

# Annual Report 2017

Central Bank of the Republic of China (Taiwan)

Taipei, Taiwan  
Republic of China

# Foreword



Chin-Long Yang, Governor

2017 was a year of a steady global economic recovery and commodity price upswings, which combined to drive Taiwan's exports expansion as domestic consumer spending maintained moderate growth. Against this backdrop, Taiwan's economy grew at a faster pace of 2.86%, the highest annual growth rate in three years. Meanwhile, inflation was mild as NT dollar appreciation helped alleviate imported inflationary pressures and a weather-induced higher base effect held down food prices. Compared to the previous year, the consumer price index (CPI) rose by 0.62% and the core CPI (excluding vegetables, fruit, and energy prices) went up by 1.04%.

While formulating this year's monetary policy, we have noted that the global economic outlook remains uncertain, the domestic economy is posting moderate growth, and the output gap is still negative. In addition, current inflationary pressures are subdued and inflation expectations are well anchored. Compared to several major economies, Taiwan's real interest rate also stands at an appropriate level. Based on these assessments, the Bank has held the policy rates unchanged during the course of year 2017, keeping money and credit conditions adequate and accommodative to foster economic growth. We also conducted open market operations to adjust liquidity in the banking system. For the year as whole, bank credit and M2 increased by 4.79% and 3.75% year on year, indicating that market liquidity was sufficient to support economic activity.

The Bank is dedicated to policy transparency. We recognize that ever-changing

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economic and financial conditions around the world have amplified public expectations for greater transparency at the central bank. With this in mind, the Bank decided to publish the minutes of quarterly Board Meetings six weeks after each meeting, starting from June 2017, to aid public understanding of monetary policy-making.

With respect to foreign exchange (FX) policy, in 2017, the Bank relaxed several FX regulations, expanded the approved scope of FX derivatives while streamlining the application procedures, facilitated electronic declaration of FX settlements, and gave the National Credit Card Center green light to launch the dynamic currency conversion (DCC) service.

The Bank also reorganized the payment system to achieve greater safety and efficiency, further enhancing financial infrastructure and urging clearing institutions to strengthen system integrity and information security. In light of fintech's growing presence and importance, the Bank will welcome new ideas and respond to new demands. We have put together a team to study digital finance and financial technology, keeping close watch on the development in blockchain, regulatory technology (regtech), big data, and artificial intelligence.

Looking forward, uncertainties around the world, including policy normalization by major central banks of the advanced economies, rising trade protectionism, and escalating geopolitical risks, could heighten financial market volatility and disrupt global economic growth. Our monetary and FX policies will be responsive to the economic and financial developments at home and abroad and remain consistent with our statutory mandate, which includes maintaining an orderly FX market to safeguard dynamic stability of the NT dollar.

Finally, I hope this publication, which is the culmination of the hard work carried out by my colleagues, will serve as a useful source of information. As always, the Bank is committed to fulfilling our mission and will continue moving forward with the times.



Chin-Long Yang  
Governor  
April 2018

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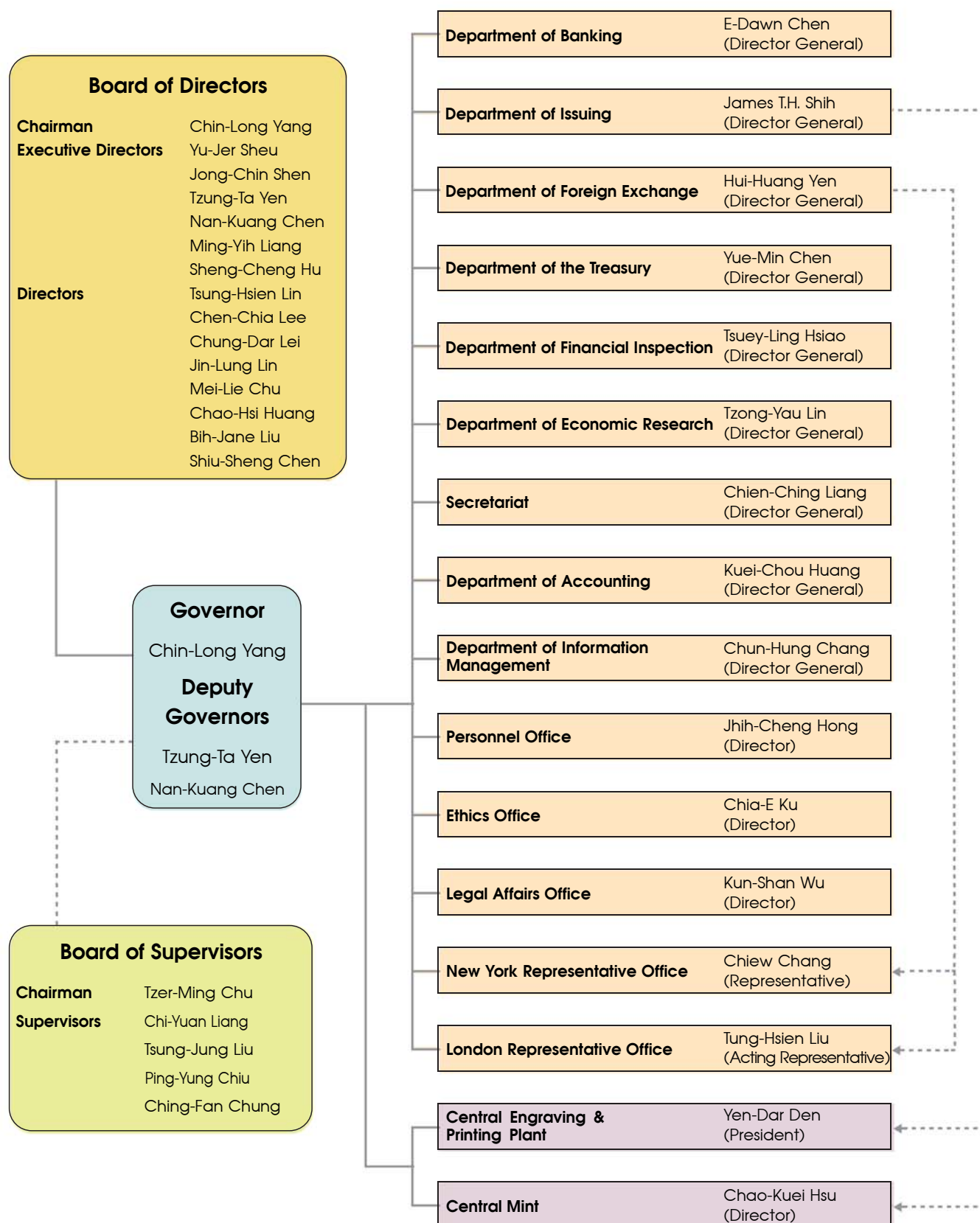
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# Organization and Management of the CBC



As of June 2018



Chairman  
Board of Directors  
Governor  
Chin-Long Yang



Executive Director  
Yu-Jer Sheu



Executive Director  
Jong-Chin Shen



Executive Director  
Deputy Governor  
Tzung-Ta Yen



Executive Director  
Deputy Governor  
Nan-Kuang Chen



Executive Director  
Ming-Yih Liang



Executive Director  
Sheng-Cheng Hu



Director  
Tsung-Hsien Lin



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





Chairman  
Board of Supervisors  
Tzer-Ming Chu



Supervisor  
Chi-Yuan Liang



Supervisor  
Tsung-Jung Liu



Supervisor  
Ping-Yung Chiu



Supervisor  
Ching-Fan Chung

# *Economic Developments*

# I. Economic Developments

## 1. Overview

Taiwan's economy advanced at a steady pace in 2017. Driven mainly by external demand amid continued global economic expansion, the annual GDP growth rate rose to 2.86%. The overall balance of payments recorded a surplus of US\$12,467 million, with a current account surplus and a net asset increase in the financial account. In terms of inflation, fuel and gas cost hikes in response to international energy price rises were partially offset by food price declines; the annual growth rate of the consumer price index (CPI) averaged 0.62% for the year as whole. Meanwhile, the unemployment rate went further down to 3.76%, the lowest in 17 years.

### **Steady Economic Growth**

Although private consumption moderated, stable growth in private investment and exports supported the economy to expand by 2.64% in the first quarter of 2017. The second quarter saw economic growth inching down to 2.28% as private investment underperformed because of shrinking capital expenditure of semiconductor and aviation industries and lukewarm construction investment, in addition to slower export growth. Then, as exports firmed up on the back of a stronger global economy and private consumption gained momentum from a buoyant stock market and a mild wage increase, economic growth accelerated and reached an annual rate of 3.28% in the fourth quarter, the highest quarterly mark since the second quarter in 2015. Overall, while domestic demand kept steady, stronger external demand drove the economic growth rate to climb from 1.41% in 2016 to 2.86% in 2017, the fastest pace in three years.

In terms of GDP components by expenditure, exports registered faster growth on thriving trade activity, and imports increased along with greater domestic demand as well as export-derived demand; net external demand contributed 2.02 percentage points to GDP growth, serving as the mainstay for economic growth in 2017. On the other hand, private consumption grew steadily amid improved employment conditions. However, this was partially offset by negative growth in private investment, as machinery equipment investment slowed in the second half of the year owing to a higher base effect. As a result, domestic demand contributed only 0.83 percentage points to GDP growth.

Gross domestic saving and gross domestic investment both declined from the previous year. With the decrease in gross saving larger than investment, the excess saving rate dropped modestly to 13.90% in 2017 from 14.12% in 2016.

## Robust BOP Surplus

Taiwan's balance of payments remained steady in 2017. The overall balance of payments recorded a surplus of US\$12,467 million, increasing from the previous year's US\$10,663 million, with a current account surplus of US\$84,086 million and a net asset increase of US\$68,640 million in the financial account.

In the current account, strong exports helped boost the goods trade surplus to a new record level at US\$81,035 million. The services account deficit shrank to US\$8,380 million as a result of increased income from professional and management consulting services and freight services. The primary income surplus narrowed to US\$15,506 million mainly on account of higher outward payments to non-residents' portfolio investment income. The secondary income deficit widened to US\$4,075 million. The ratio of current account surplus to GDP rose from 13.7% in 2016 to 14.7% in 2017.

In the financial account, portfolio investment recorded a net asset increase of US\$79,039 million. The net increase in portfolio investment abroad by residents was US\$82,924 million, mainly because of higher equity securities investment abroad by the private sector and pension funds and larger insurer investment in foreign securities. Local portfolio investment by non-residents grew a net US\$3,885 million mainly on account of increased foreign buying in the domestic stock market. Direct investment recorded a net asset increase of US\$8,102 million; both direct investment abroad by residents and inbound direct investment by non-residents fell markedly as a result of a higher base effect from cross-border mergers and acquisitions and share swap transactions. In terms of other investment, it posted a net asset decrease of US\$14,805 million, as increases in non-residents' bank deposits and foreign borrowing by the banking sector led foreign liabilities to build up faster.

## Mild Inflation

While the global economic upturn sent oil and other international raw material prices on a rebound, the NT dollar appreciation against the US dollar eased rises in domestic import and export prices. On balance, Taiwan's wholesale price index edged up by 0.90% over the previous year, with the categories of imports and domestic sales excluding imports rising by 1.36% and 3.44%, respectively, and exports down by 1.46%.

In terms of consumer price trends, international energy price rises resulted in hikes in domestic fuel and gas fees. Prices for food away from home also rose as restaurants acted to cover higher staffing and food costs. Furthermore, cigarette prices increased as government raised the cigarette tax. However, the upside pressures were partially offset by vegetables and fruit price declines due to a higher base effect. For the year as a whole, the CPI annual growth rate averaged 0.62%, lower than the 1.32% registered the previous year. Core inflation (excluding fruit, vegetables, and energy prices) recorded a mild increase of 1.04%.

## Unemployment Rate Declined Further; Wage Growth Increased

Over the course of year 2017, the unemployment rate broadly trended downwards amid steady economic growth and stood at 3.66% in December. For the year as a whole, the unemployment rate averaged 3.76%, the lowest in 17 years. The average labor force participation rate ticked up from 58.75% of 2016 to 58.83%.

The average number of employed persons increased by 85 thousand, or 0.75%, to 11.35 million in 2017. Employment in the services sector grew the most among all sectors, with an increase of 65 thousand workers or 0.98% from the previous year. Employment in the industrial sector gained the second most, hiring 20 thousand more persons with an increase of 0.49%. The agricultural sector lost one thousand employed persons, representing a decrease of 0.14%.

Average non-farm (industrial and services sectors) monthly earnings per employee grew by 2.46% year on year to NT\$49,989. Among the components, regular earnings increased by 1.82% to NT\$39,953; non-regular earnings rose by 5.07%, thanks to higher year-end and performance bonuses in reflection of better corporate profits since the latter half of 2016 and increased overtime pay in line with the labor law amendments. Adjusted for inflation, real monthly earnings increased by 1.83% to the new highest level of NT\$47,271. Real monthly regular earnings and non-regular earnings climbed by 1.20% and 4.42%, respectively.

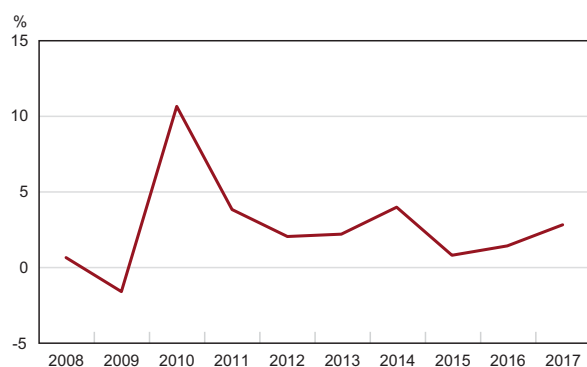
Labor productivity indices of the industrial sector and the manufacturing industry grew by 1.37% and 2.10% over the previous year, respectively. Unit labor costs rose by 1.25% in the industrial sector and by 0.60% in manufacturing, reflecting a larger increase in total earnings over that in production.

## 2. National Output and Income

In 2017, Taiwan's external trade gathered steam amid a robust recovery in the global economy, while domestic demand witnessed mild expansion. Private consumption rose at a steady pace, and, despite a slight contraction seen in private investment, investments by general government and public enterprises both exhibited positive growth. For the year as a whole, real GDP expanded at an annual growth rate of 2.86%, higher than the 1.41% in the previous year.

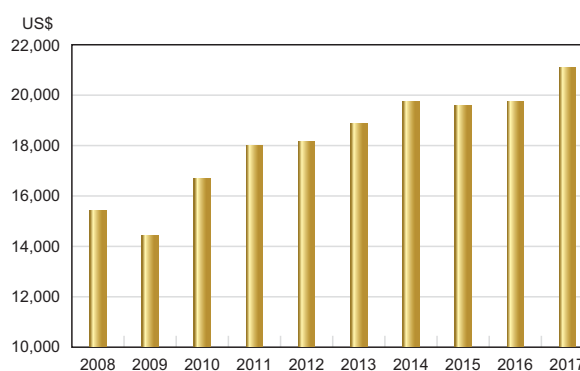
In the first quarter, with decelerated growth in private consumption, steady expansion in private investment supported by increased capital spending by the semiconductor industry, and upticks in exports and net proceeds from merchanting amid a gradually improved global business climate, real GDP recorded a solid growth rate of 2.64%. In the second quarter, declining capital outlays in the semiconductor and aviation industries and the slack in the construction industry resulted in a slowdown in private investment. Exports registered weaker growth owing to decreases in the number of inbound visitors and in net proceeds from merchanting. Therefore, real GDP growth moderated to 2.28%, the lowest level over the year. In the third quarter, dragged by a reduction in investment in the semiconductor industry and a higher base effect, private investment decreased significantly. Nevertheless, a booming domestic stock market and increased new car sales helped push up private consumption. Strong growth in exports on account of the acceleration in the global economic recovery further boosted real GDP growth to 3.18%. In the fourth quarter, because private consumption continued to grow thanks to strong stock market activity and rising wages and exports were bolstered by greater demand in the semiconductor and machinery industries, real GDP rose by 3.28%, the highest level over the year. Meanwhile, amid a solid recovery in the domestic economy, per capita GNI (gross national income) in nominal terms increased from US\$19,720 to US\$21,094.

**Real Growth Rate of GDP**



Source: *Statistical Abstract of National Income*, DGBAS, Executive Yuan, February 2018.

**Per Capita GNI**



Source: *Statistical Abstract of National Income*, DGBAS, Executive Yuan, February 2018.

## Expenditure Components of GDP

All expenditure components of GDP except for government consumption and fixed capital formation exhibited higher growth rates than those in the previous year. Among them, exports of goods and services remained the primary source of economic growth and recorded a substantial contribution of 4.66 percentage points to GDP growth for the year. Private consumption also contributed 1.23 percentage points to GDP growth in 2017. Gross fixed capital formation made zero contribution to GDP growth, mainly caused by a downturn in machinery and equipment investment by the private sector. Meanwhile, growth in government consumption moved from positive to negative territory and hence dragged GDP growth down by 0.15 percentage points. With respect to shares of GDP, exports of goods and services still accounted for the largest share of GDP at 65.19%, followed by private consumption at 53.00% and gross fixed capital formation at 20.53% for the year.

### GDP by Expenditure

Unit: %

	2017			2016		
	Share	Real Growth Rate	Contribution to Real Growth Rate of GDP*	Share	Real Growth Rate	Contribution to Real Growth Rate of GDP*
Private Consumption	53.00	2.34	1.23	52.66	2.32	1.21
Government Consumption	14.08	-1.06	-0.15	14.38	3.72	0.52
Gross Fixed Capital Formation	20.53	0.01	0.00	20.90	2.27	0.47
Change in Inventory	-0.26	-	-0.26	-0.09	-	-0.26
Exports of Goods and Services	65.19	7.43	4.66	62.80	1.93	1.24
(Less : Imports of Goods and Services)	52.54	5.20	2.64	50.64	3.45	1.77
Expenditure-based GDP	100.00	2.86	2.86	100.00	1.41	1.41

Note: \* Percentage point.

Source: *Statistical Abstract of National Income*, DGBAS, Executive Yuan, February 2018.

#### (1) Steady Upturn in Private Consumption

In 2017, private consumption grew by 2.34%, slightly higher than that of the previous year, and contributed 1.23 percentage points to GDP growth. Higher corporate profits, an improving employment situation, and a buoyant stock market caused disposable income and financial wealth to increase. This, combined with a growing number of citizens traveling abroad, pushed up overall consumer spending.

Influenced by weaker new car sales and negative growth in retail sales, private consumption posted slower expansion of 1.81% and 2.05% in the first and second quarters, respectively. In the third quarter, vigorous stock market activity and stronger new car sales and retail sales led private consumption to pick up by 2.62%. In the fourth quarter, private consumption further advanced by

2.89%, reflecting increased employment, steady growth in wages, a significant rise in the number of citizens traveling abroad, and higher trading volumes in the stock market.

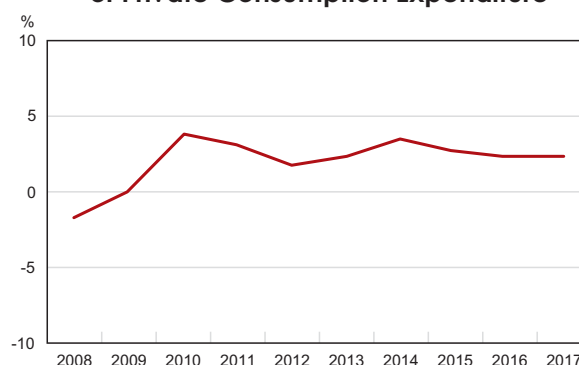
## (2) Sluggish Growth in Fixed Capital Formation

In 2017, fixed capital formation displayed lackluster growth, primarily because of stagnated construction investment, affected by a downturn in the housing market, and negative growth in machinery and equipment investment in the second half of the year resulting from a higher base effect. Therefore, fixed capital formation grew by a mere 0.01% year on year and made nearly nil contribution to real GDP growth. In the first quarter, despite a decline in construction investment, the semiconductor industry continued to expand capacity in advanced manufacturing and airline companies increased investment in aircraft purchases, driving fixed capital formation to rise by 4.82%, the highest level over the year. In the second quarter, as the aviation industry reduced capital outlays and construction investment contracted further, fixed capital formation growth slowed to an annual rate of 0.80%. Subsequently, growth in machinery and equipment investment turned negative because of a higher base effect, leading fixed capital formation to shrink by 2.73% and 2.18% in the last two quarters, respectively.

Regarding expenditure by type of purchaser, in spite of falling construction investment, investment by the private sector rose by 3.89% in the first quarter on account of an uptick in machinery and equipment investment. In the second quarter, with deceleration in transportation and construction investment, growth in private investment declined to 0.26%. In the second half of the year, investment by the private sector dropped by 4.35% and 3.01% in the last two quarters, mainly reflecting a higher base effect. For the year as a whole, growth in private investment went down to negative 0.89%, lower than the 2.77% registered in 2016. On the other hand, investment by public enterprises displayed an annual growth rate of 0.62% because strong growth in construction investment partly offset a decline in transportation investment. Investment by general government registered positive growth for the second consecutive year with a year-on-year increase of 5.22% on the back of the government's active implementation of various industrial development programs as well as a lower base effect.

In terms of the type of capital formation, the stagnant housing market dragged growth in construction investment down to negative 0.11% for 2017. Meanwhile, though experiencing negative growth in the second quarter, transportation investment recorded a marked increase of 18.61% for

**Real Growth Rate  
of Private Consumption Expenditure**



Source: *Statistical Abstract of National Income*, DGBAS, Executive Yuan, February 2018.



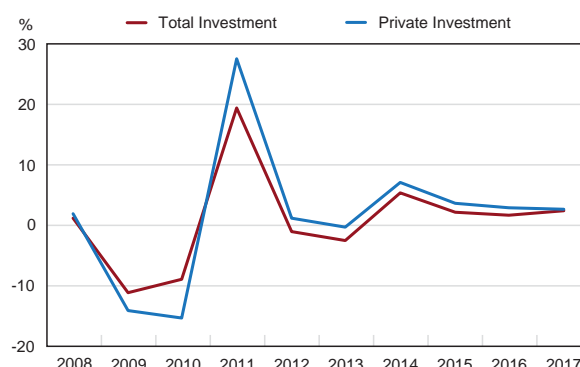
the second half of the year, and 7.19% for the entire year, mainly attributable to a pickup in capital spending by airline companies on aircraft purchases and the replacement of buses and trucks for commercial purposes. With regard to machinery and equipment investment, despite exhibiting significant growth in the first half of the year, it posted a negative growth rate of 11.84% in the second half of the year, and negative 3.24% for the entire year, primarily influenced by a reduction in capital outlays by major semiconductor manufacturers. Investment in intellectual property was relatively stable, registering an annual growth rate of 3.07% in 2017.

### (3) Moderate Expansion in Exports and Imports

Amid a gradual recovery in the global economy, external trade saw vigorous growth, mainly bolstered by stronger foreign demand and an increase in net proceeds from merchanting. Exports of goods and services posted an annual growth rate of 7.43%, much higher than the 1.93% of the previous year, and contributed 4.66 percentage points to real GDP growth.

In the first quarter, on the back of mounting demand for electronic parts and components and rising prices of international raw materials, exports of goods and services grew substantially by 7.34%. In the second quarter, notwithstanding a continuous upturn in exports of goods, decreases in the number of inbound visitors and in net proceeds from merchanting led growth in exports of goods and services to reduce to 5.08%, the lowest level over the year. In the third quarter, boosted by a strengthening global economy, exports of electronic parts and components advanced further by 9.32%, and exports of most other products also registered positive growth. In addition, upticks in net proceeds from merchanting and in the number of tourists from abroad drove growth in exports of goods and services to a yearly high of 11.28%. In the fourth quarter, exports of machinery went up by 13.96%, while exports of electronic parts and components, rubber and plastic products, and base metals also displayed robust growth, driving exports of goods and services to rise at an annual rate of 6.00%.

