2.29	-0.44	33.61	21.10	-3.2	-9.9	13.4	6.3	5.6	-12.7	2.2	2.6	4,669	-10.5

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

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

Year / Month	III. Prices					IV. Money, Banking and Finance					
	Annual Rate of Change of Price Indices (%)					Reserve Money (daily average)		Monetary Aggregates (daily average)			
								M1B		M2	
	CPI	Core CPI ⁽⁴⁾	Wholesale Price	Import Price	Export Price	Amount (NT\$ Billion)	Annual Growth Rate ⁽⁵⁾ (%)	Amount (NT\$ Billion)	Annual Growth Rate (%)	Amount (NT\$ Billion)	Annual Growth Rate (%)
				(In NT Dollars)							
2009	-0.87	-0.04	-8.73	-9.59	-6.60	2,298.4	11.55	9,376.5	16.54	28,667.1	7.45
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	6.11	1.45	3,934.9	5.61	17,205.3	5.32	43,653.4	3.52
2018/ 1	0.89	0.82	-0.73	-0.26	-3.43	3,806.1	1.47	16,748.7	3.11	42,881.0	3.42
2	2.20	2.40	-0.21	0.72	-2.41	3,999.3	5.50	17,075.5	5.16	43,402.8	3.78
3	1.59	1.56	0.58	2.14	-1.64	3,926.8	6.31	16,994.7	5.46	43,430.6	3.60
4	2.00	1.33	2.48	4.45	0.36	3,899.7	5.65	16,963.8	5.60	43,475.2	3.59
5	1.75	1.07	5.58	8.85	3.44	3,914.4	6.23	17,110.0	6.35	43,738.7	3.73
6	1.40	1.41	6.66	10.10	4.01	3,925.6	7.25	17,022.6	5.90	43,706.9	4.10
7	1.76	1.50	7.04	10.75	4.06	3,939.3	6.42	17,201.6	5.76	43,723.4	3.68
8	1.54	1.37	6.78	10.58	4.34	3,939.4	5.71	17,414.9	5.21	43,843.8	3.42
9	1.72	1.20	6.29	9.77	3.80	3,961.9	5.81	17,454.9	5.22	43,837.4	3.34
10	1.16	0.71	5.69	9.36	3.17	3,948.1	5.51	17,444.5	5.31	43,821.0	3.39
11	0.29	0.65	2.91	5.15	1.80	3,953.1	5.60	17,439.0	5.09	43,948.7	3.09
12	-0.06	0.51	0.77	2.30	0.37	4,004.5	5.92	17,592.8	5.69	44,031.6	3.07

Notes: (4) Core CPI refers to CPI excluding the categories of fruits, 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.

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

Year / Month	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	31-90 Days CP Rate in Secondary Market	10-year Gov't Bond Rate in Secondary Market	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)
	(average)										
2009	29,448.6	5.66	21,482.3	0.71	1.15	1.250	0.109	0.24	1.51	0.89	1.50
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	1.62
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
2018/ 1	42,345.9	3.98	32,190.3	4.39	0.28	1.375	0.180	0.44	1.03	1.04	1.31
2	42,391.3	3.34	32,413.3	4.54	0.29	1.375	0.181	0.46	1.04	1.04	1.30
3	42,469.9	3.31	32,593.7	4.98	0.27	1.375	0.180	0.43	1.00	1.04	1.32
4	42,656.3	3.35	32,746.6	5.03	0.28	1.375	0.184	0.43	1.02	1.04	1.48
5	42,915.4	3.97	33,092.2	5.71	0.27	1.375	0.186	0.41	1.01	1.04	1.46
6	43,011.3	3.81	33,124.5	6.04	0.28	1.375	0.192	0.47	0.96	1.04	1.30
7	43,103.6	3.91	33,147.6	5.68	0.27	1.375	0.188	0.47	0.87	1.04	1.46
8	43,103.1	3.24	33,411.9	5.49	0.27	1.375	0.178	0.52	0.83	1.04	1.45
9	43,041.7	3.32	33,551.4	5.61	0.26	1.375	0.178	0.52	0.84	1.04	1.37
10	43,090.1	3.06	33,409.4	4.97	0.26	1.375	0.183	0.51	0.90	1.04	1.36
11	43,348.4	3.23	33,689.7	5.21	0.26	1.375	0.179	0.55	0.92	1.04	1.34
12	43,195.8	2.62	33,747.5	5.39	0.24	1.375	0.183	0.62	0.90	1.04	1.36