### Real Growth Rate of Fixed Investment



Source: *Statistical Abstract of National Income*, DGBAS, Executive Yuan, February 2018.

### Real Growth Rates of Exports and Imports

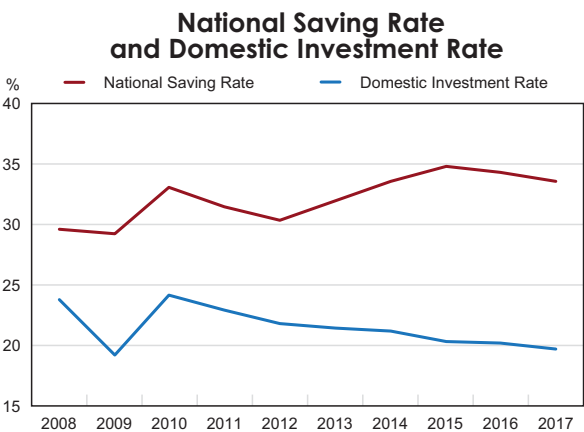


Source: *Statistical Abstract of National Income*, DGBAS, Executive Yuan, February 2018.

Driven by solid expansion in exports, import demand also increased in 2017. With higher prices of international raw materials and strong export-derived demand, imports of goods and services advanced by 5.2% for the entire year, subtracting 2.64 percentage points from economic growth.

**Modest Downtrend in National Saving Rate**

As the gradual recovery in the domestic economy underpinned by a pickup in external demand boosted private consumption, national consumption (including both private consumption and government consumption expenditures) went up by a modest 1.78% in nominal terms for the year, higher than the GNI growth rate of 1.09%. As a consequence, the national saving rate (the ratio of national saving to GNI measured at current prices) slightly fell from 34.31% in 2016 to 33.68% in 2017. The excess saving ratio, defined as the excess of national saving over gross domestic investment to GNI, slid from 14.12% in 2016 to 13.90% in 2017, reflecting a greater decrease in national saving than that in domestic investment.



Source: *Statistical Abstract of National Income*, DGBAS, Executive Yuan, February 2018.

### 3. Balance of Payments

In 2017, Taiwan's current account registered a record surplus of US\$84,086 million, which accounted for 14.7% of nominal GDP, up from 13.7% in the previous year, as a result of a wider goods trade surplus and a narrower deficit on trade in services. The financial account posted a net asset increase of US\$68,640, reaching a new high as investment in foreign securities by residents exhibited record-high net outflows. The overall balance of payments recorded a surplus of US\$12,467

#### Balance of Payments

Unit: US\$ Million

	(1) 2017	(2) 2016	(1)-(2)
A. Current Account	84,086	72,786	11,300
Goods: credit (exports)	349,808	309,941	39,867
Goods: debit (imports)	268,773	239,326	29,447
Balance on Goods	81,035	70,615	10,420
Services: credit (exports)	45,071	41,360	3,711
Services: debit (imports)	53,451	51,699	1,752
Balance on Services	-8,380	-10,339	1,959
Primary income: credit	35,021	29,469	5,552
Primary income: debit	19,515	13,824	5,691
Balance on primary income	15,506	15,645	-139
Secondary Income: credit	7,248	6,944	304
Secondary Income: debit	11,323	10,079	1,244
Balance on secondary income	-4,075	-3,135	-940
B. Capital Account	-12	-9	-3
C. Financial Account	68,640	55,773	12,867
Direct investment: assets	11,357	17,884	-6,527
Equity and investment fund shares	10,541	16,851	-6,310
Debt instruments	816	1,033	-217
Direct investment: liabilities	3,255	9,231	-5,976
Equity and investment fund shares	4,749	7,312	-2,563
Debt instruments	-1,494	1,919	-3,413
Portfolio investment: assets	82,924	81,463	1,461
Equity and investment fund shares	16,634	6,445	10,189
Debt securities	66,290	75,018	-8,728
Portfolio investment: liabilities	3,885	2,643	1,242
Equity and investment fund shares	4,052	5,325	-1,273
Debt securities	-167	-2,682	2,515
Financial derivatives: assets	-11,489	-11,153	-336
Financial derivatives: liabilities	-7,793	-8,925	1,132
Other investment: assets	11,512	-7,352	18,864
Other investment: liabilities	26,317	22,120	4,197
D. Net Errors and Omissions	-2,967	-6,341	3,374
E. Reserves and Related Items*	12,467	10,663	1,804

Note: \* Excluding valuation changes in exchange rates.

Source: *Balance of Payments*, CBC, February 2018.

million, which was reflected in the increase in foreign reserve assets held by the CBC.

## Wider Current Account Surplus

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

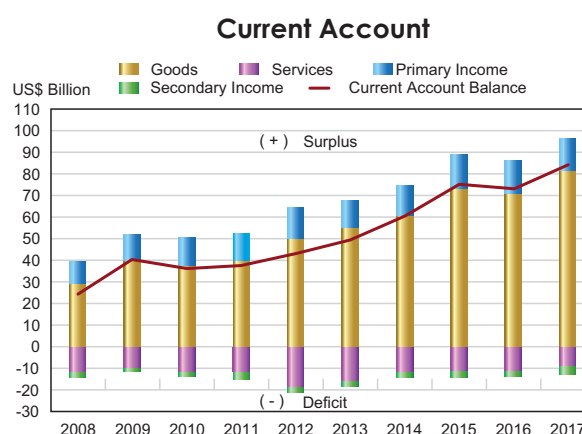
### (1) Goods

In 2017, Taiwan's external merchandise trade was spurred by the accelerated recovery of the global economy. The value of exports, on a BOP basis, surged at the fastest pace in five years, increasing by 12.9% to US\$349,808 million from 2016, reflecting the rising volumes and prices of export commodities. Among the components, net exports of goods under merchanting grew by 22.3% to US\$14,829 million. The value of imports increased by 12.3% to US\$268,773 million. Overall, as the increase in exports outpaced that in imports, the trade surplus expanded from US\$70,615 million to US\$81,035 million in the year, hitting a new record high.

According to customs statistics, the value of exports increased by 13.2% to US\$317,381 million on a free on board (FOB) basis, and the value of imports increased by 12.5% to US\$259,499 million on a cost, insurance, and freight (CIF) basis. The top five trading partners of Taiwan in 2017 were Mainland China including Hong Kong (hereafter is this chapter referred to as Mainland China), ASEAN, the US, Europe and Japan.

In terms of Taiwan's trade with Mainland China, the value of exports amounted to US\$130,280 million in 2017, 16.0% higher than the previous year. As a manufacturing hub of the world, Mainland China remained Taiwan's largest export market, with the share of total exports rising to 41.0% in 2017. Of all major export products, parts of electronic products (especially integrated circuits) maintained a leading role, contributing 7.8 percentage points to the growth in Taiwan's exports to Mainland China. Imports from Mainland China grew by 13.8% to US\$51,562 million in 2017. With a share of 19.9%, Mainland China continued to be Taiwan's largest import partner. The trade surplus with Mainland China increased to US\$78,718 million in 2017. As a result, Mainland China remained the largest source of Taiwan's trade surplus.

Exports to the ASEAN economies increased by 14.2% to US\$58,584 million in 2017, with a combined share of 18.5%. Imports from these countries increased by 14.4% to US\$31,058 million, with a share of 12.0% of total imports. The bilateral trade between Taiwan and the ASEAN heated up, and the



Source: Balance of Payments, CBC, February 2018.

exports and imports of parts of electronic products increased greatly. In sum, the trade surplus with the ASEAN increased to US\$27,526 million, with Singapore, Vietnam, and the Philippines being the second, third, and fourth largest sources of Taiwan's trade surplus, respectively.

Exports to the US grew by 10.3% to US\$36,976 million, though comprising a smaller share of 11.7% in Taiwan's total exports compared to a year ago. Boosted by greater consumer demand for newer models of gaming laptops and commercial computers, information, communication & audio-video products exported to the US increased by 16.8% over the previous year. Imports from the US rose by 5.6% to US\$30,210 million, but its share in total imports fell to 11.6%. The trade surplus with the US, Taiwan's fifth largest surplus source, increased to US\$6,766 million.

The steady recovery in Europe, coupled with a stronger euro, led our exports to Europe to increase by 11.2% to US\$29,162 million, yet its share of total exports declined to 9.2%. Exports of machinery and base metals performed particularly well among major products, growing by 22.5% and 16.1% from a year earlier, respectively. Imports from Europe increased by 8.7% to US\$31,452 million, though its share of total imports decreased to 12.1%. Consequently, Taiwan's trade deficit with Europe shrank to US\$2,290 million in 2017.

Exports to Japan increased by 6.3% to US\$20,787 million, with its share declining to 6.5%. Exports of machinery and base metals made the biggest contribution to total exports. Imports from Japan increased by 3.3% to US\$41,950 million, with the share dropping to 16.2% of total imports. Japan remained Taiwan's second largest source of imports in 2017. To sum up, the trade deficit with Japan

### Trade in Goods by Country

Unit: %

	2017			2016		
	Amount (US\$ Million)	Share	Annual Change	Amount (US\$ Million)	Share	Annual Change
Exports						
Mainland China (including Hong Kong)	130,280	41.0	16.0	112,277	40.1	-0.2
ASEAN	58,584	18.5	14.2	51,291	18.3	-0.7
US	36,976	11.7	10.3	33,523	12.0	-3.0
Europe	29,162	9.2	11.2	26,221	9.4	1.0
Japan	20,787	6.5	6.3	19,551	7.0	-0.2
Rest of the World	41,592	13.1	11.0	37,459	13.4	-8.8
Total	317,381	100.0	13.2	280,321	100.0	-1.8
Imports						
Mainland China (including Hong Kong)	51,562	19.9	13.8	45,321	19.7	-3.0
Japan	41,950	16.2	3.3	40,622	17.6	4.5
Europe	31,452	12.1	8.7	28,924	12.5	1.5
ASEAN	31,058	12.0	14.4	27,155	11.8	-6.5
US	30,210	11.6	5.6	28,597	12.4	-2.1
Rest of the World	73,267	28.2	22.2	59,949	26.0	-7.6
Total	259,499	100.0	12.5	230,568	100.0	-2.8

Source: *Monthly Statistics of Exports and Imports*, Ministry of Finance.

widened to US\$21,163 million.

## (2) Services

Since 2016, the adoption of BPM6 has led Taiwan's services account to run deficits instead of surpluses as under previous manuals, because merchanting was reclassified from services to goods. In 2017, services receipts slightly increased by US\$3,711 million to US\$45,071 million, mainly owing to increased receipts of professional and management consulting services (which is under other business services). Services payments increased by US\$1,752 million to US\$53,451 million, due to rising travel payments. In all, the services deficit narrowed to US\$8,380 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 on goods owned by the nonresident) increased by US\$551 million to US\$2,586 million in 2017. On the debit side, payments for manufacturing services (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\$86 million to US\$3,411 million. In total, net manufacturing payments decreased from US\$1,462 million to US\$825 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\$486 million to US\$1,318 million, while the payments increased by US\$114 million to US\$974 million. For the first time, the balance of maintenance and repair services, which recorded a net payment of US\$28 million in 2016, turned into a net receipt of US\$344 million in 2017.

Transport receipts increased by US\$1,093 million to US\$9,916 million, reflecting increases in international freight fares received by domestic carriers. Transport payments increased by US\$294 million to US\$11,248 million, resulting from an increase in foreign port charges. Overall, net transport payments decreased from US\$2,131 million to US\$1,332 million.

Even though the number of inbound visitors reached a record high in 2017, travel receipts decreased by US\$1,042 million to US\$12,333 million, owing to diminishing average daily expenditures per inbound visitor and shortened average length of stay. Meanwhile, travel payments increased by US\$1,373 million to its highest-ever level of US\$17,947 million. This was mainly due to a 7.3% increase in the number of outbound travelers. In sum, the deficit on the travel account exhibited a record high of US\$5,614 million.

Other services receipts increased by US\$2,623 million to US\$18,918 million, mainly attributable to an increase in receipts of professional and management consulting services (which is under

other business services). Though charges for intellectual property n.i.e. substantially decreased, increases in expenditures on financial, computer and information, insurance and pension services led other services payments to increase by US\$57 million to US\$19,871 million. In all, the deficit in other services shrank to US\$953 million in 2017.

### (3) Primary Income

Primary income consists of compensation of employees, investment income, and other primary income. In 2017, primary income receipts increased by US\$5,552 million to US\$35,021 million, mainly caused by increases in residents' direct investment income and in interest received by domestic banks. Meanwhile, primary income payments amounted to US\$19,515 million, US\$5,691 million more than the previous year, mostly attributable to an increase in dividends from equity securities paid to nonresidents. Consequently, the surplus on the primary income account narrowed to US\$15,506 million for the year of 2017.

### (4) Secondary Income

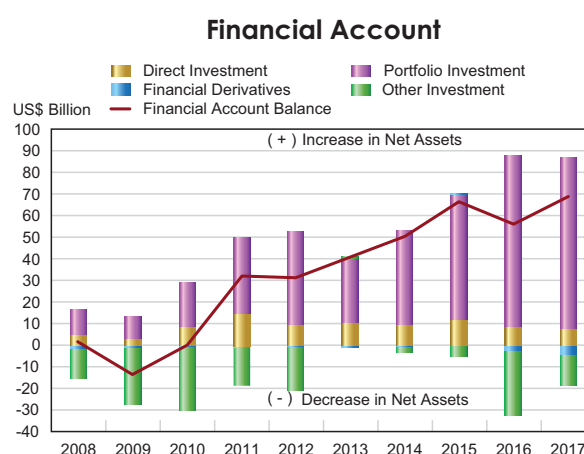
Secondary income receipts grew by US\$304 million year on year to US\$7,248 million in 2017, mainly owing to increases in receipts of gifts and samples, default penalties, and allowances from overseas relatives. Secondary income payments increased by US\$1,244 million to US\$11,323 million, owing to an increase in outward remittances by cross-border workers. Consequently, the deficit on the secondary income account widened to US\$4,075 million for the year of 2017.

## Slightly Higher Capital Account Deficit

The capital account includes capital transfers and the acquisition and disposal of non-produced, non-financial assets. In 2017, the capital account deficit widened by US\$3 million to US\$12 million.

## Net Asset Increase in Financial Account

The financial account showed an increase of US\$68,640 million in net assets. In terms of sub-categories, direct investment and portfolio investment exhibited increases of US\$8,102 million and US\$79,039 million in net assets, respectively. Financial derivatives and other investment exhibited decreases of US\$3,696 million and US\$14,805 million in net assets, respectively.



Source: Balance of Payments, CBC, February 2018.

## (1) Direct Investment

Direct investment abroad by residents exhibited a decrease of US\$11,357 million in assets, and direct investment in Taiwan by nonresidents showed a decrease of US\$3,255 million in liabilities. Overall, the net assets in direct investment amounted to US\$8,102 million, US\$551 million less than the previous year.

## (2) Portfolio Investment

In 2017, portfolio investment abroad by residents increased by US\$82,924 million. Of the components, equity and investment fund shares increased by US\$16,634 million, as residents and pension funds increased holdings of foreign equity securities. Debt securities increased by US\$66,290 million, mainly because insurance companies expanded their investment in debt securities.

On the other hand, local portfolio investment by nonresidents increased by US\$3,885 million. Of the components, equity and investment fund shares increased by US\$4,052 million, and debt securities decreased by US\$167 million. The main reason was that foreign investors increased holdings of Taiwanese stocks and reduced holdings of government bonds.

Overall, portfolio investment showed an increase of US\$79,039 million in net assets in 2017.

## (3) Financial Derivatives

Assets in financial derivatives decreased by US\$11,489 million, principally because of gains on transactions of financial derivatives received by banks and other financial corporations.

Liabilities in financial derivatives decreased by US\$7,793 million, mainly because of losses on transactions of financial derivatives paid by banks.

## (4) Other Investment

In 2017, other investment abroad by residents increased by US\$11,512 million. Of the components, currency and deposits increased by US\$16,860 million as a result of growing bank deposits with overseas branches; loans decreased by US\$1,044 million because of a reduction in outstanding overseas short-term lending; trade credit decreased by US\$2,535 million; other accounts receivable decreased by US\$1,775 million, owing to a drop in banks' accounts receivable from nonresidents.

Moreover, other inward investment by nonresidents increased by US\$26,317 million. Of the components, currency and deposits increased by US\$14,888 million, because of growing deposits from nonresidents and overseas branches; loans increased by US\$11,902 million, owing to expanded short-term external borrowing by banks; trade credit increased by US\$3,379 million; other accounts payable decreased by US\$3,852 million, owing to falling banks' accounts payable to non-residents.



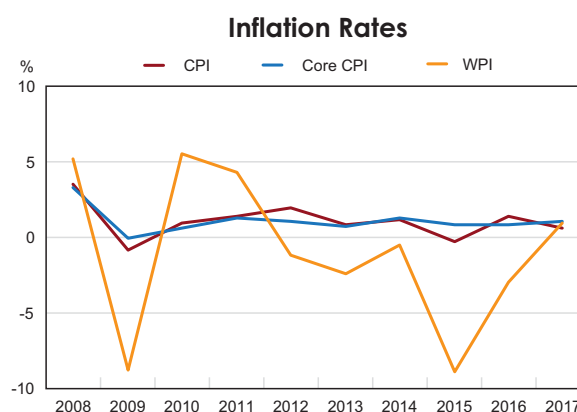
As a consequence, other investment showed a decrease of US\$14,805 million in net assets in 2017.

### **Increase in Foreign Exchange Reserves**

The foreign exchange reserve assets held by the CBC increased by US\$12,467 million, mainly attributable to an increase in the investment income on foreign reserve assets.

## 4. Prices

Taiwan's wholesale price index (WPI) rose by 0.90% in 2017, returning to positive territory for the first time since 2012. The increase in WPI inflation was largely driven by rising international oil prices amid a moderate recovery in the global economy. However, NT dollar appreciation against the US dollar led import and export prices in NT dollar terms to grow at a slower pace, which partly offset the WPI increase. Headline inflation, measured by the consumer price index (CPI), expanded mildly at an annual rate of 0.62% in 2017, down from a rise of 1.39% over 2016, mainly caused by fuel and gas price hikes and an increase in cigarette prices, though these were partly offset by reductions in vegetables and fruit prices owing to a higher base effect. The core CPI, which excludes fruit, vegetables, and energy, rose by 1.04%, 0.20 percentage points higher than the previous year.



Source: Price Statistics Monthly, DGBAS, Executive Yuan.

### Moderate Increase in Wholesale Prices

Compared with a decline of 2.98% in 2016, the WPI climbed to 0.90% in 2017, the first yearly increase since 2012. The rise was mainly attributable to a pickup in international oil prices underpinned by the global economic recovery. In terms of monthly movements, the annual WPI inflation rate generally displayed a downtrend in the first half of the year and fell to an all-year low of -1.74% in June. Afterwards, it went up to 1.92% in September on account of the rebound in international raw material prices. Subsequently, the pace of the increase in the annual WPI inflation rate gradually abated and the rise was 0.31% in December.

Broken down by the three major components of the WPI, the annual rates of change in prices for imports and domestic sales excluding imports both increased moderately in 2017, reflecting a continued upturn in global oil prices in the second half of the year, whereas the annual growth rate of export prices stayed in negative territory.

Import prices, weighted at 33.41% of the WPI, rose by 7.41% in US dollar terms in 2017. As the NT dollar appreciated against the US dollar over 2017, which helped ease the pressure on imported inflation, the annual change in import prices narrowed to a 1.36% increase in NT dollar terms. Among

the components of import prices in terms of NT dollars, prices of raw materials rose by 3.40% and accounted for 2.52 percentage points in the import price increase, mainly driven by rising prices of mineral products and base metals. In contrast, prices of capital goods and consumer goods went down by 5.89% and 2.50% and subtracted 0.89 percentage points and 0.27 percentage points from the import price increase, respectively.

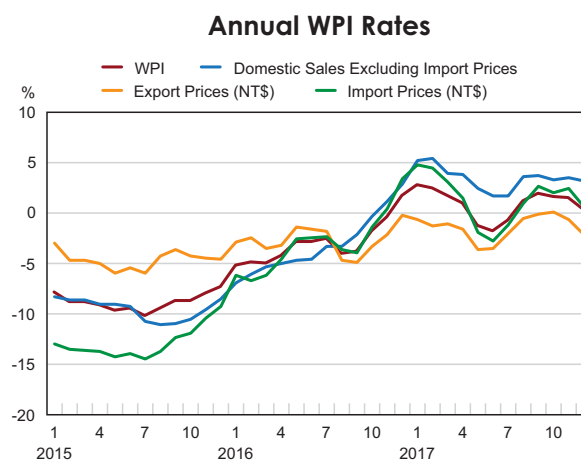
Export prices, weighted at 36.79% of the WPI, expanded by 4.47% in US dollar terms in 2017. As a result of the NT dollar appreciation against the US dollar, the annual change in export prices reversed to a 1.46% decrease in terms of the NT dollar, largely affected by lower prices for optical products as well as machinery and electrical equipment.

With rising import costs of primary commodities, prices of domestic sales excluding imports, weighted at 29.8% of the WPI, moved up by 3.44% in 2017. In terms of the basic groups, prices of manufacturing products showed the largest increase at 4.90%, primarily attributable to higher cigarette prices reflecting the cigarette tax hike effective in June, along with rising prices of base metals. On the other hand, prices of agriculture, forestry, fishing, and animal husbandry products dropped by 4.80%, mostly influenced by falling prices of vegetables and fruit on account of a higher base effect resulting from unfavorable weather conditions in the previous year.

### Mild Increase in Consumer Prices

The CPI rose by 0.62% in 2017, lower than the 1.39% increase in the previous year. From the beginning of this year, the annual CPI inflation rate trended downward and eased to 0.10% in April as a result of a slump in vegetables and fruit prices caused by favorable weather conditions. From May onwards, monthly movements of CPI inflation exhibited an uptrend and edged up to 0.96% in August, as prices of vegetables soared because of weather-related disruptions. Subsequently, the pace of CPI growth slackened and slowed to an all-year low of -0.33% in October, mainly dragged down by a marked drop in prices of vegetables and fruit owing to a higher base effect stemming from severe crop damage caused by typhoons in 2016. Afterwards, it moved up to 1.22% in December, as the base effect from last year's higher vegetable prices dissipated, and prices of cigarettes, fuel, and food away from home increased.

The core CPI inflation rate grew at an average pace of 1.04% year on year in 2017, indicating mild inflationary pressures. 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 September, monthly core CPI inflation rates hovered between 0.81% and 1.11%. Later, the core inflation rate stepped up and registered 1.57% in December, mainly influenced by higher cigarette prices.

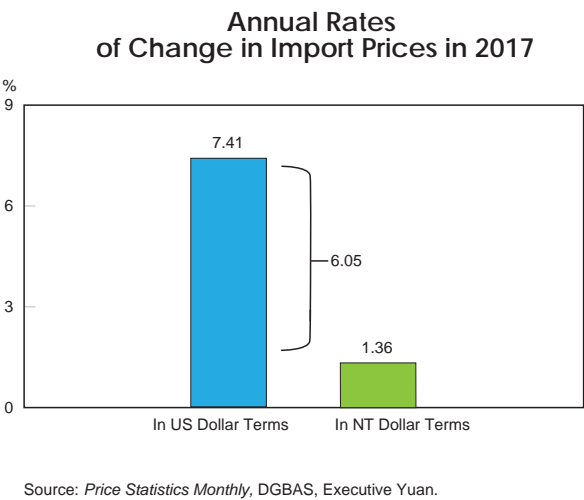
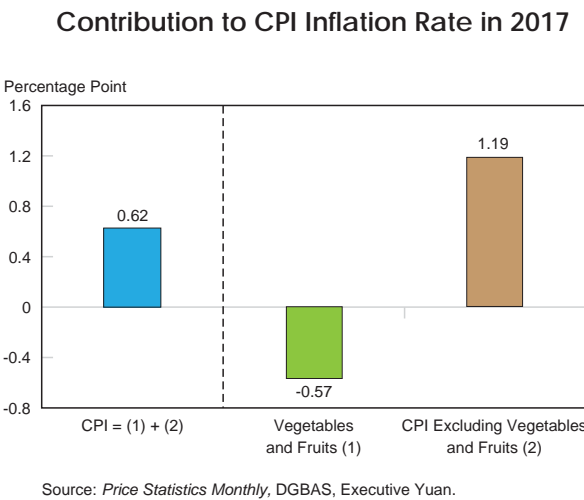
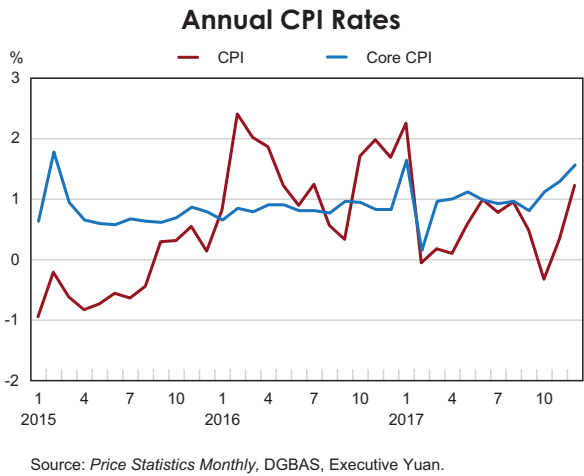
Taiwan's CPI inflation recorded a mere 0.62% gain in 2017, the second lowest in eight years. The mild increase was largely attributed to the following factors:

(1) A higher comparison base of vegetables and fruit prices

Compared with a spike in crop prices caused by severe coldness and typhoons in 2016, the absence of major crop damage amid relatively stable weather conditions this year resulted in falling prices of vegetables and fruit, subtracting 0.57 percentage points from CPI inflation, which largely offset the CPI increase.

(2) A stronger NT dollar mitigating imported inflationary pressures

As the NT dollar appreciated by 6.17% against the US dollar over 2017, the annual change in import prices in NT dollar terms was 6.05 percentage points lower than that in US dollar terms. This difference is estimated to have dragged the CPI inflation rate down by 0.36 percentage points.

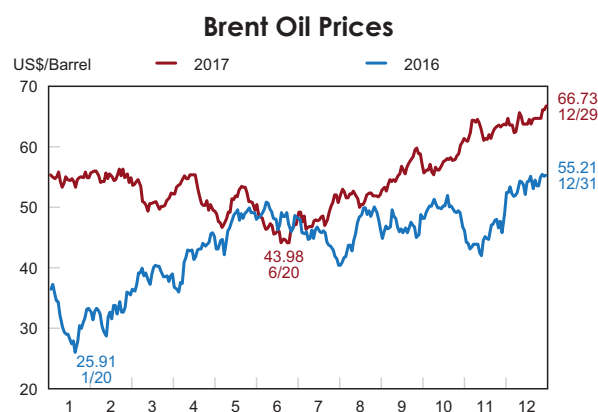


The main factors contributing to the rise of CPI inflation in 2017 were as follows:

- (1) From the beginning of 2017, international petroleum prices moved downward and fell to a yearly low in mid-June, primarily induced by surging oil production in the US, Libya, and Nigeria. In subsequent months, global oil prices rebounded and peaked at the year end resulting from intensified geopolitical tensions in the Middle East, the extension of an oil output-cut agreement among OPEC members and non-OPEC oil producers, and supply-side disruptions in some oil-producing countries. Compared with 2016, the average Brent oil price rose by 23.76%. As a result, higher imported costs of petroleum and natural gas pushed up domestic oil and gas prices, which climbed by 9.36% and 9.92% and accounted for 0.23 and 0.07 percentage points in the CPI increase, respectively.
- (2) The rise in wages and higher raw food prices drove up prices of food away from home by 1.99%, contributing 0.21 percentage points to CPI inflation.
- (3) Residential rent prices continued to increase at a mild pace and advanced by 0.92%, accounting for 0.17 percentage points to CPI inflation.
- (4) The tax on cigarettes was substantially raised by NT\$20 per pack starting on June 20, leading prices of tobacco and betel nuts to surge by 8.09%, contributing 0.10 percentage points to CPI inflation.
- (5) A shortage of domestic aquaculture supply caused by extremely warm temperatures, combined with developing countries' rising demand for deep-sea fisheries, sent prices of fish and seafood 4.84% higher, accounting for 0.09 percentage points in CPI inflation.

The main factors contributing to downward pressure on the CPI in 2017 were as follows:

- (1) Reflecting a higher base effect and favorable weather conditions in the year, prices of vegetables and fruit declined by 14.51% and 3.23% in 2017, and accounted for -0.47 and -0.10 percentage points in CPI inflation, respectively.
- (2) Since a lingering effect of the reduction in electricity prices effective in April 2016 continued into March 2017, electricity prices moved down by 2.44%, subtracting 0.05 percentage points from CPI inflation.
- (3) As fees for internet and cell phones adjusted downward, communication fees fell by 1.48%, deducting 0.05 percentage points from the CPI inflation rate.



Source: Thomson Reuters Datastream.

### Percentage Changes in the Major Components of the CPI in 2017

Item	Annual Rate of Change (%)	Contribution to CPI Inflation Rate (Percentage Point)
CPI	0.62	0.62
Fuels & Lubricants	9.36	0.23
Food away from Home	1.99	0.21
Residential Rent	0.92	0.17
Tobacco & Betel Nuts	8.09	0.10
Fish & Seafood	4.84	0.09
Gas	9.92	0.07
Medical Care Services	2.23	0.06
Meat	2.31	0.05
Education & Entertainment Services	0.43	0.05
Total		1.03
Vegetables	-14.51	-0.47
Fruits	-3.23	-0.10
Electricity	-2.44	-0.05
Communication Fees	-1.48	-0.05
Total		-0.67
Others		0.26

Source: Price Statistics Monthly, DGBAS, Executive Yuan.

## 5. Labor Market

### Increase in Employment

Since the beginning of year 2017, labor market conditions have improved significantly, thanks to continuous economic recovery. For the year as a whole, annual average employment was 11.35 million persons, an increase of 85 thousand persons or 0.75% from the previous year.

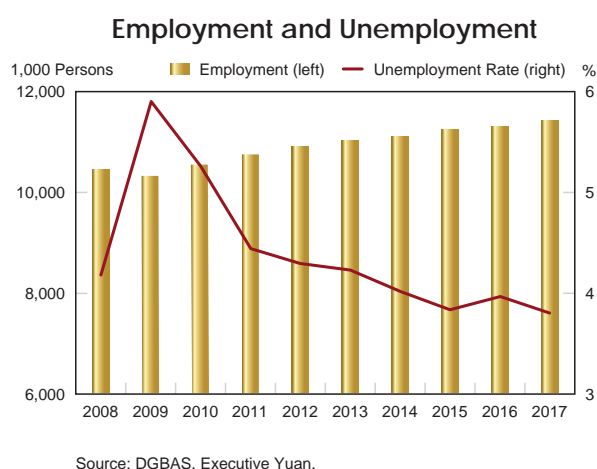
In terms of employment by sector, employment in the services sector increased by 65 thousand persons or 0.98%, while that in the industrial sector increased by 20 thousand persons or 0.49%. On the other hand, employment in the agricultural sector decreased by one thousand persons or 0.14%. Of total employment, the services sector accounted for 59.31%, up by 0.14 percentage points from the previous year, while the shares of the industrial and the agricultural sectors shrank to 35.79% 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 50 thousand persons or 0.99%. Services and sales employment increased by 25 thousand persons or 1.13%, while employment of blue collar workers (skilled agricultural, forestry, fishing, and animal husbandry industries, craft and machinery related workers, etc.) increased by nine thousand persons or 0.22%.

### Improvement in Unemployment

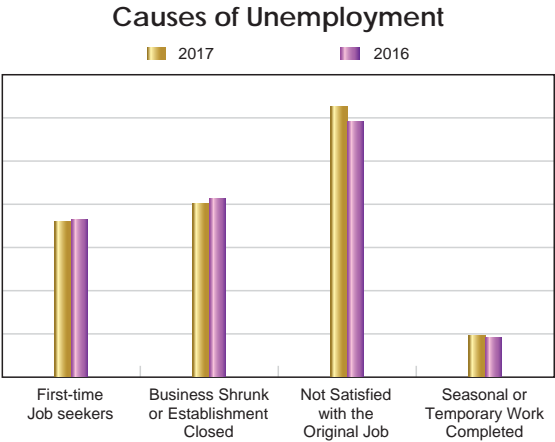
For year 2017, the unemployment rate in general exhibited a downward trend, except in February (due to a typical wave of post-Lunar New Year job switching) and in June to August (as new graduates enter the job market) when seasonal factors resulted in higher unemployment. For the year as a whole, the unemployment rate was 3.76%, the lowest in 17 years.

As labor market conditions improved, unemployment duration decreased by 0.85 weeks to 24.22 weeks. In terms of age, the unemployment duration of the age groups 15-24 and 45-64 increased by 0.01 and 0.24 weeks to 19.92 and 26.32 weeks, respectively, while that in the age group of 25-44 decreased by 1.54 weeks to 25.47



weeks. The average number of the long-term unemployed (those who were unemployed for 53 weeks or more) was 63 thousand persons, a decrease of six thousand persons compared to that in the previous year.

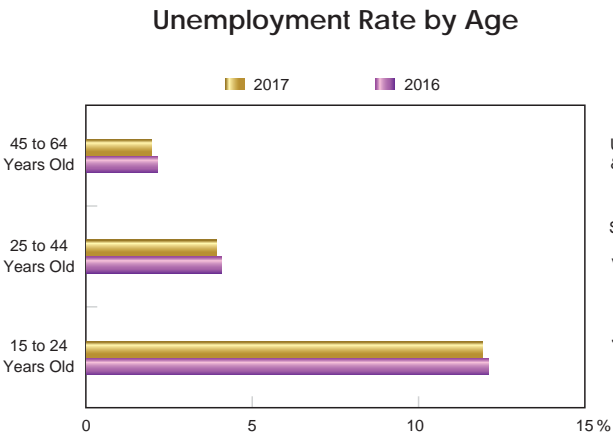
In terms of causes of unemployment, total unemployment in year 2017 was 443 thousand persons, a decrease of 17 thousand persons or 3.52% from the previous year, mainly because unemployment of experienced job seekers decreased by 12 thousand persons or 3.31%. Among them, people who lost their jobs because business shrunk or establishment closed made up a major portion of the decrease in such unemployment. This type of unemployment decreased by seven thousand persons or 5.98%, and made up a smaller share of 25.63% of total unemployment, compared to 26.30% in the previous year. Those unemployed who were not satisfied with their original jobs still accounted for the largest share of total unemployment, with the number up by one thousand persons or 0.95% from the previous year.



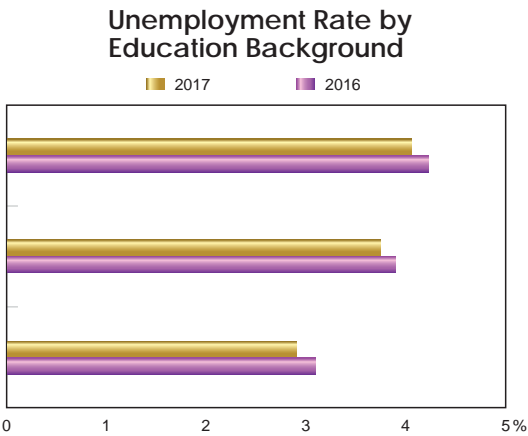
Source: DGBAS, Executive Yuan.

In terms of age groups, in year 2017 the unemployment rate of the age group 15-24 was 11.92%, which was a decrease of 0.20 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 decreased by 0.15 and 0.16 percentage points from the previous year, respectively, reaching 3.93% and 1.99%.

In terms of educational background, the unemployment rate of people with a college degree or above decreased to 4.06%, which was 0.17 percentage points lower than the previous year.



Source: DGBAS, Executive Yuan.



Source: DGBAS, Executive Yuan.



However, the unemployment rate of this group was still the highest among all the groups. The unemployment rate of people with a junior high school degree or below dropped to 2.90%, while that of people with a senior high school or vocational school diploma decreased to 3.74%, down by 0.19 and 0.16 percentage points compared to the previous year, respectively.

### Increase in Labor Participation Rate

The labor force (employed and unemployed combined) in 2017 increased by 68 thousand persons or 0.58% to 11.80 million persons, while the labor force participation rate reached 58.83%, a 0.08 percentage point increase compared to the previous year.

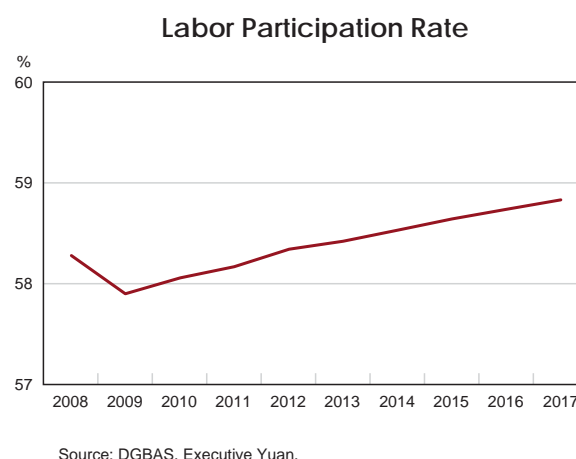
In terms of gender, the male labor force participation rate was 67.13%, an increase of 0.08 percentage points from the year before, while the female rate also rose by 0.12 percentage points to 50.92%, reflecting effective government efforts in promoting gender equality, improving work environment, and facilitating female employment in recent years.

In terms of age groups, the labor participation rates of all age groups went up in 2017, with those of the 16-24, 25-44, and 45-64 age groups increasing by 1.31, 0.44, and 0.40 percentage points to 32.68%, 88.26%, and 62.82%, respectively. Although Taiwan's total labor force participation rate has increased since year 2000, it is still lower than those of the United States (62.9%), Japan (60.5%), South Korea (63.2%), and Singapore (67.7%). The main reasons behind the low rate are the extension of schooling and early retirement. To address the issue of an aging population in Taiwan, in recent years the government has actively promoted employment of middle-aged workers and enhanced the program of diverse youth employment.

In terms of educational background, the labor force participation rates of those with a junior high school or below degree and those with a senior high school or vocational school diploma increased by 0.20 and 0.18 percentage points to 40.57% and 62.24%, respectively, while the participation rate of those of people with a college degree or above decreased by 0.62 percentage points to 66.67%.

### Increase in Earnings and Labor Productivity

The average monthly earnings per worker of the non-farm sector was NT\$49,989 in 2017, a 2.46% increase from the previous year. After adjustment for inflation, the average real monthly earnings

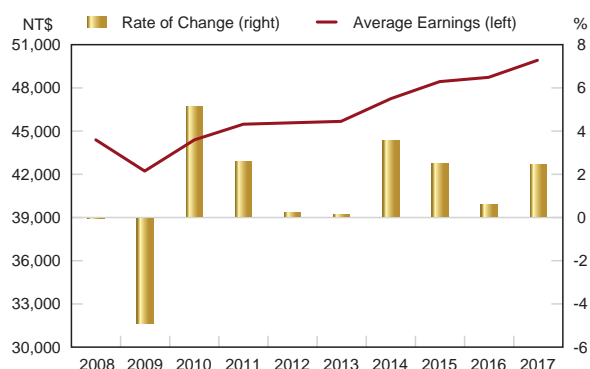


increased by 1.83% to NT\$47,271, an all-time high. Thanks to an economic pickup since the second half of 2016, firms increased their payouts of year-end bonuses and performance bonuses. There was also an increase in overtime pay after the amendment to the *Labor Standards Act*. These two factors are the main causes behind the rise in monthly earnings.

In terms of major sectors, the average monthly earnings of industrial sector and services sector workers both increased by 2.46% to NT\$48,187 and NT\$51,374, respectively, and their real earnings also both increased by 1.83%. The electricity and gas supply sector had the highest average monthly earnings with NT\$94,551, the financial and insurance activities sector came in second place with NT\$86,294, while education services sector workers earned only NT\$25,288, the lowest among all sectors. The accommodation and food service activities sector saw the second lowest earnings with NT\$33,527. In terms of growth rate, all sectors except the construction sector posted increases in average monthly earnings. The mining and quarrying sector registered the largest increase at 7.45% and, the real estate activities sector was in second place with an increase of 4.85%.

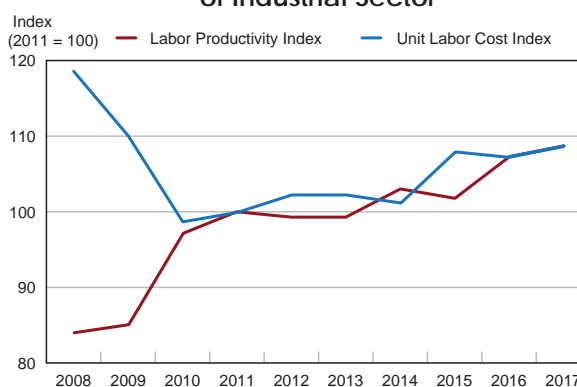
As growth in total production outpaced that in total working hours, labor productivity of the industrial and the manufacturing sectors increased by 1.37% and 2.10%, respectively. In the manufacturing sector, the repair and installation of industrial machinery and equipment sector saw the highest increase in labor productivity with 15.47%, and the wholesale of food, beverages and tobacco sector came in second with 13.79%. Since the increase in total earnings was higher than that in production, unit labor costs of the industrial and manufacturing sectors increased by 1.25% and 0.60%, respectively, compared to those of the previous year. Unit labor cost of the manufacture of wearing apparel and clothing accessories sector increased the most, by 17.10%, followed by that of the extraction of crude petroleum and natural gas sector at 10.40%.

### 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 2017, the CBC's policy rates remained unchanged, banks' posted interest rates on deposits and loans stayed stable, while weighted average interest rates on deposits and loans slightly moved downward. Most money market rates slightly increased, and the average 10-year government bond yield turned upwards following the Fed's rate hikes and US bond yield rises. 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 economic recovery, increased housing transactions, and brisk trading in the stock market. Meanwhile, M2 growth slowed because some deposits shifted from banks to life insurance companies.

With respect to the exchange rate, the NT dollar against the US dollar swung upwards in the year, affected by factors including a weak US dollar, larger net foreign capital inflows, and the Fed's rate hikes. 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, swung up from its yearly low in January to over 10,000 points in May and reached its yearly high on November 23, before declining owing to weak international stock markets and net sales by foreign investors.

#### **M2 Growth Slowed**

The monetary aggregate M2, measured on a daily average basis, recorded a yearly growth rate of 3.75% in 2017. This was lower than the 4.51% registered in 2016 and remained within the CBC's 2.5% to 6.5% target range for the year. The drop was because part of bank deposits shifted to life insurance companies. The annual growth rate of M1B, measured on a daily average basis, dropped to 4.65% in 2017 from 6.33% recorded a year earlier, mainly because of lower growth in transaction deposits and a higher base effect in the previous year. Meanwhile, the annual growth rate of reserve money decreased in 2017 because growth in banks' demand for reserves slowed as a result of lower growth in transaction deposits.

#### **Growth in Bank Loans and Investments Increased**

Although commercial banks were still conservative in making investment decisions on concerns about monetary policy normalization in advanced economies, as well as increasing uncertainty in global political, economic and financial situations, the annual growth rate of loans and investments increased from 3.89% at the end of 2016 to 4.82% at the end of 2017. The increase was due to faster

loan growth as the economic recovery, increased housing transactions, and brisk stock trading combined to boost private sector demand for funds. 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 3.69% at the end of 2017, higher than the 2.56% recorded a year earlier.

### **Average Rates on Deposits and Loans Slightly Declined**

In 2017, the CBC's policy rates remained unchanged, and banks' posted interest rates on deposits and loans both stayed steady. At the end of 2017, 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 2.632%, close to that of 2016. The weighted average rate on their new loans decreased from 1.468% the previous year to 1.414%, mainly because of a drop in the rate on loans for current operations resulting from new low-interest loans to local governments and government enterprises.

For domestic banks as a whole, the weighted average interest rate on deposits slightly decreased by 0.07 percentage points, mainly because the share of time deposits in total deposits shrank from the previous year. Meanwhile, the weighted average interest rate on loans also slightly declined by 0.09 percentage points, mainly owing to increases in low-interest loans of some banks to local governments and government enterprises.

### **Bills Market Rates and 10-Year Government Bond Yields Increased**

Against the background of a domestic economic recovery and stable prices, the CBC 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 0.17% and 0.18% during the year of 2017. 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 upward, mainly because of robust stock trading absorbing funds from the bond market, as well as the Fed's rate hikes. 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\$163.5 billion over the previous year.

### **Exchange Rate Swung Up**

The NT dollar against the US dollar reached a yearly low on January 4. Afterwards, the NT dollar

appreciated owing to foreign capital inflows and a weak US dollar resulting from US president Trump's remarks that the US dollar was too strong and that could hurt the US economy. While the Fed raised the policy rate on June 15, along with the announcement of its balance sheet reduction plan, and foreign capital flowed out of Asia, the NT dollar slightly depreciated. After early July, because of US dollar weakness on concerns that the Fed would slow down the pace of rate hikes, as well as continuous net foreign capital inflows, the NT dollar trended up again to a yearly high on December 28. At the end of 2017, the NT dollar appreciated against the US dollar by 8.14% compared to that at the end of the previous year. The NT dollar against the US dollar also appreciated by 6.17% on an annual average basis.

### **Stock Index Swung to Rise, Then Closed Lower**

After the beginning of 2017, the TAIEX swung up from the yearly low of 9,273 on January 3 to over 10,000 points in May, mainly driven by the domestic economic recovery, US stocks renewing record highs, and net purchases by foreign investors. Afterwards, although there were unfavorable factors including tensions on the Korean Peninsula, the TAIEX continued to climb to a yearly high of 10,855 on November 23, a record unseen for 28 years, mainly bolstered by active trading from domestic individual investors. For the rest of the year, the TAIEX declined on weak international stock markets and net sales by foreign investors. The TAIEX closed at 10,643 points at the end of the year, increasing by 15.01% compared with the previous year end.

## 2. Banking Sector

### Number of Monetary Financial Institutions

At the end of 2017, the number of monetary financial institutions (defined hereafter in this chapter as excluding the central bank) decreased to 403. The number of domestic banks decreased by one because of business model transformation pursued by China Development Industrial Bank, while the numbers of the other types of institutions all remained unchanged.

### Number of Monetary Financial Institutions by Type

Types of institutions	End of 2017	End of 2016	Annual Change
Total Number of Main Offices	403	404	-1
Domestic Banks	39	40	-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	6,106	6,111	-5
Local Branches	5,898	5,908	-10
Overseas Branches	147	141	6
Offshore Banking Units	61	62	-1

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

There were no money market mutual funds at the end of 2017 after the final money market mutual fund, offered by Yuanta Commercial Bank, was liquidated in May. The number of financial holding companies remained at 16, the same as in 2016.

### Market Shares of Deposits and Loans

In terms of market shares of deposits, domestic banks gained a larger share of 77.92%, mainly because transaction deposits expanded amid net foreign capital inflows and a buoyant stock market. Moreover, higher USD deposit rates offered by domestic banks following Fed rate hikes and NTD appreciation both contributed to a significant increase in foreign currency deposits. As a result of deposit outflows 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 1.71%, 14.44%, 4.35%, and 1.58%, respectively.