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 / Month	V. Securities Market					VI. Balance of Payments and Foreign Exchange Market						
	TWSE ⁽⁸⁾ Stock Market		Bond Market ⁽⁹⁾			Balance of Payments				Foreign Exchange Reserves	Exchange Rate NT\$/US\$	Daily Average Value of Foreign Exchange Transactions
	Stock Price Index	Total Trading Value	Outstanding	Total Trading Value		Current Account	Capital Account	Financial Account	Changes in Reserve Assets			
	(1966=100) (average)	(NT\$ Billion)	(end of period)		Share of Outright Transactions (%)					(end of period) (US\$ Billion)	(end of period)	(US\$ Billion)
			(NT\$ Billion)			(US\$ Million)						
2009	6,460	29,680.5	5,920.3	97,547.5	40.40	40,650	-50	-13,488	54,126	348.20	32.030	16.22
2010	7,950	28,218.7	6,352.3	106,318.0	40.12	36,832	-49	339	40,173	382.01	30.368	20.23
2011	8,156	26,197.4	6,895.8	97,809.1	27.46	37,878	-36	32,027	6,239	385.55	30.290	24.17
2012	7,481	20,238.2	7,576.1	86,551.7	21.30	43,168	-24	31,501	15,484	403.17	29.136	23.41
2013	8,093	18,940.9	8,104.6	69,226.1	19.78	49,872	67	41,089	11,318	416.81	29.950	28.93
2014	8,992	21,898.5	8,726.8	68,032.4	21.62	60,438	-8	50,461	13,015	418.98	31.718	31.29
2015	8,959	20,191.5	8,859.5	67,725.7	22.76	74,883	-5	66,976	15,011	426.03	33.066	33.35
2016	8,763	16,771.1	8,713.2	66,817.9	21.81	72,779	-9	59,758	10,663	434.20	32.279	28.92
2017	10,208	23,972.2	8,801.6	61,583.5	20.36	82,839	-12	70,955	12,467	451.50	29.848	28.62
2018	10,620	29,608.9	8,942.4	64,822.1	17.79	68,262	63	51,921	12,499	461.78	30.733	32.08
2018/ 1	11,005	2,804.9	8,724.6	6,394.2	24.29					455.72	29.150	33.51
2	10,718	1,651.0	8,734.8	3,889.1	16.64					456.72	29.230	35.49
3	10,904	2,605.1	8,723.6	5,711.7	18.33	19,662	-1	11,797	4,760	457.19	29.120	31.87
4	10,796	2,240.2	8,765.8	4,865.1	18.00					457.13	29.605	34.34
5	10,818	2,906.5	8,830.4	5,872.9	16.32					457.28	29.980	32.95
6	10,987	3,002.2	8,880.3	5,509.4	15.18	16,350	-3	12,475	2,156	457.12	30.500	34.69
7	10,840	2,919.5	8,938.0	5,858.1	16.52					458.50	30.614	31.91
8	10,909	2,684.2	8,951.3	5,933.3	17.25					459.88	30.731	31.16
9	10,884	2,254.5	8,926.0	5,047.2	16.87	13,602	7	9,773	3,362	460.44	30.551	30.93
10	10,088	2,408.4	8,883.9	5,683.6	18.77					460.18	30.968	30.98
11	9,821	2,269.8	8,907.5	5,196.3	16.38					461.38	30.850	29.25
12	9,747	1,862.4	8,942.4	4,861.1	17.59	18,648	60	17,876	2,221	461.78	30.733	28.48

Notes: (8)TWSE: Taiwan Stock Exchange Corporation.

(9)Bonds include government bonds, corporate bonds and bank debentures. For total trading value, savings banks & over 1 year CDs issued by CBC and foreign securities are also included.

Sources: 1. NDC.

2. Taiwan Institute of Economic Research.

3. Department of Statistics, Ministry of Economic Affairs.

4. DGBAS, Executive Yuan, February 2019.

5. Department of Statistics, Ministry of Finance, February 2019.

6. Banking Bureau, Financial Supervisory Commission.

7. Financial Statistics Monthly, CBC, February 2019.

8. Balance of Payments, CBC, February 2019.

9. Taiwan Stock Exchange Corporation.

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