In terms of loans, the market share of domestic banks slipped to 89.91%, as the government collected more tax and treasury revenues, the CPC Corporation generated more profits amid oil



price rises, and the Taiwan Power Company raised more debt, all of which caused a decrease in borrowings from domestic banks by the government and government enterprises. Meanwhile, foreign and Mainland Chinese banks' market share climbed to 4.27% as their lower lending rates boosted corporate lending. Chunghwa Post's market share edged up to 0.04% owing to an increase in lending to bills finance companies. As for credit departments of farmers' and fishermen's associations and credit cooperatives, their market shares continued to fall to 4.04% and 1.74%, respectively.

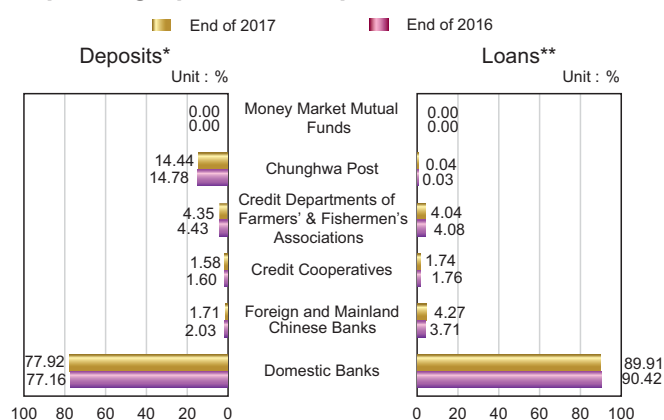
### Sources and Uses of Funds

At the end of 2017, the total amount of funds in monetary financial institutions was NT\$48,570 billion, increasing by NT\$2,157 billion compared to the end of 2016. The combined share of transaction and non-transaction deposits accounted for nearly 85%, yet the annual growth rate rose to 4.42% thanks to marked increases in both the balance and growth of foreign currency deposits. As for other items, its balance increased mainly owing to a rising amount of deposits from life insurance companies as well as the gains in banks' profits.

Regarding the uses of funds, all the items expanded at the end of 2017 compared to the end of 2016. Bank loans accounted for over 50% of total uses of funds. Both the share and growth in loans increased compared to the previous year, mainly owing to greater demand from private enterprises and individuals supported by an economic recovery, a robust stock market and a pickup in the housing market. In addition, growth in net foreign assets decreased slightly to 6.16% over the end of the previous year.

Because of ample liquidity in the banking system, both portfolio investments and banks' purchases of CDs issued by the CBC continued to post year-on-year rises at the end of 2017. Growth in portfolio investments by monetary financial institutions slowed, mainly because banks became more conservative with their investments in response to the gradual normalization of monetary policy in advanced economies and uncertainties over global economic conditions. As for banks' purchases of CDs issued by the CBC, its share remained broadly the same as in the past few years, while its growth accelerated to 4.10% at the end of 2017 from 1.00% a year earlier.

**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 Institutions<sup>1</sup>

Unit: NT\$ Billion

	End of 2017			End of 2016			Annual Change	
	Amount	Share (%)	Annual Growth Rate (%)	Amount	Share (%)	Annual Growth Rate (%)	Amount	Share (%)
Sources:								
Transaction Deposits <sup>2</sup>	14,950	30.78	3.12	14,497	31.24	5.61	453	-0.46
Non-transaction Deposits <sup>3</sup>	26,029	53.59	5.18	24,747	53.32	2.54	1,281	0.27
NT Dollar Deposits	20,357	41.91	1.17	20,122	43.35	1.14	235	-1.44
Foreign Currency Deposits	5,671	11.68	22.61	4,625	9.97	9.12	1,046	1.71
Government Deposits	938	1.93	4.81	895	1.93	5.83	43	0.00
Other Items	6,653	13.70	6.06	6,273	13.51	3.53	380	0.19
Total	48,570	100.00	4.65	46,413	100.00	3.68	2,157	0.00
Uses:								
Net Foreign Assets <sup>4</sup>	4,769	9.82	6.16	4,492	9.68	8.83	277	0.14
Loans	26,379	54.31	5.00	25,122	54.12	3.57	1,257	0.19
NT Dollar Loans	25,309	52.11	4.18	24,294	52.34	3.78	1,016	-0.23
Foreign Currency Loans <sup>4</sup>	1,069	2.20	29.11	828	1.78	-2.27	241	0.42
Portfolio Investments <sup>5</sup>	5,725	11.79	5.48	5,427	11.69	5.81	297	0.10
Purchases of CDs Issued by CBC	7,793	16.05	4.10	7,487	16.13	1.00	307	-0.08
Deposits with CBC	3,904	8.03	0.52	3,884	8.38	1.15	20	-0.35

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

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

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

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

5. Measured at original costs.

Source: *Financial Statistics Monthly*, CBC.

## Deposit Growth

Because of an increase in net foreign capital inflows and higher growth in bank loans and investments, the annual growth rate of deposits slightly trended upward in 2017. However, owing to a higher comparison base in the previous year, the annual growth rate of deposits only increased 0.01% from 3.45% in 2016 to 3.46% in 2017.

In terms of monthly movement, the growth rate of deposits went up from January to May, except for April. In April, with lower net foreign capital inflows and the decreased deposit balance of securities giro accounts due to a decline in TAIEX trading value, the growth rate of deposits slowed.

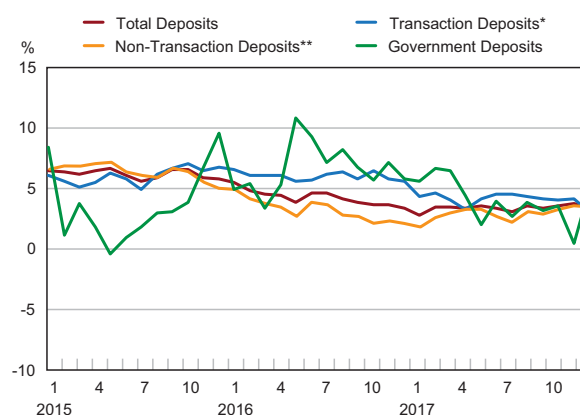
After that, the growth rate of deposits rose during the period from May to November, except for June, July and September. Because growth momentum for bank loans and investments weakened in June and July, and net foreign capital inflows decreased and even turned into net outflows from June to July, the growth rate of deposits declined. In September, the lure of foreign currency insurance policies caused bank deposits to experience slower growth. In December, because of net foreign capital outflows and decelerating growth in bank loans and investments, the growth

rate of deposits dropped to 3.46%.

For transaction deposits, owing to a buoyant domestic stock market, the growth rate ascended in the first half of 2017 except for March and April. As a result of a shift of funds from deposits to insurance products and a decrease in TAIEX trading value, the growth rate of transaction deposits declined significantly in March and April. Growth continually declined in the third quarter because funds originally deposited into bank accounts went to insurance products. And in the fourth quarter, as the FSC was set to enforce the net stable funding ratio in 2018, some banks sought to increase their time deposits business, leading transaction deposits to partially shift to time deposits. As a result, the growth rate of transaction deposits fell to 3.12%, and its share in total deposits declined to 35.67% at the end of 2017.

For the year as a whole, non-transaction deposits posted a rise in annual growth rate from 2.17% in 2016 to 3.60% in 2017, on account of a lower comparison base and a partial shift of funds from transaction deposits to time deposits. By type of non-transaction deposits, the share of time deposits rose to 12.43% at the end of 2017, as some banks increased capital by issuing NCDs. The shares and annual growth rates of time savings deposits and postal savings deposits declined because some depositors moved their money to insurance products.

### Annual Growth Rates of Deposits

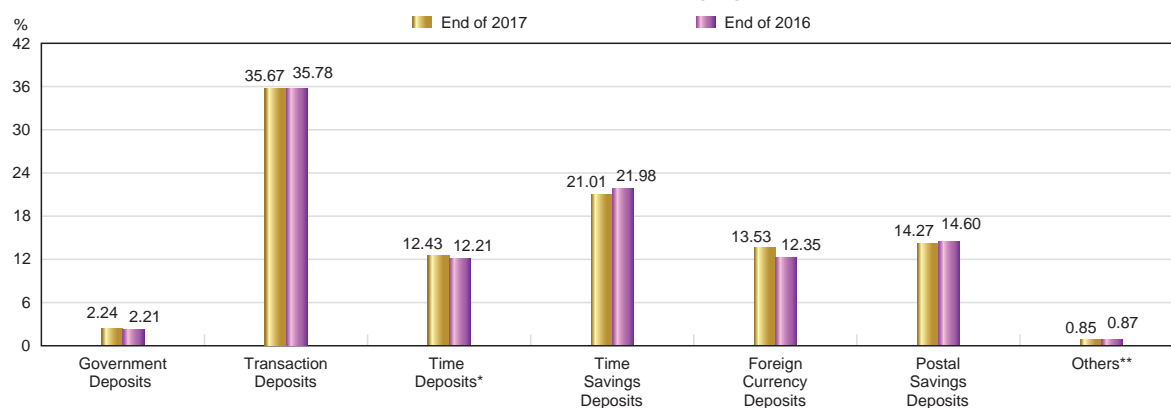


Notes: \* Including checking accounts, passbook deposits and passbook savings deposits.

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

Source: *Financial Statistics Monthly*, CBC.

### 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.

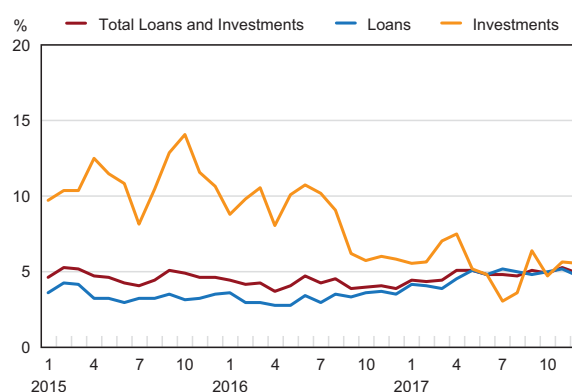
For foreign currency deposits, the share and annual growth rate in 2017 increased to 13.53% and 13.38%, respectively. This was mainly attributable to the NT dollar appreciation which led to more purchases of foreign currency for higher gains, for travel, or for premium payment for foreign currency insurance policies. In addition, owing to a higher base effect, the annual growth rate of government deposits dropped to 4.82%, but its share in total deposits went up to 2.24%.

## Growth in Bank Loans and Investments

The annual growth rate of loans and investments of monetary financial institutions was 4.82% at the end of 2017, increasing from 3.89% at the end of 2016. Growth in loans increased to 4.68% at the end of 2017 from 3.48% at the end of the previous year, mainly owing to greater demand from private enterprises and individuals amid an economic recovery, a buoyant stock market, and a recovering housing market. In contrast, growth in portfolio investment decelerated to 5.48% at the end of 2017 from 5.80% a year earlier. Banks were still conservative

with their investments on concerns about the gradual normalization of the monetary policies of the US and the UK and the uncertainties over global economic and financial conditions.

**Annual Growth Rates of Loans and Investments**



Source: *Financial Statistics Monthly*, CBC.

## Loans by Sector

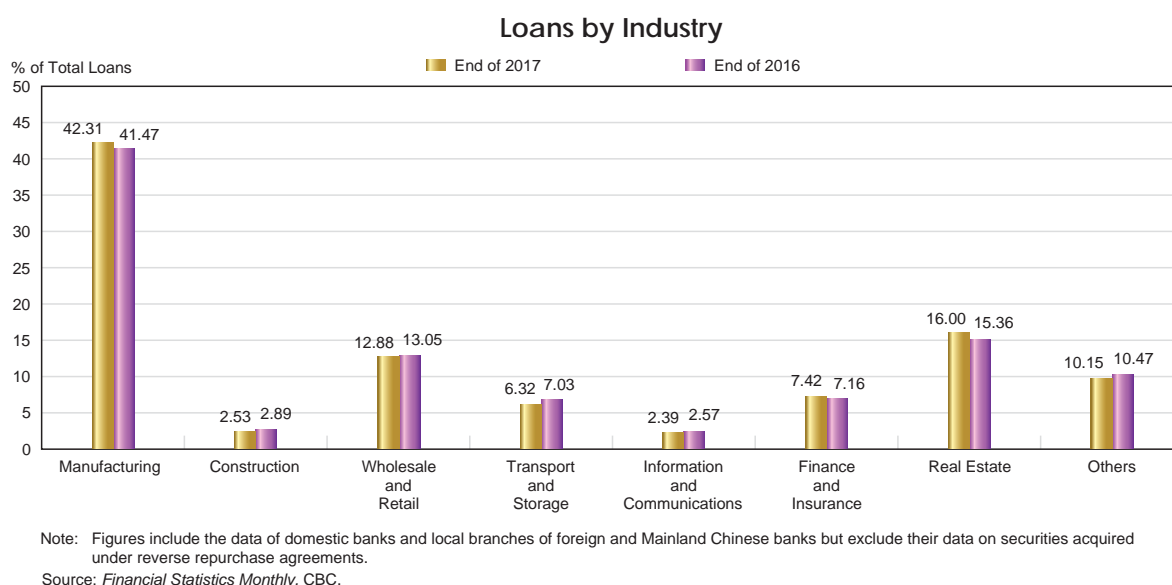
The annual growth rate of private sector loans by banks (defined in the following paragraphs as including domestic banks and local branches of foreign and Mainland Chinese banks) rose to 5.16% at the end of 2017 from 4.84% at the end of 2016. The upturn was mainly due to increasing demand from private enterprises and individuals. The annual growth rate of loans to government enterprises was -3.34% at the end of 2017, mainly because the CPC Corporation and the Taiwan Power Company reduced their borrowing from banks. For the part of the CPC Corporation, the reduction was mainly a reflection of the company's considerable gains in annual profits; as for the Taiwan Power Company, it was mainly due to the company changing its policy to raise funds for factory expansion by issuing corporate bonds instead. Though negative, the growth rate of loans to government enterprises was still higher than the -15.64% growth rate of the previous year end mainly as a result of a lower base effect. Meanwhile, the annual growth rate of loans to government agencies was -5.44% at the end of 2017, mainly on account of increased tax revenues thanks to the economic recovery and 4G network license fees of NT\$20.0 billion received by the national treasury, which reduced the borrowing needs of the government.

In terms of loan composition, loans extended to the private sector accounted for 92.84% of total loans at the end of 2017, higher than the 92.15% recorded at the end of 2016. Loans extended to government agencies and government enterprises accounted for 5.12% and 2.03% at the end of 2017, respectively, lower than 5.65% and 2.20% 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 42.31% at the end of 2017, increasing from 41.47% at the end of 2016. This increase was mainly due to faster growth in loans for the manufacturing of computers and electronic and optical products as the demand for new laptops and tablet computers rose. Meanwhile, compared with the end of 2016, the share of loans extended to the construction industry decreased from 2.89% to 2.53% at the end of 2017, reflecting soft loan demand from the construction sector.

Both the share and the annual growth rate of loans extended to the real estate industry increased at the end of 2017, mainly reflecting the recovery in the housing market. The share of loans extended to the finance and insurance industry also exhibited an uptrend. However, some securities firms earned profits from the stock rally, which contributed to a decrease in the annual growth rate of loans extended to this industry.



### Consumer Loans

The annual growth rate of consumer loans extended by banks increased from 2.86% at the end of 2016 to 3.80% at the end of 2017. Among them, house-purchasing loans increased NT\$282.6 billion, or 4.44%, in 2017, a higher year-on-year increase mainly because home sales increased as a result of sellers cutting prices. As for the shares of various consumer loans, house-purchasing loans remained

the largest component, with its share rising from 83.07% at the end of 2016 to 83.59% at the end of 2017. Car loans accounted for 1.67%, increasing from 1.65%, mainly because car sales were stimulated by the commodity tax cut for vehicle trade-ins. Meanwhile, house-repairing loans, revolving credit for credit cards, employees' welfare loans and other consumer loans accounted for 1.43%, 1.39%, 0.66% and 11.27%, respectively.

## Investments

In terms of valuation changes, portfolio investments by monetary financial institutions, measured at fair value, recorded a year-on-year increase of NT\$330.1 billion, while the increase was smaller, at NT\$297.4 billion, when measured on a cost basis.

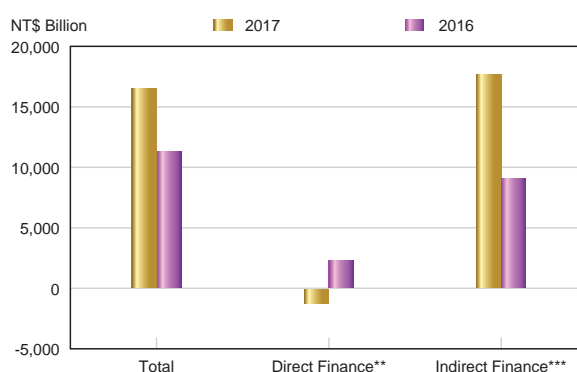
Portfolio investments by monetary financial institutions, measured on a cost basis, showed slower growth with an annual increase of 5.48% in 2017, mainly because banks became more conservative with their investments as they were watchful of the gradual normalization of monetary policy in advanced economies and uncertainties over global economic conditions.

Among the investment instruments, government bonds accounted for the largest share with 61.87%, lower than the 63.70% registered a year ago, mainly because government bond issuance declined as increased tax revenue and rising funding costs reduced the government sector's funding needs. Meanwhile, banks and the Department of Savings and Remittances of Chunghwa Post adjusted their asset allocation to invest more in securities issued by the corporate sector. At the end of 2017, commercial paper accounted for a share of 17.76%, larger than a year ago. Corporate bonds accounted for a share of 14.08%, increasing from the end of 2016.

## 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\$1,130.0 billion to NT\$1,659.1 billion in 2017. Direct finance decreased NT\$118.1 billion during 2017, compared to the previous year's increase of NT\$227.4 billion. Indirect finance increased from the previous year's NT\$902.6 billion to NT\$1,777.2 billion, which was mainly due to higher growth

Direct Finance vs. Indirect Finance\*



Notes: \* Measured in terms of flow data.

\*\* Refers to the total amount of new issues of various marketable securities, including government bonds, corporate bonds, listed stocks, offshore bonds, depositary receipts, short-term bills, and asset-backed securities held by the non-financial sector.

\*\*\* Refers to loans and investments (measured on a cost basis) made by monetary financial institutions, trust and investment companies, and life insurance companies, after taking account of their non-accrual loans reclassified and bad loans written off.

Source: *Financial Statistics Monthly*, CBC.

in loans and investments by financial institutions.

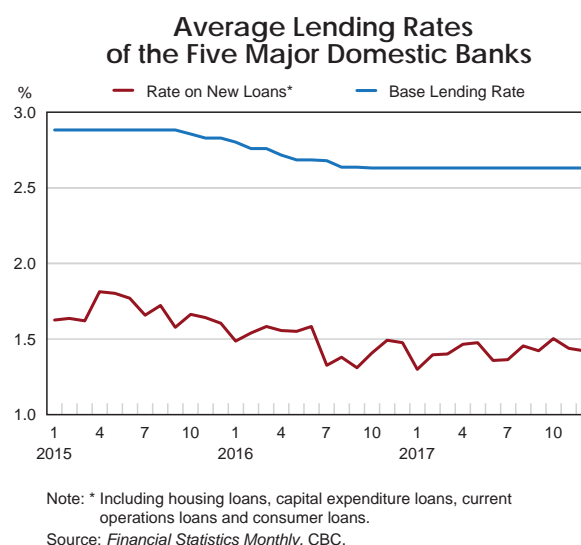
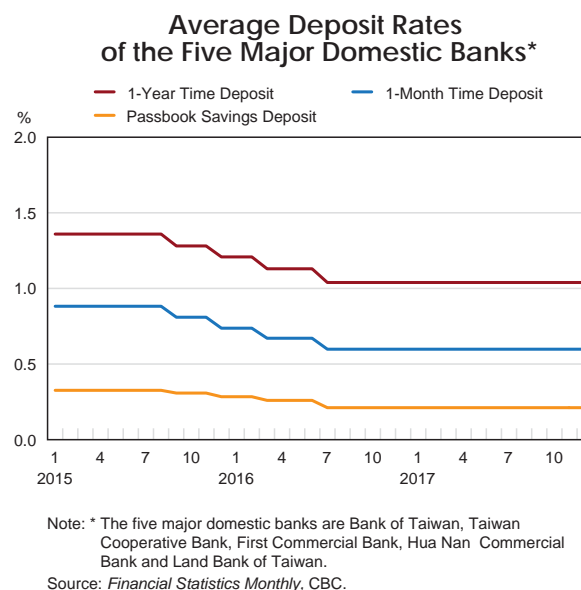
Based on the outstanding balance, the share of direct finance in total funds raised decreased from 20.62% a year ago to 19.82% at the end of 2017, while the share of indirect finance increased from 79.38% to 80.18%.

### Bank Interest Rates Remained Steady

Throughout 2017, the domestic economy experienced a moderate recovery and inflationary pressures were modest, but global uncertainties remain. As a result, the CBC to decide 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, respectively, remained at 0.60% and 1.04% at the end of 2017.

The weighted average rates on deposits and loans of domestic banks showed a slightly downward trend in 2017. Because of an increase in the share of transaction deposits in total deposits, the weighted average deposit rate slightly decreased to 0.56% in the fourth quarter of 2017 from 0.57% a year ago. For the year as a whole, the weighted average interest rate on deposits of domestic banks was 0.56% in 2017, which was 0.07 percentage points lower than that recorded in the previous year.

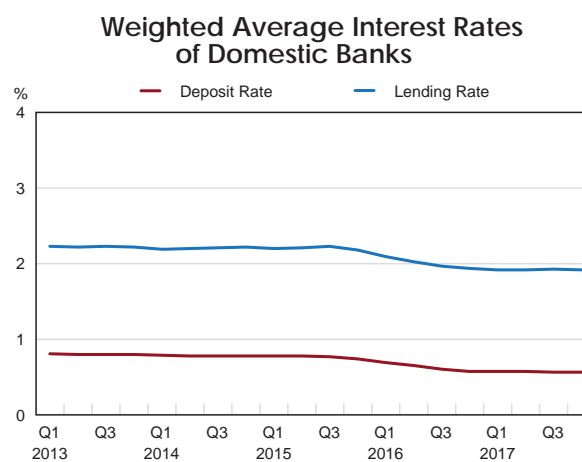
As banks' rates on current operations loans dropped in 2017, the weighted average interest rate on new loans of the five major domestic banks edged down from 1.468% in 2016 to 1.414% in 2017. Excluding central government loans, the weighted average interest rate on new loans decreased from 1.560% in 2016 to 1.472% in 2017, down by 0.088 percentage points. Moreover, the average base lending rate remained at 2.632% at the end of 2017.



In the first quarter of 2017, owing to an increase in bank claims on local governments and government enterprises, the weighted average interest rate on total loans of domestic banks moved downward from 1.94% in the previous quarter to 1.92%. Then, in the third quarter, the weighted average interest rate on loans moved upward to 1.93% because the loan repayments by local governments and government enterprises were slightly greater than the amount of new loans they took out. The weighted average interest rate on loans dropped again to 1.92% in the fourth quarter.

For the year as a whole, the weighted average interest rate on loans of domestic banks was 1.92%, which was 0.09 percentage points lower than that recorded in the previous year.

Because the decrease in the average deposit rates was less than that in the average lending rates, the average interest rate spread between deposits and loans slightly shrank to 1.36 percentage points in 2017, which was 0.02 percentage points smaller than that recorded in the previous year.



Source: *Financial Statistics Monthly*, CBC.



### 3. Money Market

For the year 2017, the global economy regained growth momentum, yet uncertainties still lingered. In Taiwan, both current inflation and inflation expectations stayed anchored, and the CBC maintained an adequately accommodative monetary policy stance in an attempt to support the domestic economic recovery. The interbank overnight call loan rate remained at low levels, whereas bills market rates exhibited a slight uptrend. In 2017, the total turnover in the interbank call loan market and short-term bills market increased by 15.39% and 6.27%, respectively, over the previous year.

#### Growth in Interbank Call Loans

With the domestic economy registering a solid recovery, steady growth in bank loans and investments increased banks' demand for call loans. However, as net foreign capital inflows rose compared with the previous year, market liquidity remained sufficient. Total annual turnover of interbank call loans for 2017 expanded by NT\$6,815.9 billion, or 15.39%, to NT\$51,106.2 billion.

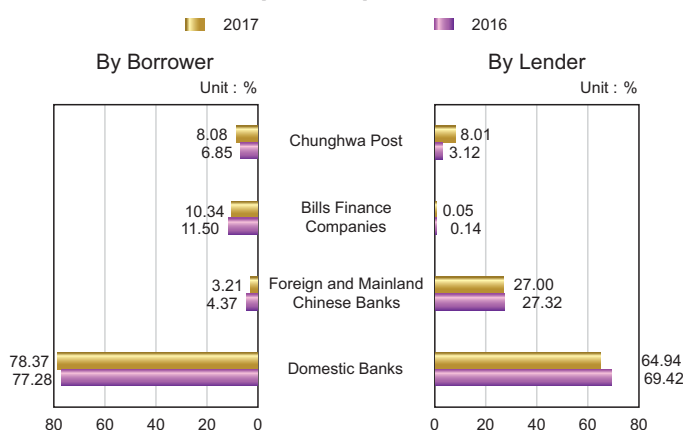
In terms of borrowers, domestic banks were still the largest player during the year, contributing 78.37% of total transactions, followed by bills finance companies, Chunghwa Post, and foreign and Mainland Chinese banks, with shares of 10.34%, 8.08% and 3.21%, respectively. In light of continuous foreign capital inflows, the CBC increased the issuance of certificates of deposit to manage market liquidity, yet later in the year banks' demand for borrowing rose to meet their funding needs. The amount borrowed by domestic banks grew by NT\$5,823.8 billion, or 17.01%, over the previous year. On the other hand, the amount borrowed by bills finance companies climbed by NT\$190.7 billion or 3.75% during the year. The rise was largely because private and government enterprises issued more commercial paper owing to low bills market rates, leading to greater demand from bills finance companies for funds used for underwriting commercial paper. The borrowed amount of Chunghwa Post also expanded significantly by NT\$1,094.2 billion or 36.05%, whereas that of foreign and Mainland Chinese banks fell by NT\$292.8 billion or 15.13%.

With regard to lenders, domestic banks continued to be the largest supplier of funds, accounting for 64.94% of total transactions in 2017. Following domestic banks were foreign and Mainland Chinese banks, Chunghwa Post, and bills finance companies, with respective shares of 27.00%, 8.01%, and 0.05%. The amount lent by domestic banks posted an increase of NT\$2,440.0 billion, or 7.94%, compared with the previous year. As foreign and Mainland Chinese banks gained abundant funds from the custodian business for foreign investors because of net foreign capital inflows, the lending amount of foreign and Mainland Chinese banks grew by NT\$1,701.8 billion or 14.07%. Meanwhile,

Chunghwa Post supplied more funds to the interbank call loan market on account of statutory restrictions on its lending business. Therefore, the amount lent by Chunghwa Post rose substantially by NT\$2,708.0 billion or 195.75% over the previous year.

In respect of maturity, interbank overnight call loans remained the most actively traded instrument in the market with a predominant share of 67.49%, up by 12.99 percentage points from that of the previous year. Second were those with a maturity of 1 week, accounting for 23.99%, down by 11.20 percentage points from that of the previous year. The share of loans with a 2-week maturity also dropped by 2.02 percentage points to 6.28%. Shares for the trading of interbank call loans with maturities of 3 weeks, 1 month, 2-6 months, and above 6 months were negligible.

### Composition of Interbank Call Loan Market by Participant



Source: Financial Statistics Monthly, CBC.

### Rise in Short-Term Bill Transactions

In 2017, newly issued short-term bills amounted to NT\$14,878.5 billion. Of the new issues, commercial paper continued to make up the lion's share, at 87.90%, followed by negotiable certificates of deposit with a share of 10.49%.

As market interest rates remained at low levels, private and government enterprises were more

### Short-Term Bills Market

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
2008	6,948.6	969.8	240.0	106.8	-	-	6074.7	690.2	33.3	4.9	600.6	167.8
2009	6,293.4	1,043.1	435.0	215.0	-	-	5397.7	651.3	21.9	4.9	438.8	171.9
2010	7,140.8	1,167.5	365.0	240.0	-	-	5903.4	686.1	33.1	6.2	839.3	235.2
2011	7,424.0	1,192.6	321.2	180.3	-	-	6270.5	735.2	30.1	5.7	802.2	271.5
2012	8,187.7	1,454.0	265.0	195.0	-	-	7311.6	1023.6	24.2	4.3	586.9	231.1
2013	9,809.0	1,650.2	324.6	214.6	-	-	8827.4	1199.2	23.5	4.2	633.5	232.3
2014	10,840.6	1,641.2	244.9	130.0	1.0	0.0	9919.5	1306.8	24.1	4.3	642.2	200.2
2015	11,512.8	1,677.7	233.7	90.0	-	-	10426.0	1346.6	20.8	3.5	832.3	237.6
2016	12,778.5	1,873.5	217.3	90.0	-	-	11371.3	1480.1	18.3	4.1	1171.6	299.4
2017	14,878.5	2,154.5	220.0	25.0	-	-	13077.8	1709.0	19.4	4.2	1561.3	416.4
2017-2016 Change	2,100.0	281.1	2.7	-65.0	0.0	0.0	1,706.5	228.9	1.1	0.1	389.7	117.0

Source: Financial Statistics Monthly, CBC.

willing to issue commercial paper instead of borrowing from banks. Therefore, the amount of commercial paper issued went up by NT\$1,706.5 billion from a year before. Negotiable certificates of deposit came in second with an increase of NT\$389.7 billion. The growth was primarily because banks issued more negotiable certificates of deposit to fill the funding gap. The amount of treasury bills and bankers' acceptances only slightly expanded by NT\$2.7 billion and NT\$1.1 billion, respectively, compared with the previous year.

As of the end of 2017, total outstanding short-term bills reached NT\$2,154.5 billion, 15.00% more than that of the previous year end.

The total turnover of short-term bills in 2017 rose by 6.27% to NT\$37,785.6 billion. Of the total transactions, commercial paper still accounted for the largest share with 90.71%, representing a decrease of 1.53 percentage points from a year earlier. Second were negotiable certificates of deposit with a share of 8.84%, recording an increase of 1.61 percentage points over 2016. Treasury bills and bankers' acceptances made up negligible shares of transactions. As for market participants, private enterprises remained the largest player in the market with a share of 44.52%, followed by banks with a share of 29.61%.

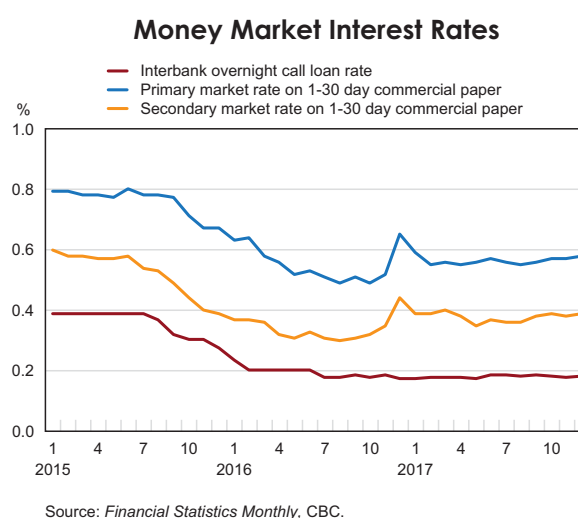
### Money Market Rates Staying at Low Levels

In 2017, banks' demand for call loans strengthened amid the steady recovery in the domestic economy. As net foreign capital inflows increased for the year and the CBC maintained an adequately accommodative monetary policy stance, market liquidity remained ample. The weighted average interbank overnight call loan rate stayed at a low level between 0.172% and 0.184%.

The primary market rate on commercial paper with a maturity of 1-30 days fluctuated within a narrow range between 0.55% and 0.59%, while the secondary market rate on commercial paper with a maturity of 1-30 days remained between 0.35% and 0.40% throughout the year.

### Reduction in Money Market Funds

With the benefits of low risk and high liquidity, money market funds tend to be an ideal investment option to park short-term capital. Nevertheless, the product diversification strategy adopted by investment trust companies have affected their asset allocation in recent years. Furthermore, the world's major stock markets have rallied, while money market funds tend to generate relatively lower returns. All the above factors led to a decline in the size



of money market funds. At the end of 2017, there were a total of 44 money market funds in Taiwan with total assets reaching NT\$783.1 billion, contracting by NT\$65.2 billion or 7.69% over the previous year.

With respect to portfolio composition, the largest use of the funds was bank deposits with a share of 70.27% at the end of the year. Following bank deposits were short-term bills and repurchase agreements, accounting for 16.97% and 12.64% 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 (%)
2015	993.5	655.2	65.95	161.2	16.23	165.6	16.67	11.4	1.14
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
2017/ 1	791.9	538.9	68.05	141.4	17.85	95.7	12.09	15.9	2.01
2	818.4	549.1	67.09	140.6	17.17	118.4	14.47	10.4	1.27
3	808.8	558.2	69.02	131.8	16.30	112.0	13.85	6.8	0.84
4	870.4	592.2	68.04	149.7	17.20	122.5	14.08	6.0	0.69
5	883.8	604.8	68.43	146.1	16.53	127.8	14.47	5.1	0.57
6	824.6	561.0	68.03	136.3	16.53	122.9	14.90	4.5	0.54
7	803.8	561.8	69.89	132.4	16.48	106.7	13.28	2.9	0.35
8	842.4	570.4	67.71	148.1	17.59	121.4	14.41	2.4	0.29
9	768.7	536.5	69.79	125.0	16.26	105.8	13.76	1.4	0.19
10	803.2	542.6	67.56	142.5	17.74	116.9	14.55	1.2	0.15
11	817.7	561.7	68.70	146.1	17.86	108.7	13.29	1.2	0.15
12	783.1	550.3	70.27	132.9	16.97	99.0	12.64	0.9	0.11

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

## 4. Foreign Exchange Market

### The NT Dollar Exchange Rate

At the end of 2017, the NT dollar appreciated against the US dollar, the euro, the Japanese yen, the renminbi (RMB), and the Korean won when compared with the previous year end. The trade-weighted nominal effective exchange rate index of the NT dollar increased by 6.94% on a daily average basis. The exchange rate movements of the NT dollar vis-à-vis each of the above foreign currencies are analyzed as follows.

During the course of the year, the NT dollar against the US dollar appreciated slightly. In the first half of 2017, the US dollar was dampened by President Donald Trump's remarks that a strong US dollar would hurt the US economy. As a result, combined with an improvement in Taiwan's exports and inflows of foreign capital into Taiwan's financial markets, the NT dollar appreciated against the US dollar. In June, international capital flowed out of emerging Asia because the Fed announced a rate hike and its balance sheet reduction plan, leading the NT dollar to depreciate slightly against the US dollar. Later, as market participants expected the Fed would slow down the pace of interest rate hikes and Taiwan recorded net foreign capital inflows, the NT dollar climbed to a yearly high against the US dollar on December 28. At the end of 2017, the NT dollar appreciated by 8.14% 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 6.17% in 2017.

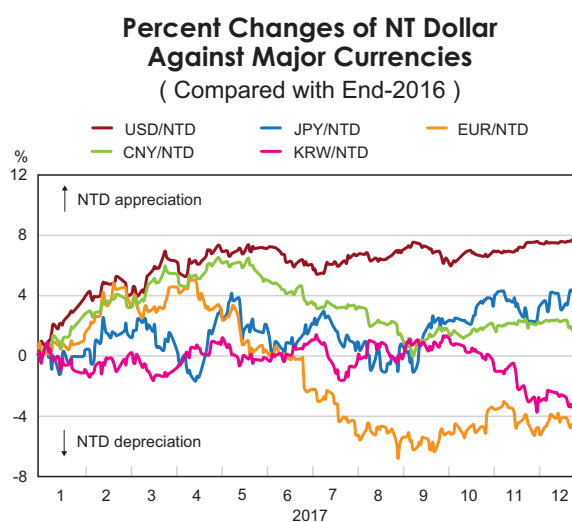
The NT dollar against the euro appreciated in the first quarter and depreciated toward the end of 2017. Early in the year, as the ECB's QE policy remained unchanged and the UK government initiated the Brexit procedure, the euro weakened, leading the NT dollar against the euro to rise to a yearly high on April 13. Then, as the euro area economic recovery heightened market expectations of ECB tapering, the NT dollar against the euro turned to depreciate. On October 26, the ECB announced an extension to its bond-buying program, and the NT dollar appreciated slightly against the euro as a result. Later, because of the euro area's positive economic performance, the NT dollar depreciated against the euro. Compared with the end of the previous year, the NT dollar depreciated against the euro by 4.93% at the end of 2017. On a daily average basis, the NT dollar appreciated against the euro by 4.22%.

The NT dollar against the yen fluctuated and broadly appreciated in 2017. Early in the year, the yen was dampened because the BoJ decided to buy an unlimited amount of bonds at a fixed rate, and the NT dollar appreciated against the yen. In April, North Korea's missile launch caused the yen to soar on safe-haven demand, and the NT dollar against the yen hit a yearly low on April

17. After that, in addition to capital outflows amid monetary policy divergence between the US and Japan, the BoJ offered unlimited bond buying to curb rising yields, and Prime Minister Shinzo Abe's party won parliamentary elections. The developments led investors to expect that the BoJ's QE would remain unchanged, leading the NT dollar to generally appreciate against the yen. In sum, the NT dollar appreciated by 4.05% against the yen at the end of 2017 compared with the previous year end. On a daily average basis, the NT dollar appreciated against the yen by 9.46%.

The NT dollar against the RMB appreciated in the first three quarters and depreciated toward the end of 2017. Early in the year, although China's capital outflows slowed under tightened capital controls, international capital flowed into Taiwan, sending the NT dollar against the RMB to a yearly high on May 2. After that, the China Foreign Exchange Trade System (CFETS) considered introducing a "counter-cyclical factor" to the way it calculates the RMB's daily midpoint rate to dampen the market's "herd instinct," leading the NT dollar to depreciate against the RMB. Later, as another international credit rating agency downgraded China's sovereign credit rating, and the People's Bank of China (PBoC) conducted reverse repurchase agreements, the NT dollar strengthened against the RMB. Overall, the NT dollar appreciated against the RMB by 1.34% between end-2016 and end-2017. On a daily average basis, the NT dollar appreciated by 8.00% against the RMB when compared with the previous year.

In 2017, the NT dollar against the Korean won fluctuated and broadly depreciated. Owing to tensions on the Korean Peninsula, the NT dollar against the won fluctuated in the first three quarters. During the fourth quarter,



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

	NTD/USD	NTD/EUR	NTD/JPY	NTD/CNY	NTD/KRW
Exchange Rate (2017/12/29)	29.848	35.674	0.2649	4.5835	0.0279
Exchange Rate (2016/12/30)	32.279	33.917	0.2757	4.6448	0.0268
Annual Change	8.14%	-4.93%	4.05%	1.34%	-3.81%
Average Exchange Rate (2017)	30.439	34.302	0.2714	4.5037	0.0269
Average Exchange Rate (2016)	32.318	35.749	0.2971	4.8639	0.0278
Annual Change	6.17%	4.22%	9.46%	8.00%	3.43%

Source: Department of Economic Research, CBC.

bright economic prospects of South Korea and easing tensions on the Korean Peninsula led the NT dollar against the won to a yearly low on December 29. Compared with the end of 2016, the NT dollar depreciated by 3.81% against the won at the end of 2017. On a daily average basis, the NT dollar appreciated by 3.43% against the won in 2017.

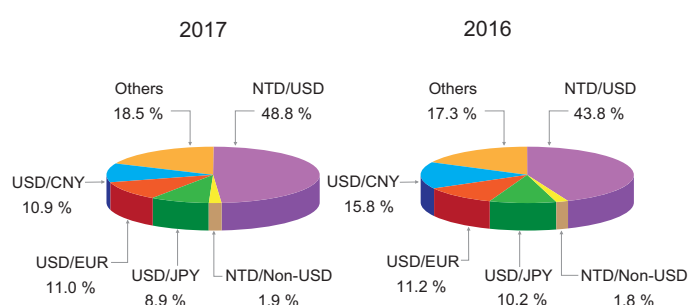
### Lower Turnover in Foreign Exchange Market

Trading in the Taipei foreign exchange market decreased in 2017. Total net trading volume for the year was US\$7,098.8 billion, representing a 0.2% year-on-year decrease. The daily average turnover was US\$28.6 billion in 2017.

In terms of trading partners, transactions between banks and non-bank customers accounted for 32.2% of the total turnover, while interbank transactions made up 67.8%, including 24.5% for transactions among local banks and 43.4% for those between local banks and overseas banks.

As far as traded currencies were concerned, NT dollar trading against foreign currencies accounted for 50.7% of the total trading volume, of which trading against the US dollar (USD) made up a dominant 48.8%. Transactions in third currencies contributed to 49.3% of the total trading volume, with trading in currency pairs of USD-euro, USD-RMB and USD-yen accounting for respective shares of 11.0%, 10.9% and 8.9%. Compared with 2016, NT dollar trading against foreign currencies increased by 11.0%. Transactions in third currencies decreased by 9.6%.

**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

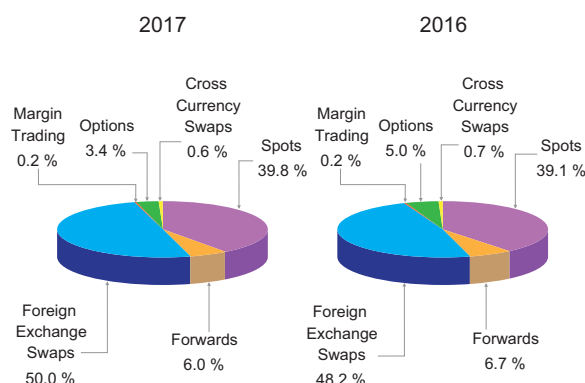
Year	Spots	Forwards	Forex Swaps	Margin Trading	Options	Cross Currency Swaps	Total
2013	2,681,798	373,006	2,991,819	21,730	1,072,740	32,983	7,174,076
2014	2,869,175	408,770	3,352,584	20,379	1,134,172	37,365	7,822,445
2015	3,405,177	475,473	3,292,799	25,055	973,082	33,023	8,204,608
2016	2,780,002	477,036	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
2016-2017 Growth Rate (%)	1.7	-11.3	3.5	-28.9	-32.4	-12.3	-0.2

Source: Department of Foreign Exchange, CBC.

With respect to types of transactions, the major types were foreign exchange swaps and spots, accounting for 50.0% and 39.8% of total turnover, respectively. Compared with 2016, the trading volumes of spots and foreign exchange swaps increased, whereas those of the other types decreased.

For other foreign currency derivatives, including forwards, swaps, and options based on foreign currency interest rates, stock price indices, commodity prices, and credit derivatives, the total turnover amounted to US\$181.6 billion. Of this amount, interest rate-related derivatives accounted for the lion's share with US\$177.8 billion, or 97.9%, with its turnover increasing markedly by 79.5% from the previous year. Interest rate futures accounted for the majority of this increase, up by US\$65.7 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			
2013	523	37,042	3,040	115,636	156,240	5,488	1,758	1,517	165,004
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	0	49,453	11,412	116,911	177,776	2,802	121	857	181,556
2016-2017 Growth Rate (%)	-100.0	17.9	98.7	128.2	79.5	-8.2	-16.5	-8.2	76.0

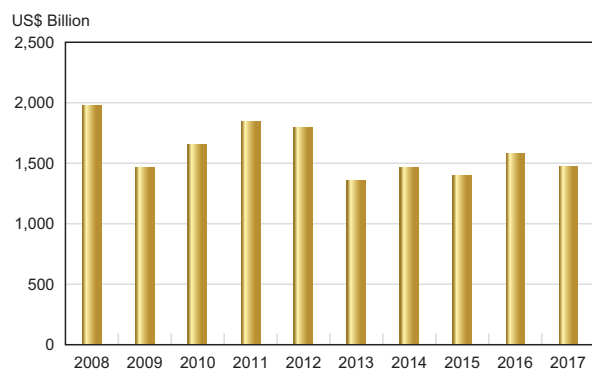
Source: Department of Foreign Exchange, CBC.

### Decrease in Trading in Foreign Currency Call Loan Market

The transaction volume in the foreign currency call loan market in 2017 was US\$1,484.9 billion, a decrease of 6.8% over the previous year. Of this amount, US dollar transactions accounted for a dominant share with US\$1,376.4 billion, making up 92.7% of the total while decreasing by 8.7% from 2016. RMB transactions reached RMB655.0 billion in 2017, a share of 6.6% of the total with a year-on-year increase of 32.3% in volume. Japanese yen transactions reached ¥531.5 billion in 2017, a

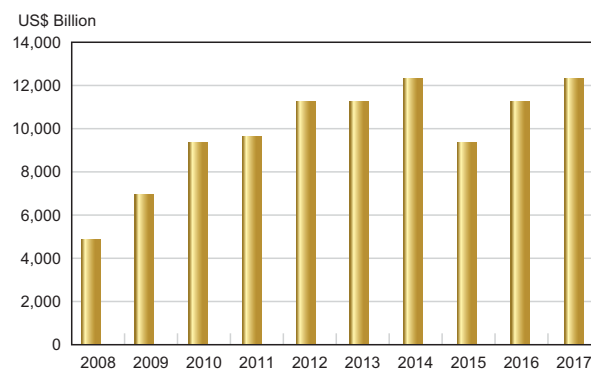


### Transactions in the Taipei Foreign Currency Call Loan Market



Source: Department of Foreign Exchange, CBC.

### Transactions in the Foreign Currency Swap Market



Source: Department of Foreign Exchange, CBC.

small share of 0.3% of the total with a year-on-year rise of 33.5% in volume. The amount of euro transactions amounted to €0.4 billion, a modest share of 0.03%. Other currencies accounted for a combined 0.37% of the total transaction volume. The balance of foreign currency call loan transactions at the end of 2017 was US\$42.4 billion.

The volume of foreign currency-NTD swap transactions reached US\$1,241.4 billion, 9.8% more than 2016, while the balance was US\$237.8 billion at the end of 2017.

### Growing Assets of Offshore Banking Units

There were 61 offshore banking units (OBUs) at the end of 2017. Domestic banks operate 38 of these OBUs, while foreign banks run the other 23. The total assets of all OBUs increased to US\$203.0 billion at the end of the year, representing an increase of US\$26.5 billion or 15.0% from the previous year end owing to increasing securities investments. Domestic OBUs made up 88.0% of these combined assets with an amount of US\$178.7 billion, and the OBUs of foreign banks accounted for US\$24.3 billion, a 12.0% share of the total.

In terms of the uses of funds, discounts and loans, at US\$80.7 billion, represented the majority share of 39.8% of total OBU assets. Securities investments came in second place, accounting for 26.6% of total OBU assets. In terms of the destination for funds, Asia accounted for the majority with 54.0%, followed by America at 30.0%.

The OBUs' main source of funds was interbank transactions, making up 45.3% of total liabilities. Furthermore, deposits of non-financial institutions accounted for 38.0% of total liabilities. The main funding origin of OBUs was Asia, accounting for the majority with 65.0%, and America, with a share of 24.0%.

Forex trading turnover of all OBUs dropped by 17.6% to US\$563.4 billion, of which US\$359.7 billion went for spot transactions, US\$79.0 billion for forward transactions and US\$124.7 billion for forex swap transactions. Compared with the previous year, the growth rates of trading of spots, forwards and forex swaps were -24.5%, -22.1%, and 18.0%, respectively.

For OBUs, the total turnover of other derivatives products shrank to US\$278.5 billion, a decrease of 11.2% over the previous year. Of this amount, currency options transactions registered US\$126.9 billion, making up 45.6% of the total.

### Balance Sheet of OBUs in Banking System

Unit: US\$ Million

End of Year	Loans to Non-financial Institutions	Portfolio Investment	Claims on Financial Institutions	Other Assets	Total Assets= Total Liabilities & Equity	Deposits of Non-financial Institutions	Due to Financial Institutions	Securities Issued	Other Liabilities & Equity
2013	80,869	22,019	42,853	22,225	167,966	51,191	98,527	351	17,896
2014	87,849	22,066	43,518	26,379	179,811	57,818	97,509	338	24,146
2015	81,198	29,547	43,932	18,388	173,065	66,137	88,228	0	18,700
2016	77,236	42,803	44,929	11,467	176,435	72,245	86,865	0	17,326
2017	81,074	53,819	58,336	9,717	202,946	77,144	106,712	0	19,090
2016-2017 Growth Rate (%)	5.0	25.7	29.8	-15.3	15.0	6.8	22.8	0.0	10.2

Source: Financial Statistics Monthly, CBC.

## 5. Stock Market

After entering the year of 2017, Taiwan's benchmark stock index, the Taiwan Stock Exchange (TWSE) weighted stock price index (TAIEX), swung up from the yearly low at the beginning of the year to reach the 10,000 mark in May. Thanks to robust trading by domestic individual investors, the rally extended further, reaching an all-year high on November 23, the highest level in 28 years. Then, profit-taking trades, foreign investor net sales, and declines in international stock markets combined to send the TAIEX into a period of downward correction.

At the end of 2017, the TAIEX rose by 15.0% compared to the end of the previous year. All categories except Rubber and Biotechnology & Medical Care enjoyed year-on-year gains. Paper & Pulp stocks benefitted from international pulp price surges and posted the largest annual increase of 61.0%, followed immediately by the 55.4% increase of Glass & Ceramic stocks.

The TAIEX daily average trading value was NT\$97.5 billion, expanding significantly by 41.9% over the previous year. This was mainly because a law amendment halved the day trading transaction tax, pushing the share of day trading in total turnover upwards to 26.3% at the end of 2017 from 8.9% at the end of 2016.

### 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
2015	8,338.1	82.8	77.6	24,503.6	46.2	-35.1	-56.6
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
2017/ 1	9,448.0	64.6	3.7	27,890.9	46.0	3.0	-4.8
2	9,750.5	98.5	6.2	28,842.6	49.3	-2.1	6.2
3	9,811.5	85.7	6.8	29,057.5	70.4	-3.4	-3.9
4	9,872.0	84.2	5.2	29,246.1	32.1	-5.3	1.3
5	10,040.7	84.1	5.7	29,767.8	49.8	1.0	8.5
6	10,395.1	87.5	6.5	30,841.2	18.7	-8.3	17.0
7	10,427.3	89.7	6.1	30,951.4	-5.2	-8.6	3.0
8	10,585.8	105.1	7.7	31,473.5	-6.4	-1.4	-7.7
9	10,383.9	114.3	8.1	30,942.5	-62.0	-5.5	-8.9
10	10,793.8	113.5	6.7	32,186.0	44.1	1.7	10.9
11	10,560.4	124.0	8.7	31,555.3	-47.5	-4.4	4.0
12	10,642.9	108.8	7.2	31,831.9	-34.0	-0.4	-14.2

Source: Securities and Futures Bureau, FSC.

The Taipei Exchange (TPEX) weighted stock price index for the over-the-counter market rose by 18.6% at the end of 2017, with most categories posting year-on-year gains. The Chemical category gave the best performance with an increase of 50.2% as brighter prospects in electric vehicles generated large profits for suppliers like CoreMax and MECHMA. Shares in Electronics recorded the second highest annual increase of 32.4% because strong buying from institutional investors drove semiconductor stocks to gain more than 60%. In 2017, the TPEX daily average trading value was NT\$31.2 billion, surging by 50.7% compared to the previous year. This was partly attributable to the day trading tax cut, which led the TPEX turnover of day trading as a percentage of total TPEX turnover to expand markedly to 37.7% at the year end.

## The TWSE Market

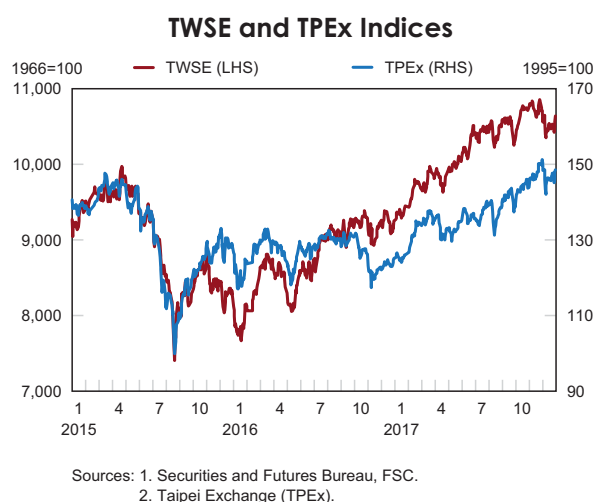
### Listings and Capitalization Both Increased

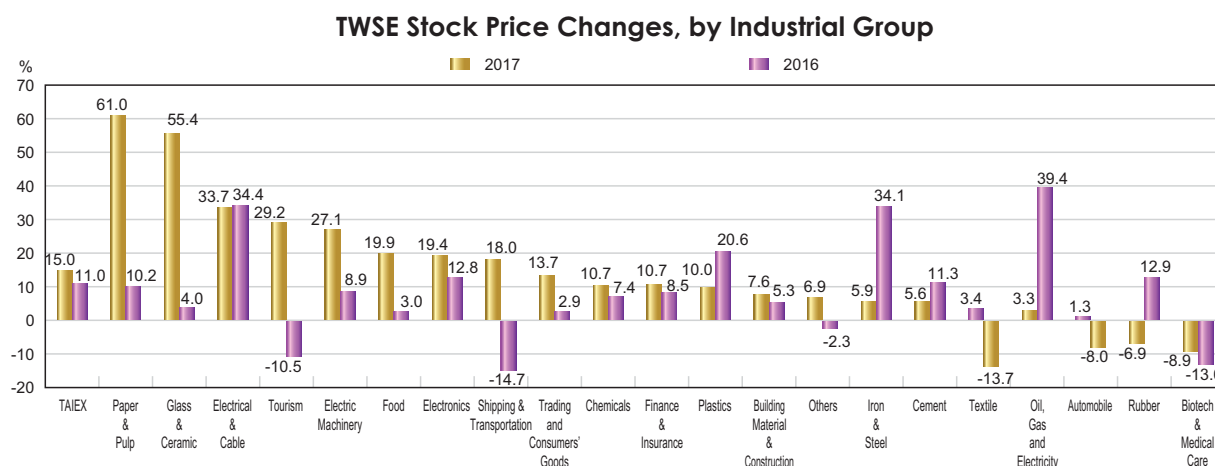
The number of TWSE listings grew by 15 during the year to a total of 907 at the end of 2017. The par value of total shares issued rose by 1.6% to NT\$7.1 trillion. Total market capitalization amounted to NT\$31.8 trillion, increasing by 16.8% year on year. In terms of Taiwan Depository Receipts (TDRs), two existing TDRs were de-listed and no new ones were issued, leading the total number of TDRs on the TWSE to come down to 17 at the end of the year.

### TAIEX Hit Record High in 28 Years

As the US stock market set multiple record highs in the first few months of 2017, along with rising international raw material prices and continued foreign investor buying, the TAIEX trended up and hit 9,972 points on March 21. The mainboard index dipped to 9,633 points on April 20, owing to market declines in the US and Europe and intensified geopolitical risks associated with North Korea and Syria. The TAIEX then followed major foreign stock markets to rally steadily higher, boosted also by strong earnings reports of TWSE-listed firms and active foreign buying of heavyweight stocks, and surpassed the 10,000-point mark in May.

Afterwards, the TAIEX broadly maintained an uptrend, except for a few brief pullbacks: In summer, major international stock indices plunged while Korean Peninsula tensions spiked, leading to net foreign selling in the local market that sent the TAIEX down to 10,225 as of August 14; then, faltering iPhone X expectations also dented the local benchmark index, which stood at 10,257 points on September 26. In the last quarter





Source: TWSE.

of the year, the TAIEX was bolstered by extended rallies in international stock markets, steady domestic economic growth, and excellent corporate earnings reports, and peaked at 10,855 points on November 23, the highest in 28 years. Towards the end of 2017, weaker international stock indices, profit-taking trades, and net foreign selling combined to lead the TAIEX lower. The index finished the year at 10,643 points, rising by 15.0% from the 9,254 points reported one year before.

Broken down by subcategory, all industrial groups posted year-on-year gains except for Rubber and Biotechnology & Medical Care. Paper & Pulp stocks rose by 61.0%, the biggest increase among all groups, thanks to large orders and good profits amid international pulp price surges. The second highest was the 55.4% increase in Glass & Ceramic shares, driven by greater demand for fiberglass cloth and glass. Electrical & Cable shares came in third with an increase of 33.7% on the back of roaring corporate profits as copper and nickel prices went up. Among the categories with year-on-year declines, Biotechnology & Medical Care recorded the largest drop by 8.9% as a result of the US policy of holding down drug costs.

### Market Turnover Increased

In 2017, trading heated up owing to the day trading tax cut and the revived participation of large and medium retail investors. As a result, the TWSE market turnover, measured on a daily average basis, grew significantly by 41.9% to NT\$97.5 billion from the NT\$68.7 billion of the previous year. Along with robust trading activity, the turnover rate also rose from the 64.6% of 2016 to 78.4% in 2017.

### TWSE Market Recorded Net Foreign Buying

In 2017, foreign investors bought a net NT\$155.2 billion in the TWSE market, lower than the NT\$320.2 billion of the previous year. Local securities investment trust companies net sold TAIEX shares worth NT\$33.5 billion, while securities dealers recorded a net purchase of NT\$11.4 billion.

In the first half of 2017, foreign investors remained net buyers of TAIEX shares for six consecutive months, helping the index reach and stay above the 10,000 point mark. In the latter half of the year, however, foreign buying was only recorded in October, while US monetary policy normalization, Korean Peninsula tensions, and disappointing sales of the iPhone X, as well as profit-taking trades, led to net foreign selling in the other five months.

In terms of local securities investment trust companies, they were net buyers in January, May, and October. In the rest of the year, they became net sellers to ensure gains from price increases in order to meet fund redemption demand, boost their own financial statements, or adjust positions amidst relatively strong rallies.

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

## The TPEX Market

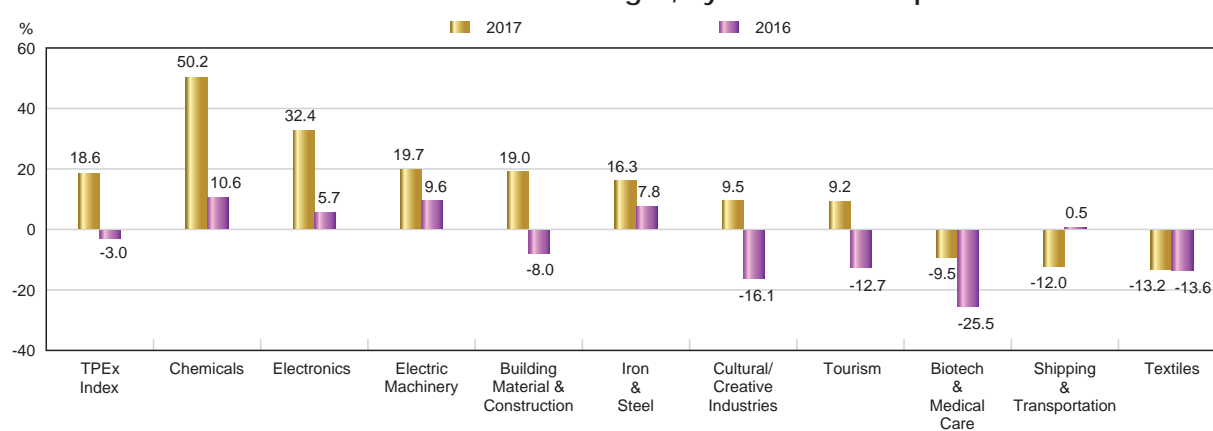
### Listings and Capitalization Increased

At the end of 2017, the number of TPEX listings increased by 12 to 744. The total par value amounted to NT\$722.4 billion, up by 1.0% from the previous year. Market capitalization increased by 21.8% to NT\$3.32 trillion.

### TPEX Index Swung Higher

During 2017, the TPEX index broadly followed the TWSE index and swung upwards. The index reached the yearly high of 151.3 points on November 29 before closing the year at 148.5 points, which was 18.6% higher than the 125.2 recorded at the end of the previous year.

TPEX Stock Price Changes, by Industrial Group



Source: TPEX.

For the year of 2017, foreign investors made net purchases of NT\$32.7 billion in the TPEx market, while local securities investment trust companies and local dealers recorded net selling positions of NT\$0.4 billion and NT\$6.5 billion, respectively. The daily average turnover in the TPEx market increased markedly by 50.7% from the NT\$20.7 billion registered a year ago to NT\$31.2 billion.

### **Key Measures for the Stock Markets**

Key measures for Taiwan's stock markets in 2017 include the following:

- (1) January 1: Effective from this day to December 31, 2026, bond ETFs, corporate bonds, and bank debentures are exempt from securities transaction tax.
- (2) January 9: The CBC eased the rules to allow securities firms to provide services with NT dollar-denominated forex spots and forex derivatives products.
- (3) January 16: A cash creation/redemption mechanism is adopted for exchange-traded funds (ETFs); in addition, securities firms may offer services for investment in the stocks and ETFs by way of dollar cost averaging.
- (4) April 11: The Legislative Yuan passed the third reading of amendments to the Securities Transaction Tax Act, cutting the securities transaction tax rate by half from 0.3 percent to 0.15 percent for one year, effective from April 28, subject to review of the desirability of the tax cut one year from enforcement.
- (5) May 15: Taiwan Futures Exchange began allowing after-hours trading from the end of regular trading hours until five a.m. the next morning.
- (6) August 3: Securities investment trust enterprises may set up private equity funds through their subsidiaries; one of the objectives of the new policy is to steer the capital of domestic institutional investors, including pension funds, insurers, and banks, into local real industries (e.g., companies engaging in infrastructure building such as power plants and airports).

## 6. Bond Market

For the year 2017, the total volume of bond issuance showed a decrease. New issues of bonds totaled NT\$2,122.9 billion, contracting by NT\$399.2 billion or 15.83% over the previous year. At the end of 2017, the outstanding amount of bonds issued reached NT\$12,663.3 billion, up by NT\$1,078.8 billion or 9.31% from the previous year end.

Issuance of central government bonds to meet fiscal funding needs for 2017 reached NT\$400.0 billion, decreasing by NT\$163.5 billion or 29.02% from the previous year.

Issuance of corporate bonds for 2017 recorded a significant increase of NT\$100.5 billion or 35.13% to NT\$386.5 billion. The rise primarily reflected that government enterprises issued new bonds to raise funds for investment in factory expansion.

With regard to 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 totaled NT\$189.5 billion for the entire year, growing by NT\$49.4 billion or 35.25% over the previous year.

Moreover, foreign institutions issued 118 foreign currency-denominated international bonds in Taiwan amounting to NT\$1,139.2 billion, falling by NT\$385.4 billion or 25.28% over the previous year. Meanwhile, nine NT dollar-denominated foreign bonds were issued by foreign institutions with a total amount of NT\$7.7 billion, up by NT\$4.8 billion or 161.02% compared to the previous year.

In the secondary market, average yields on bonds with different maturities all climbed higher in 2017 driven by the Fed's policy rate increases. Among the components, the average 10-year government bond yield rose by 25 basis points to 1.064%. Demand for bonds softened as investors expected market rates to move up in the future, while the supply of bonds contracted. Therefore, annual transactions amounted to NT\$61,583.5 billion, declining by NT\$5,234.5 billion or 7.83% over the previous year.

### Decrease in Government Bond Issuance

In regard to central government bonds, on account of the rise in tax revenues and government bond issuance approaching the ceiling, central government bond issuance for 2017 contracted by NT\$163.5 billion, or 29.02%, to NT\$400.0 billion.

In 2017, among the total volume of government bonds issued by the Ministry of Finance, 10-year bonds made up the lion's share with NT\$155.0 billion, followed by 5-year bonds with NT\$100.0 billion, while 2-year, 20-year, and 30-year government bonds registered issuance of NT\$45 billion,



NT\$50 billion, and NT\$50 billion, respectively.

With respect to issuing rates, as market rates were expected to rise amid the Fed's rate hikes, the weighted average issuing rates in 2017 on central government bonds with different maturities were all higher than the previous year. Among them, the weighted average issuing rate on 20-year bonds recorded the largest rise of 34 basis points. The weighted average issuing rate on 5-year bonds came in second with an increase of 20 basis points.

In terms of bonds issued by governments of special municipalities, new issues were nil in 2017. However, as part of the bonds were redeemed at maturity, the outstanding amount of bonds issued by governments of special municipalities stood at NT\$41.6 billion at the end of the year, decreasing by NT\$21.5 billion or 34.10% from the previous year end.

### Rise in Corporate Bond Issuance

Corporate bonds refer to NT dollar or foreign currency-denominated bonds issued in Taiwan by domestic corporations. In 2017, government enterprises issued new bonds with an amount of NT\$72.5 billion to raise funds for plant expansion. As a result, the issuing amount of corporate bonds for the year 2017 expanded substantially by NT\$100.5 billion or 35.13% to NT\$386.5 billion. As for bond maturities, 5-year corporate bonds made up the majority of the issuance with a share of 45.28%,

### 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
2015	2,090.2	10,467.0	605.3	5,478.8	8.2	90.6	268.4	2,004.2	196.3	1,285.9	0.0	94.5	5.5	9.6	1,006.6	1,503.4
2016	2,522.1	11,584.5	563.5	5,542.3	0.0	63.1	286.0	1,897.9	140.1	1,212.5	5.0	97.8	3.0	9.8	1,524.6	2,761.0
2017	2,122.9	12,663.3	400.0	5,594.8	0.0	41.6	386.5	1,938.5	189.5	1,230.3	0.0	95.6	7.7	14.5	1,139.2	3,748.0
2017/ 1	239.3	11,695.3	50.0	5,512.3	0.0	63.1	19.6	1,887.6	22.8	1,229.5	0.0	98.0	1.4	11.2	145.6	2,893.6
2	225.9	11,868.3	25.0	5,504.8	0.0	63.1	0.5	1,876.3	18.3	1,239.1	0.0	98.6	0.0	10.7	182.1	3,075.7
3	302.4	12,038.1	30.0	5,454.8	0.0	63.1	10.9	1,849.1	25.0	1,252.9	0.0	98.7	0.0	10.6	236.5	3,308.9
4	143.3	12,139.0	25.0	5,479.8	0.0	63.1	44.8	1,868.4	48.1	1,284.4	0.0	98.5	0.0	10.6	25.4	3,334.3
5	176.4	12,271.8	50.0	5,529.8	0.0	54.1	70.8	1,917.1	7.4	1,280.0	0.0	97.8	3.3	13.8	44.9	3,379.3
6	166.2	12,357.1	25.0	5,554.8	0.0	54.1	53.4	1,922.8	14.0	1,268.0	0.0	97.6	1.3	14.7	72.5	3,445.2
7	184.3	12,393.2	45.0	5,509.8	0.0	54.1	35.3	1,925.9	4.1	1,267.7	0.0	97.7	0.0	14.5	99.8	3,523.5
8	180.0	12,457.7	25.0	5,534.8	0.0	54.1	24.9	1,917.0	1.1	1,260.3	0.0	97.1	0.0	14.4	129.0	3,580.0
9	161.1	12,482.4	25.0	5,494.8	0.0	54.1	49.8	1,930.8	12.5	1,252.8	0.0	96.7	0.9	15.1	73.0	3,638.1
10	116.4	12,550.8	25.0	5,519.8	0.0	54.1	28.2	1,938.3	5.4	1,249.3	0.0	96.7	0.8	15.6	57.0	3,677.0
11	132.9	12,644.2	50.0	5,569.8	0.0	41.6	16.5	1,935.3	13.8	1,259.6	0.0	96.0	0.0	14.6	52.7	3,727.4
12	94.8	12,663.3	25.0	5,594.8	0.0	41.6	32.0	1,938.5	17.1	1,230.3	0.0	95.6	0.0	14.5	20.7	3,748.0

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

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

\*\*\* Including NT dollar and foreign currency-denominated bonds issued in Taiwan by international financial institutions.

\*\*\*\*Including foreign currency-denominated bonds issued in Taiwan by international financial institutions.

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

2. Banking Bureau, Financial Supervisory Commission.

3. Department of Foreign Exchange, CBC.

followed by 3-year bonds with a share of 15.65%. At the end of 2017, the outstanding amount of corporate bonds reached NT\$1,938.5 billion, rising by NT\$40.6 billion or 2.14% from the previous year end.

### **Growth in Bank Debenture Issuance**

A total of 20 financial institutions issued bank debentures in 2017 in support of their funding needs, with an issuance amount of NT\$189.5 billion, rising by NT\$49.4 billion or 35.25% over the previous year. The increase was mostly because financial institutions issued new bank debentures to maintain mid- to long-term funding costs at low levels amidst an ongoing low interest rate environment.

Regarding the purpose of issuance, the issuance of NT dollar bank debentures was to bolster capital adequacy and support mid- to long-term operation funding needs. The majority of the issuance went for subordinated debts with a share of 80.48%. With respect to the issuance of foreign currency bank debentures, the main purpose was to meet rising demand for foreign currency loans and support mid- to long-term foreign currency funding needs. Therefore, senior bank debentures with lower issuing rates accounted for the largest share of total issuance.

In terms of the volume of issuance, the major types of NT dollar bank debentures issued were 7-year, 10-year, and perpetual debentures, making up shares of 15.30%, 44.21%, and 20.70% in total issuance, respectively. As for foreign currency bank debentures, 30-year bank debentures accounted for the entire share of the bond issuance in 2017. At the end of the year, the outstanding amount of bank debentures was NT\$1,230.3 billion, up by NT\$17.8 billion or 1.47% from the previous year end.

### **No New Issues in Asset Securitization**

New issues of asset securitization products were nil in 2017. However, as some asset securitization products matured and the principal was repaid, the outstanding amount of asset securitization decreased by NT\$2.2 billion or 2.25% from the previous year end to NT\$95.6 billion.

### **Significant Increase in Foreign Bond Issuance**

Foreign bonds refer to NT dollar-denominated corporate bonds issued in Taiwan by foreign institutions. The foreign bonds currently in circulation are corporate bonds issued by offshore companies listed on the Taiwan Stock Exchange or the Taipei Exchange (for over-the-counter trading). For the year 2017, issuance of foreign bonds amounted to NT\$7.7 billion, up by NT\$4.8 billion or 161.02% from a year earlier. At the end of the year, the outstanding amount of foreign bonds reached NT\$14.5 billion, an increase of NT\$4.7 billion or 47.65% over the previous year end.

### **Contraction in International Bond Issuance**

International bonds refer to corporate bonds issued in Taiwan by foreign institutions and are

currently denominated in foreign currencies. The Financial Supervisory Commission (FSC) announced in May 2017 that domestic insurers could only invest in international bonds that have non-callable periods of at least five years from the date of issue in the primary market or at least three years from the date of transaction settlement in the secondary market. These new rules caused the number of issues and issuing amount of international bonds to decline compared to the previous year. As a result, international bond issuance in 2017 fell by NT\$385.4 billion or 25.28% from a year before to NT\$1,139.2 billion.

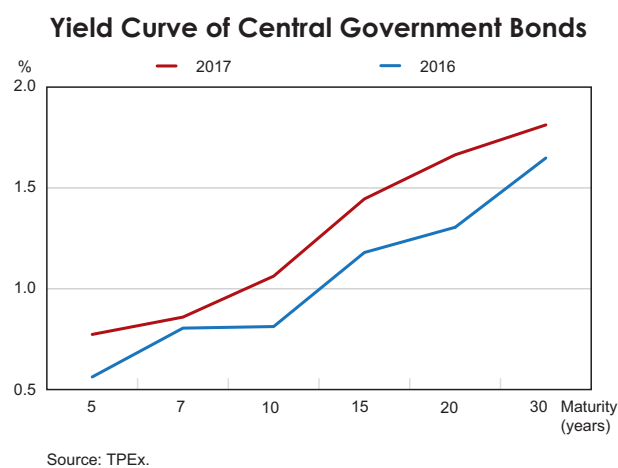
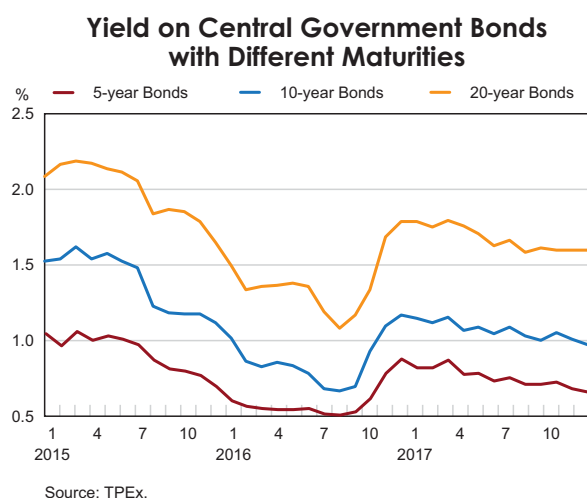
With regard to currency composition, issuance of US dollar-denominated, RMB-denominated, NZD-denominated, and ZAR-denominated bonds in 2017 stood at NT\$1,123.4 billion, NT\$10.8 billion, NT\$4.9 billion, and NT\$0.2 billion, respectively. At the end of the year, the outstanding amount of international bonds was NT\$3,748.0 billion, an increase of NT\$987.0 billion or 35.75% over the previous year end.

### Lift in Average Bond Yields yet Decline in Transactions

In 2017, reduced trading volumes resulting from a shrinking supply of bonds led the 10-year government bond yield to trend down from the beginning of the year. Nevertheless, the 10-year government bond yield trended up and averaged 1.064% for the entire year, 25 basis points higher than the 0.818% of the previous year.

Among government bonds of the other maturity ranges, the average yield on 20-year bonds posted the biggest increase of 36 basis points over the previous year. Second was that on 15-year bonds with an increase of 27 basis points. Furthermore, average yields on 5-year, 7-year, and 30-year government bonds for the year 2017 climbed by 21, 6, and 17 basis points, respectively, compared to 2016.

In respect of transaction volume, as investors expected market rates to rise further given the



Fed's gradual rate hike path and domestic bond yields stayed at low levels, demand for bonds softened. This, combined with a slide in bond supply, led total bond transactions to decline by NT\$5,234.5 billion or 7.83% from the previous year to NT\$61,583.5 billion in 2017.

By type of bonds, the majority of total bond transactions went for government bonds with a share of 64.19% and an annual trading volume of NT\$39,532.0 billion. The second most actively traded were corporate bonds, accounting for 29.37% of total transactions with an annual trading volume of NT\$18,089.3 billion. Bank debentures came in third, making up 3.73% of total transactions with an annual trading volume of NT\$2,295.8 billion. Meanwhile, international bonds, foreign bonds, and asset securitization products accounted for marginal shares of 2.58%, 0.09%, and 0.04% in total transactions, with their respective annual trading reaching NT\$1,586.8 billion, NT\$57.9 billion, and NT\$21.7 billion.

### Turnover in Bond Market by Category

Unit: NT\$ Billion

Year/ Month	Total	Government Bonds	Corporate Bonds		Bank Debentures	Beneficiary Securities	Foreign Bonds	Int'l Bonds
			Nonconvertible	Convertible				
2015	67,725.7	45,778.7	17,396.9	650.5	2,574.3	34.7	35.3	1,255.4
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
2017/ 1	4,551.7	2,811.3	1,328.0	74.3	179.9	1.7	1.8	154.7
2	4,758.7	2,928.4	1,276.6	71.9	191.1	1.9	1.5	287.3
3	6,145.7	3,906.0	1,601.8	81.4	248.4	0.8	4.0	303.5
4	4,734.5	3,043.0	1,374.4	58.7	174.6	1.7	3.9	78.3
5	4,936.8	3,120.4	1,466.1	59.1	193.8	2.0	5.1	90.4
6	5,828.1	3,881.2	1,527.8	79.7	205.7	1.8	5.8	126.0
7	4,929.3	3,114.2	1,467.7	63.7	170.0	4.4	5.8	103.5
8	5,580.0	3,663.7	1,501.6	79.3	189.5	1.6	5.3	139.0
9	5,313.5	3,432.0	1,525.3	87.3	187.6	1.5	5.7	73.9
10	4,730.8	3,000.9	1,401.2	74.3	173.4	1.4	7.9	71.6
11	5,272.5	3,479.9	1,413.6	85.7	190.6	1.5	6.1	95.1
12	4,801.8	3,151.0	1,318.0	71.8	191.1	1.4	5.0	63.6

Source: TPEx.



# *Central Bank Operations*

## III. Central Bank Operations

### 1. Overview

For the year 2017, uncertainties still cast a shadow over the global economic outlook, while the domestic economy experienced steady expansion and the output gap remained negative. Current inflationary pressures and future inflation expectations stayed anchored, and Taiwan's real interest rate stood at an appropriate level. In light of the above developments, the CBC kept the policy rate unchanged to help safeguard price and financial stability and foster economic growth.

To further enhance the transparency of monetary policy decision making, the CBC announced that it would publish the meeting minutes six weeks after the Monetary Policy Meeting, beginning from June 2017. The minutes were first published on August 3, 2017, with contents including monetary policy considerations and interest rate decision, list of attendees, and voting results (with names).

In response to economic and financial conditions, the CBC 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 increase the flexibility of open market operations and to meet financial institutions' portfolio diversification needs, the CBC issued 7-day CDs on a regular basis, starting from April 2017. On the other hand, the monthly amounts of 364-day CDs and 2-year CDs issued both increased by NT\$10 billion from May and August onwards, respectively. The outstanding amount of CDs issued by the CBC totaled NT\$7,880 billion at the end of the year, up by NT\$292 billion or 3.86% from the previous year end. With respect to money supply, reserve money rose at an average annual rate of 5.04%, while M2 growth averaged at a pace of 3.75% for the year as whole, within the CBC's target range of 2.5% to 6.5%.

Given that largely volatile high-value housing prices may raise banks' real estate-associated credit risks, the regulations governing high-value housing loans introduced by the CBC stayed in place. The CBC would continue to keep watch on banks' risk management of real estate lending and developments in the housing market in order to sustain financial stability.

In regard to foreign exchange management, the CBC steadily promoted the internationalization of capital markets and amended relevant foreign exchange regulations in continual cooperation with the Financial Supervisory Commission (FSC). To name a few, adjustments to forex business related regulations made by the CBC included allowing securities enterprises to engage in New Taiwan dollar spot foreign exchange transaction business and planning to expand the permissible scope of banks' electronic forex services.

In 2017, to advance the safety and efficiency of payment system operation, the CBC stepped up efforts to reinforce financial infrastructure and urged clearing institutions to strengthen payment system governance and information security. Meanwhile, the CBC continued to closely monitor the latest trends in financial technology and assisted financial institutions in developing innovative financial services such as electronic payments.



## 2. Monetary Management

### Keeping Policy Rates Unchanged to Maintain Price and Financial Stability

In 2017, the global economic outlook still faced uncertainties, while the domestic economy was on a mild recovery path and the output gap remained negative. Both inflationary pressures and future inflation expectations also stayed anchored. Based on the above assessment, the CBC kept policy rates unchanged in the course of the year so as to maintain price and financial stability and to promote economic growth.

At the end of 2017, the discount rate, the rate on accommodations with collateral, and the rate on accommodations without collateral remained at their current levels of 1.375%, 1.75%, and 3.625%, respectively.

### Conducting Open Market Operations to Sustain Steady Monetary Growth

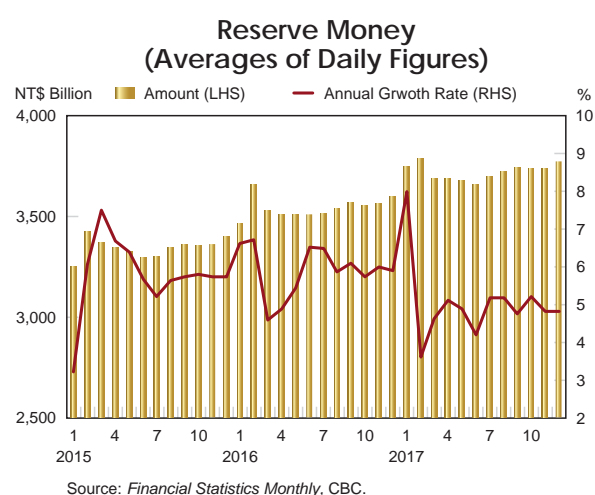
In 2017, the CBC continued to conduct open market operations by issuing certificates of deposit (CDs) to maintain reserve money and monetary aggregates at appropriate levels.

#### (1) Managing Market Liquidity

To increase the CBC's flexibility in open market operations and meet financial institutions' demand for asset allocation, the monthly amounts of 364-day CDs issued from May onwards and 2-year CDs issued from August onwards both increased by NT\$10 billion to NT\$170 and NT\$40 billion, respectively. Moreover, the CBC began to issue 7-day CDs on a regular basis from April 2017. The total outstanding amount of CDs issued by the CBC was NT\$7,880 billion at the end of the year.

#### (2) Slower Growth in Reserve Money

Reserve money grew at a slower pace for the year 2017, recording a growth rate of 5.04%, 0.88 percentage points lower 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 2017, they posted an average annual growth rate of 5.75% during



this period. Growth rates remained relatively stable from March onwards, and reached a yearly high of 5.23% in October and a yearly low of 4.22% in June.

On the demand side, reserve money, measured on a daily average basis, increased by NT\$179 billion over the previous year. Of the components, net currency increased by NT\$116 billion and the annual growth rate slightly decreased to 7.00% from 7.19% the previous year; reserves held by financial institutions expanded by NT\$63 billion with an annual growth rate decreasing to 3.32% from 4.84% 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 decreased compared to the previous year as slower growth in transaction deposits reduced banks' demand for reserves.

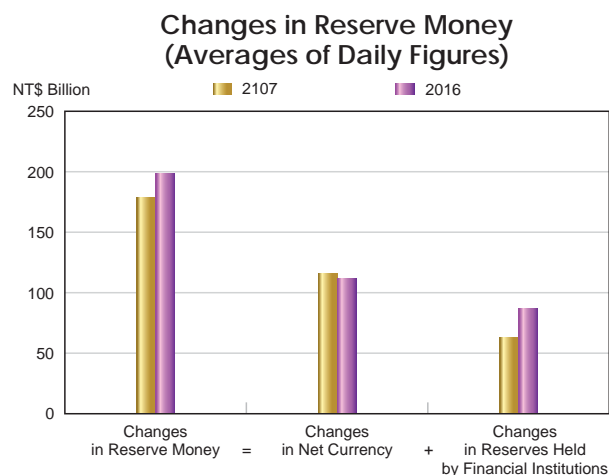
From the supply side perspective, reserve money increased by NT\$146 billion at the end of the year. The balance sheet of the CBC revealed the sources of changes in reserve money. The increase was mostly attributable to the growth in foreign assets held by the CBC and claims on financial institutions, while the decrease resulted largely from the increase in the issuance of CDs.

### (3) Overnight Call Loan Rate Broadly Stable

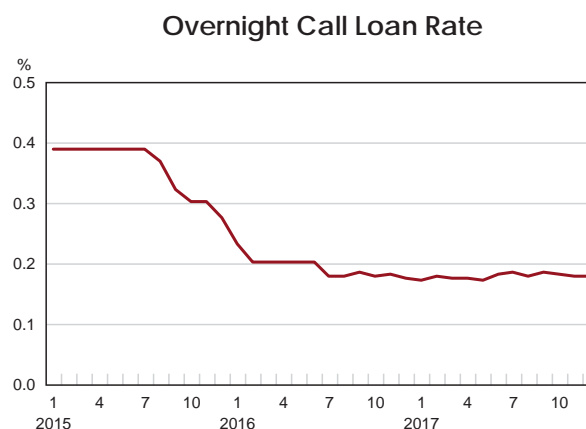
In 2017, the CBC continued to conduct open market operations to maintain excess reserves and the overnight call loan rate at appropriate levels. The annual average excess reserves of financial institutions reached NT\$46 billion, slightly higher than the NT\$44 billion of the previous year. The annual average overnight call loan rate remained broadly stable at around 0.180%.

### (4) M2 Growth Slower but Within Target Range

The monetary aggregate M2 has served as the CBC's intermediate target for monetary policy since 1992. The M2 growth target range for 2017 was set at 2.5% to 6.5% and the midpoint was 4.5%. M2 recorded an annual growth rate of 3.75%, down by 0.76 percentage points from the previous year. The annual growth rates of



Source: *Financial Statistics Monthly*, CBC.



Source: *Financial Statistics Monthly*, CBC.

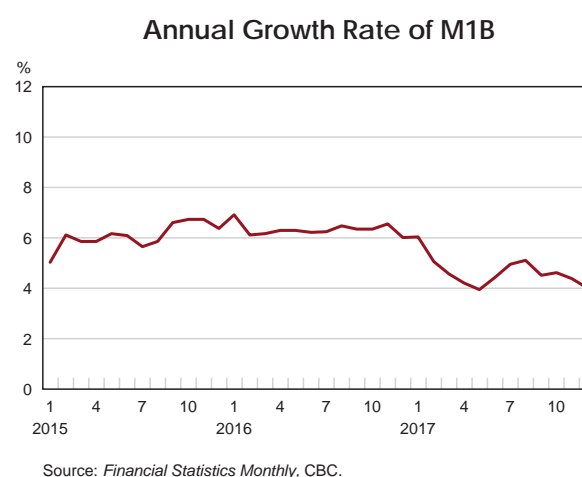
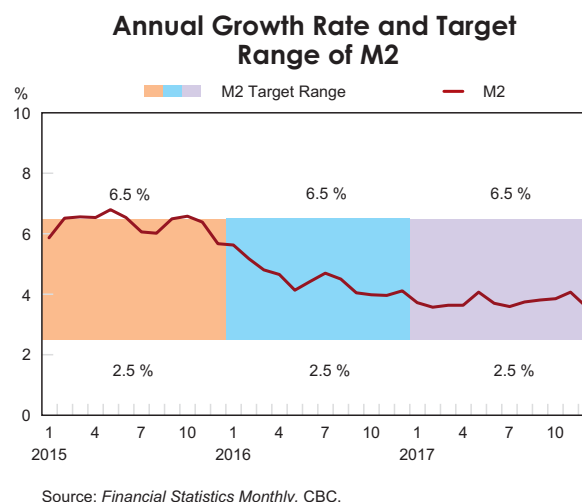
M2 in every month of the year remained within the CBC's target range.

In terms of monthly movements in 2017, the M2 growth rate trended down for the first two months, reflecting slower growth in foreign currency deposits and in bank loans and investments, and reached its yearly low of 3.56% in February. The M2 growth rate moved upward from 3.64% in March to 4.07% in May on account of faster growth in bank loans and investments and net foreign capital inflows. After slightly declining to 3.60% in July, the M2 growth rate returned to an uptrend in subsequent months and hit a yearly high of 4.07% in November, driven by higher growth in foreign currency deposits, stronger expansion in bank loans and investments, and net foreign capital inflows. However, softened growth in bank loans and investments and net foreign capital outflows in December brought down the pace of monthly M2 growth to 3.60%.

In terms of monetary aggregate M1B, it rose at an annual rate of 4.65% in 2017 (on a daily average basis), 1.68 percentage points lower than the previous year's figure. The slide was primarily caused by a deceleration in the growth of transaction deposits and a higher base in the previous year.

With regard to the monthly movements of M1B, its annual growth rate hit a yearly high of 6.05% in January on account of higher demand for funds prior to the Lunar New Year holidays. From February onwards, as growth in transaction deposits moderated, the M1B growth rate moved downward and hit an all-year low of 3.94% in May.

The M1B growth rate exhibited a steady uptrend from June to August owing to a faster growth in transaction deposits. In the following months, a shift of funds from transaction deposits to non-transaction deposits led the growth rate of M1B to decline. Later, weaker growth in bank loans and investments and net foreign capital outflows dragged the M1B annual growth rate down to 4.03% in December.



## Amending Relevant Regulations in Line with IFRS 9

In response to the development of the widely-applied International Financial Reporting Standards (IFRS), financial institutions in Taiwan are required to adopt the latest accounting standard, IFRS 9-Financial Instruments (IFRS 9), from 2018 onwards. In order to address the transition to IFRS 9, the CBC published amendments to the *Directions for Auditing Liquidity of Financial Institutions* on December 21, 2017, which would be effective from January 1, 2018. The regulations were adjusted to be in line with changes in the new accounting standard.

## Continuing with Macprudential Policy on High-Value Housing Loans

Although housing market transactions slightly picked up in 2017, housing prices fluctuated within a narrow range and home buyers still held a conservative attitude toward the housing market outlook. However, given that largely volatile high-value housing prices could still raise banks' real estate-associated credit risks, the CBC decided to keep the loan-to-value (LTV) ratio capped at 60% on high-value housing loans.

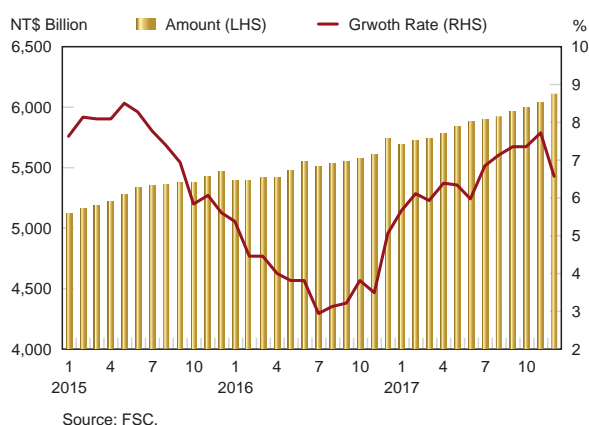
The CBC will continue to keep watch on banks' real-estate lending and developments in the housing market. Appropriate monetary policy actions will be adopted in a timely manner so as to achieve the operational objectives for the CBC to sustain financial stability.

## Facilitating SME Funding

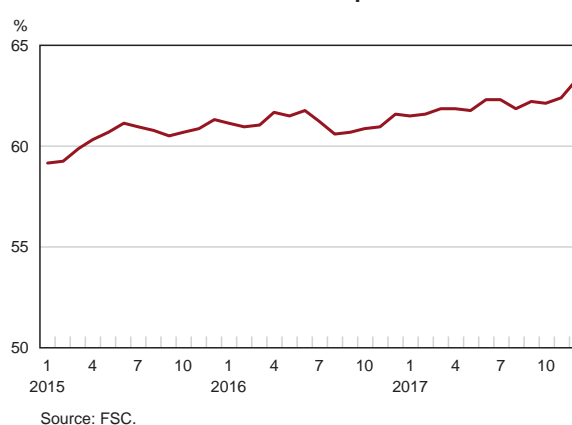
To sufficiently meet SME's funding needs, the Financial Supervisory Commission (FSC) continued to encourage lending to SMEs by domestic banks. Meanwhile, the CBC also urged commercial banks to increase lending to SMEs.

At the end of 2017, the outstanding loans extended to SMEs by domestic banks amounted to NT\$6,102 billion, increasing by NT\$376 billion or 6.56% from the end of the previous year. The ratio

Outstanding Loans Extended to SMEs



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



of the outstanding SME loans to those extended to private enterprises rose slightly from 61.56% at the end of 2016 to 63.28% at the end of 2017.

### **Accepting Redeposits from Financial Institutions**

Accepting redeposits from Chunghwa Post, the Agricultural Bank of Taiwan and commercial banks is another instrument for the CBC to influence banks' reserve positions to promote financial stability. At the end of 2017, the outstanding redeposits of Chunghwa Post and the Agricultural Bank of Taiwan stayed unchanged at NT\$1,624 billion and NT\$165 billion, respectively. Commercial banks' redeposits amounted to NT\$364 billion, decreasing by NT\$20 billion from the end of the previous year.

### 3. Foreign Exchange Management

Taiwan adopts a managed float exchange rate regime and the NT dollar exchange rate is in principle determined by market forces. In the event of excessive exchange rate volatility, the CBC would conduct "leaning against the wind" operations to stave off adverse implications for economic and financial stability. In 2017, the CBC continued employing a flexible exchange rate policy and maintaining the dynamic stability of the NT dollar exchange rate. The CBC is also committed to facilitating the order and development of the foreign exchange (FX) market.

In 2017, the CBC 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 CBC 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 CBC continued to strengthen the inspection of foreign exchange business projects 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 CBC provided seed funds for the Taipei Foreign Currency Call Loan Market, including US\$20 billion, €1 billion and ¥80 billion.

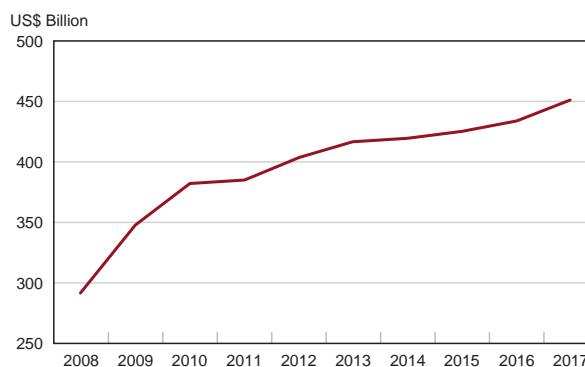
Furthermore, to facilitate smooth corporate financing and providing sufficient foreign currency liquidity within the banking system, the CBC continued to conduct foreign currency swap transactions with banks and offered foreign currency call loans to banks.

#### Foreign Exchange Reserve Management

The CBC manages its foreign exchange reserves based on the considerations of liquidity, safety, and profitability as well as fostering economic development. The CBC keeps watch on the global economic and financial situation and the financial conditions of the counterparties and adjusts the FX reserves as warranted.

At the end of 2017, total FX reserves stood at US\$451.5 billion, a US\$17.3 billion or 4.0% increase

Foreign Exchange Reserves



Source: Department of Foreign Exchange, CBC.

from the end of 2016, mainly attributable to returns from FX reserve investments and an increase in the conversion value of non-US dollar assets, as they appreciated against the US dollar in 2017.

### Capital Flow Management

The CBC's FX management mainly relies on the market mechanism and capital can, in principle, flow freely in and out of Taiwan. As of 2017, 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 CBC. Each transaction for a non-resident within US\$0.1 million can be settled by banks directly, whereas any transaction amount above that threshold requires the approval of the CBC.

Key measures with regard to the management of capital flows in 2017 included:

#### (1) Amending corresponding FX regulations

In line with the declaration procedures for electronic foreign exchange settlement and to maintain the powers of the declarants, the CBC amended the *Regulations Governing the Declaration of Foreign Exchange Receipts and Disbursement or Transactions* and its attachment the *Declaration Statement of Foreign Exchange Receipts and Disbursements or Transactions*, and *Directions for Banking Enterprises While Assisting Customers to Declare Foreign Exchange Receipts and Disbursements or Transactions*. The above amendments came into effect on March 29.

In order to provide clear guidance for and promote the effectiveness of securities firms' FX business operations, as domestic securities firms would be allowed to carry out spot FX transactions involving NT dollars, the CBC promulgated the *Directions for Domestic Securities Firms Approved to Conduct Foreign Business While Assisting Customers to Declare Foreign Exchange Receipts and Disbursements or Transactions*, effective March 29.

In view of the FSC's revision of the *Money Laundering Control Act*, the CBC urged securities companies to comply with the regulations on anti-money laundering and combating the financing of terrorism. The CBC also amended the *Regulations Governing Foreign Exchange Business of Securities Enterprises*, which went into effect on December 30.

#### (2) Promoting the internationalization of Taiwan's capital market

In 2017, the CBC approved the 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	IPO on TWSE & TPEX and registration on the Emerging Stock Board	22	NTD 17.9 billion
	NTD convertible bonds	8	NTD 7.7 billion
	International bonds	64	USD 37.8 billion RMB 1.6 billion ZAR 2.2 billion NZD 0.008 billion
Domestic companies	Overseas convertible bonds	3	USD 0.6 billion

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

In addition, on March 13, the CBC relaxed the restriction on investment by overseas Chinese and foreign investors, allowing them to invest in the private placement of convertible corporate bonds, exempt from the 30% cap on their investment in government bonds, corporate bonds, financial bonds, money market instruments, and money market funds.

#### (3) Approving residents' investments in foreign securities

In 2017, the CBC approved the following investments in foreign securities by residents:

### Residents' investments in Foreign Securities Approved by the CBC

Institution	Method/Instrument	Amount
Securities investment trust enterprises (SITEs)	79 domestic SITE funds (including 50 NTD-foreign multiple currency SITE funds)	NTD 1,798.1 billion (including multiple currency funds: NTD 1,090 billion)
	2 SITE private funds	NTD 8.0 billion
	7 domestic futures trust funds for qualified persons	NTD 140.0 billion
Life insurance companies	Non-discretionary money trusts managed by financial institutions	USD 0.7 billion
	Investment for their own accounts	USD 3.2 billion
	Lowering overseas investment hedge positions	USD 1.0 billion
Five major government pension funds and employment insurance fund	Investment for their own accounts	USD 4.8 billion

Source: Department of Foreign Exchange, CBC.



## Management of the 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 CBC reviews, authorizes and supervises banks to conduct FX business accordingly. In 2017, the CBC 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 services quality. Related developments in 2017 are as follows:

At the end of 2017, there were 3,445 authorized FX banks in total, which included 39 head offices and 3,368 branches of domestic banks, 35 branches of 26 foreign banks, three branches of Mainland Chinese banks, as well as 4,691 authorized money exchangers, post offices, and financial institutions authorized to engage in basic FX business.

In 2017, the CBC continued to simplify and upgrade the process of banks' FX business via electronic and communications equipment. On September 14, the CBC announced the plan to revise the *Regulations Governing Foreign Exchange Business of Banking Enterprises*, which will allow banks to open digital FX deposit accounts online for clients. The CBC also planned to amend the *Directions Governing Banking Enterprises for Operating Foreign Exchange Business* and the *Directions Governing Authorized Banks for Operating Foreign Exchange Business Through Electronic and Communications Equipment*.

### (2) Insurance companies

Up to the end of 2017, 21 insurance companies were allowed to engage in foreign currency insurance business including both traditional and investment-linked foreign currency insurance products. The 2017 foreign currency premium revenue was US\$31.8 billion, an increase of US\$8.9 billion or 38.7% over the previous year.

### (3) Securities firms, securities investment trust and consulting firms, and futures firms

In order for a timely review and improvement of FX business of the securities industry, the *Regulations Governing Foreign Exchange Business of Securities Enterprises* was revised twice within 2017:

On March 27, the CBC gave the greenlight for securities firms to carry out NT dollar FX spot business, expanded the permitted scope of FX derivative business, and simplified the application procedures for several types of FX business.

On December 28, the CBC further allowed securities firms that accept orders to trade foreign securities with receipt payment settled in foreign currency, to keep customers' settlement funds in

the customers' separate accounts ledger. The CBC also allowed securities firms to, with the CBC's approval, obtain the settlement funds upon maturity in NT dollars when conducting repo trades of foreign currency securities.

The approved cases granted by the CBC for securities firms, investment trust and investment consulting firms and futures firms to manage FX business as of 2017 are shown in the following table.

**Approved cases for securities firms, bills finance firms and futures firms  
to manage FX business in 2017**

Institution	FX Business	Number
Securities firms	Agents for foreign bond trading	1
	Underwriting international bonds	1
	Domestic agent for private placement of foreign currency- denominated funds	1
	Brokerage trading of onshore and offshore securities	1
	Proprietary foreign securities trading neither belonging to investment with their own funds nor for hedging needs	4
	Non-discretionary individually managed money trust wealth management	1
	Foreign currency discretionary investments in foreign securities	1
	Domestic foreign currency ETF liquidity providers	1
Bills finance firms	Foreign currency bills certification, underwriting, brokerage and dealing	1
investment trust and investment consulting firms	Mandated institution of private offshore funds	1
	Foreign currency discretionary investments in foreign securities	4
	Conducting public offer or private placement of foreign currency- denominated funds	2
Futures firms concurrently operating as leverage transaction merchants	Foreign currency margin trading	1

Source: Department of Foreign Exchange, CBC.

#### (4) Offshore Banking Units (OBUs)

At the end of 2017, the number of OBUs was 61, and total OBU assets reached US\$202.95 billion, which was US\$16.92 billion or 9.1% more than the end of the previous year. The sum of OBU post-tax net profit was US\$2.7billion, an increase of US\$0.4 billion or 17.3% from a year ago.

## (5) Offshore Securities Units (OSUs)

At the end of 2017, 18 OSUs were approved and established, and total OSU assets reached US\$5.11 billion, which was US\$1.52 billion or 42.6% more than the previous year end. The total OSU pretax net profits in 2017 were US\$9.29 million, an increase of US\$41.1 million or 79.5% from 2016.

## (6) Offshore Insurance Units (OIUs)

Up to the end of 2017, 20 insurance firms were approved to establish OIUs. Total OIU assets reached US\$0.47 billion, which was US\$0.26 billion or 125.7% more than the previous year end. Total OSU profits turned into a net post-tax loss of US\$14.3 million in 2017, a decrease of US\$15.9 million from the net profits of US\$1.6 million of 2016.

**RMB Exchange Business**

Since February 6, 2013, when authorized FX banks or DBUs began to conduct RMB business, domestic RMB business has been flourishing. By the end of 2017, there were 67 DBUs and 59 OBU's engaging in RMB business. The balance of RMB deposits amounted to RMB322.3 billion; RMB remittances totaled RMB1,332.9 billion in 2017; and RMB settlement through the Taipei Branch of the CBC of China totaled RMB4,033.1 billion.

RMB investment tools have become even more diversified. RMB investment business conducted by financial institutions as of the end of 2017 is shown in the following table.

**RMB Business Conducted by Financial Institutions**

Unit: RMB Billion

Business Items	Amount
Deposit balance (include NCDs, end of 2017)	322.3
Total remittances (February 2013 to December 2017)	8,222.0
Total settlement through the Taipei Branch of the CBC of China (February 2013 to December 2017)	18,707.6
Total value of 109 RMB-denominated bonds issued (up to the end of 2017)	72.4
Accumulated premium receipts from RMB-denominated investment-linked insurance business (up to the end of 2017)	3.4
Accumulated premium receipts from RMB-denominated traditional insurance business (up to the end of 2017)	2.7

Source: Department of Foreign Exchange, CBC.

**Foreign Currency Clearing Platform**

The CBC has consigned the Financial Information Service Co. to set up a foreign currency clearing platform, which 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 2017	
		Transactions	Amount
US dollar	70	1,171,805	USD 1,867.8 billion
Renminbi	61	232,081	RMB 363.0 billion
Yen	42	30,635	JPY 1,108.7 billion
Euro	41	19,995	EUR 4.8 billion
Australian dollar	29	14,235	AUD 1.4 million

Source: Department of Foreign Exchange, CBC.

## 4. Payment and Settlement Systems

The CBC Interbank Funds-Transfer System (CIFS) is the backbone of Taiwan's payment and settlement system, linking payment and remittance 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.

In addition, the CBC 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

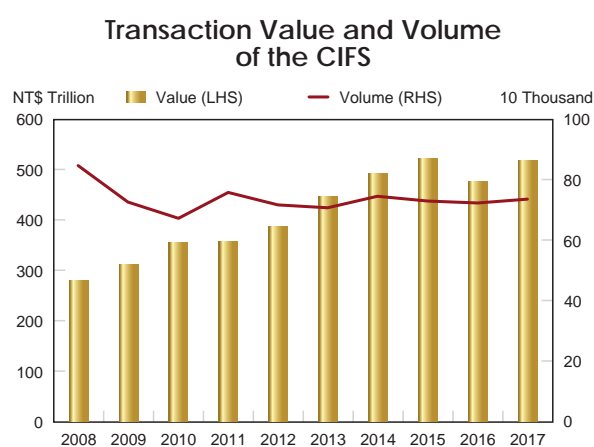
#### (1) Funds Transfers via the CIFS

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

At the end of 2017, 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 2017, the number of transactions via the CIFS was 734,895, with the total amount of funds transferred reaching NT\$517 trillion. Meanwhile, the daily average number of transactions via the CIFS was 2,963, with a daily average amount of funds transferred standing at NT\$2,086.5 billion, increasing by 7.60% over the previous year.

#### (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.

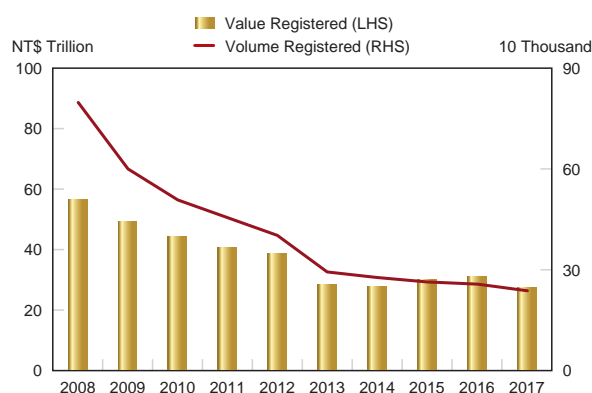


Source: Department of Banking, CBC.

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 to ensure that securities delivery occurs almost at the same time as the funds transfer, effectively mitigating potential risks during the transaction process.

As of the end of 2017, there were 17 clearing banks with 1,687 branches that handled the registration of central government securities transfers. During 2017, 238,000 transfers with a total amount of NT\$27.4 trillion were processed by this system.

**Transaction Value and Volume of the CGSS**



Source: Department of Treasury, CBC.

## Monitoring Payment and Settlement Systems

The CBC monitors the payment and settlement systems on a periodic basis to maintain their safety and efficiency. In 2017, the CBC's monitoring activities in this regard included the following:

- (1) Continuing to monitor the operation of the payment and settlement systems. In 2017, 15 applications for the CIFS operation time extensions were filed by participating institutions because of their own system malfunctions or other contingencies. The CBC required these institutions to submit improvement plans.
- (2) Requiring payment system operators and payment instrument issuers to provide detailed information on their operations and activities on a regular basis.
- (3) Supervising clearing institutions to perform regular drills on operating backup systems and implementing contingency plans in case of emergency to ensure business continuity. The FISC conducted its drill in July 2017, while the TDCC held its drills in May and November.
- (4) Inviting the Financial Supervisory Commission (FSC), the FISC, the TDCC, and the TCH to jointly hold conferences on "Promoting Sound Operation of the Payment Systems" with themes of "Payment System Operation Review and Major Improvements" in May and "Building Information Security Awareness and Maintaining System Security" in December, in order to urge clearing institutions to keep strengthening the governance of payment systems and information security.

## Keeping Watch on Financial Technology Trends and Assisting Financial Institutions to Develop Innovative Services

In response to rapid advancement in financial technology (fintech) in recent years, the CBC continued to keep close watch on the development of financial technology and undertook the following actions:

- (1) Forming a digital finance research group within the CBC and holding meetings to discuss fintech-related issues on blockchain technology, regulatory technology, big data, and artificial intelligence.
- (2) Assisting in boosting the adoption of electronic payments domestically and supporting the FISC in its collaboration with financial institutions to promote electronic payment services, such as introducing Taiwan Pay.
- (3) Instructing the TCH to carry out outsourced research programs with a focus on the applications of blockchain technology in financial services.
- (4) Urging the FISC to cooperate with financial institutions in establishing an interconnected financial blockchain platform and conducting trial cases based on the plan formulated by the "Financial Blockchain Research and Application Development Committee."
- (5) Closely watching the development of virtual currencies like Bitcoin and related global regulatory actions.

### Box

## The Development of Electronic Payments in Taiwan

In order to construct a comprehensive framework of the payment and settlement systems in Taiwan, the CBC has carried out numerous reforms since 1995. In recent years, the CBC has also promoted the development of electronic payment services. Currently, large-value payments are all made electronically. With regard to retail payments, through joint efforts by the government and the private sector, a variety of electronic payment instruments have been brought into use to meet consumers' payment needs.

### 1. Assisting in Building a Sound Electronic Payment System

#### 1.1 Establishing the CBC Interbank Funds-Transfer System (CIFS)

The CIFS is a large-value electronic funds-transfer system, commencing service in 1995. Since 2002, the CIFS has been comprehensively transformed into a Real-Time Gross Settlement (RTGS)<sup>1</sup> system in order to improve the efficiency of interbank funding and reduce settlement risk of large-value transactions.

<sup>1</sup> RTGS is a mechanism in which all payments are processed and settled continuously in real time (without deferral) and on a gross basis (transaction by transaction) when the banks involved hold sufficient account balances.

## 1.2 Making the CIFS the Hub of Taiwan's Payment and Settlement Systems

The CIFS, as the backbone of domestic payment systems, has gradually connected to clearing systems of bills, government bonds, and securities with the adoption of a delivery-versus-payment (DVP)<sup>2</sup> mechanism since 2003. It also deals with interbank settlements of credit card transactions. From February 2014, the CIFS linked with the foreign currency clearing platform to provide payment-versus-payment (PVP)<sup>3</sup> settlements for foreign exchange swap transactions between the NT dollar and other foreign currencies. This helped ensure the security and efficiency of the overall financial payment system.

## 2. Promoting the Use of Electronic Payment Instruments

There are three types of payment instruments under Taiwan's electronic payment system, including (1) electronic funds transfers through bank accounts, (2) credit cards and cash cards for retail payments, and (3) electronic money for storing value and making payments. In 2017, the amount of electronic payment transactions totaled NT\$664.5 trillion, 38 times as large as nominal GDP of the same period.

### Electronic Payment Transactions

Unit: NT\$100 Million; %

	2017		2016	
	Amount	Share	Amount	Share
Electronic Funds Transfers (via bank accounts)	<b>6,610,554</b>	<b>99.48</b>	<b>6,150,218</b>	<b>99.48</b>
CIFS	5,174,477	77.87	4,770,355	77.16
FISC	1,408,519	21.20	1,353,090	21.89
TCH	27,558	0.41	26,773	0.43
Credit Cards and Cash Cards	<b>33,807</b>	<b>0.51</b>	<b>31,221</b>	<b>0.51</b>
Credit Cards	26,232	0.39	24,222	0.39
Cash Cards	7,575	0.11	6,999	0.11
Electronic Money	<b>820</b>	<b>0.01</b>	<b>745</b>	<b>0.01</b>
Banks	0.2	0.00	0.2	0.00
Non-banks	820	0.01	745	0.01
Total	<b>6,645,181</b>	<b>100.00</b>	<b>6,182,184</b>	<b>100.00</b>

Sources: CBC, FSC, and FISC.

<sup>2</sup> DVP is a settlement mechanism aiming to ensure that the delivery of securities occurs only if the corresponding transfer of funds occurs in order to prevent settlement risk.

<sup>3</sup> PVP refers to a mechanism for synchronous payments between two different currencies and is used worldwide to control foreign currency settlement risk. To take NTD/USD swaps as an example, PVP ensures that a final transfer of USD (or NTD) occurs only if a final transfer of NTD (or USD) takes place.



## 2.1 Electronic Funds Transfers through Bank Accounts

Large amounts of electronic funds were transferred via bank accounts, mainly processed through the CIFS, the Interbank Remittance System (IRS) operated by the FISC, and the Automated Clearing House (ACH) system run by the TCH. In 2017, the total amounts transferred through the three systems above were NT\$517.4 trillion, NT\$140.9 trillion, and NT\$2.8 trillion, respectively.

## 2.2 Credit Cards and Cash Cards

Card-based payment has been a common non-cash payment method in Taiwan. Among electronic payment instruments, credit cards and cash cards are widely used by domestic consumers. In 2017, the total amount of transactions was NT\$3.4 trillion, of which transactions made via credit cards accounted for 77.6%.

## 2.3 Electronic Money

Electronic money includes electronic stored value cards provided by electronic stored value card issuers and electronic payment accounts (e-payment accounts) managed by electronic payment institutions. As the e-payment account business which allows the public to deposit their stored value funds has only been introduced for a short period of time, the transaction amount remained low, and electronic stored value cards still made up the majority of electronic money transactions.

Electronic stored value cards were primarily issued by non-bank institutions. At the end of 2017, the number of effective electronic stored value cards issued by non-banks reached 93.42 million with stored value amounting to NT\$8.02 billion, far higher than the 20 thousand effective cards issued by banks with stored value of NT\$40 million.

### Electronic Stored Value Cards Issued

Unit: 10 thousand; NT\$100 Million

Year	By Banks		By Non-banks	
	Effective Cards	Balance of Stored Value	Effective Cards	Balance of Stored Value
2014	46	0.5	5,753	51.9
2015	122	0.6	6,854	60.7
2016	8	0.5	8,101	69.4
2017	2	0.4	9,342	80.2

Source: FSC.

Electronic stored value cards issued by non-banks mainly include EasyCard, icash card, iPASS card, and HappyCash card. The amount of annual retail sales paid with these cards totaled NT\$82 billion in 2017, with EasyCard contributing the largest share of 75.4%.

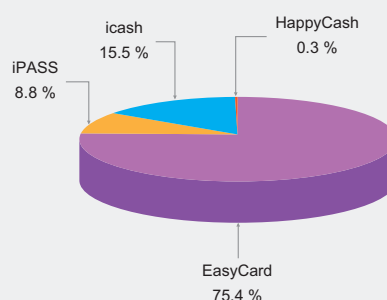
### 3. Supporting the Development of Electronic Payments

In recent years, currency issuance to GDP ratios have exhibited uptrends in most countries, except for Sweden and China. Meanwhile, cash is still frequently used even in countries with well-developed electronic payment systems, such as the US, South Korea, the euro area, and Japan, indicating that cash remains an important payment instrument for consumers.

Despite diversified electronic payment instruments offered in Taiwan, most people still use cash as a major payment method.

To increase the adoption of electronic payments, the CBC has urged the FISC to assist in the development of payment instruments such as cash card payments and mobile payments. For mobile payments, the Executive Yuan has set a policy target of reaching a 90% penetration rate by 2025. In order to help achieve that goal, the FISC introduced Taiwan Pay, a QR code-based mobile payment service, in September 2017 and will continue to develop a more secure and convenient identity authentication mechanism.

**Shares of Electronic Stored Value Cards Issued by Non-banks in 2017**



Source: FSC.

## 5. Currency Issuance

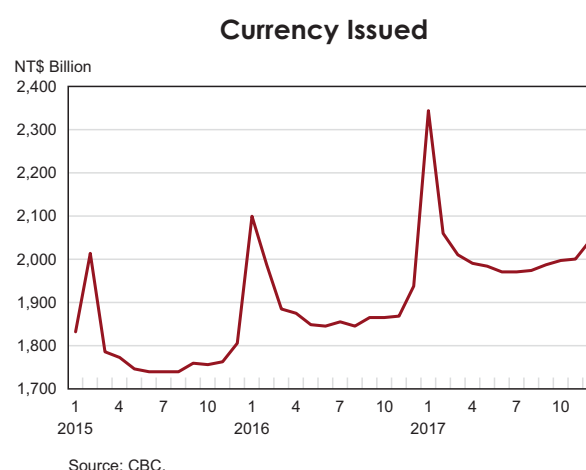
As the sole agency with the authority to issue banknotes and coins, the CBC is committed to providing the public with a stable and reliable currency in order to facilitate economic activity.

During 2017, the CBC ensured a stable currency supply in response to currency demand, which is dependent on domestic economic conditions, seasonal factors, and the development of noncash payment instruments. In addition, the CBC issued commemorative coin sets to mark national events.

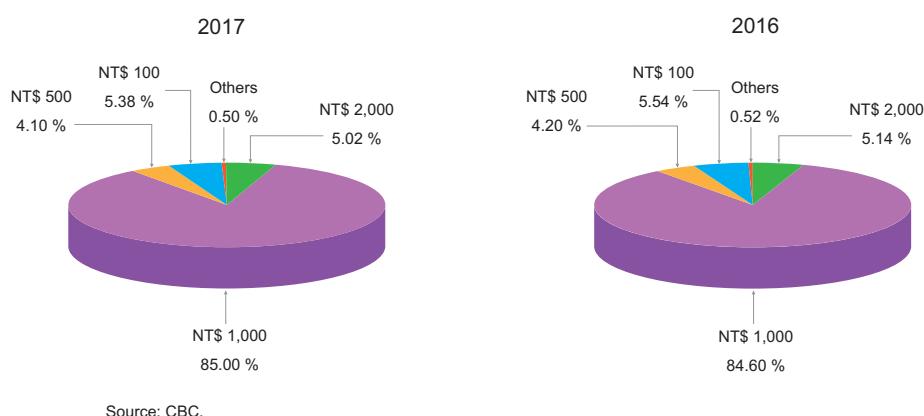
### Currency Issuance Increased to Meet Currency Demand

In 2017, the CBC provided an adequate amount of currency in response to currency demand. The currency issued peaked at NT\$2,344.6 billion on January 26, the 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\$2,042.2 billion, rising by NT\$104.1 billion or 5.37% over the previous year end.

At the end of 2017, the composition of NT dollar banknotes in circulation by denomination was similar to the end of 2016. The majority of circulating banknotes went for the NT\$1,000 note with a share of 85.00%. The NT\$100 and NT\$2,000



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

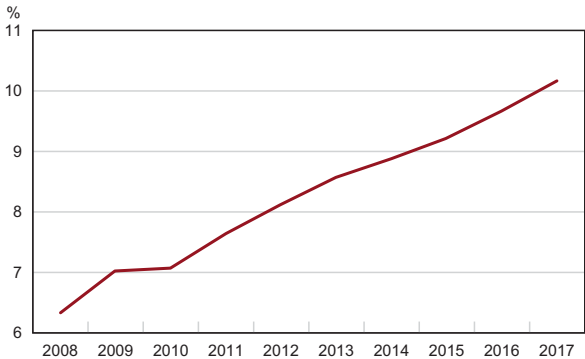


notes came in second and third with shares of 5.38% and 5.02%, respectively.

Currency in Circulation to GDP Moved Up

As the domestic interest rates stayed at relatively low levels, 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 10.16% in 2017, 0.50 percentage points higher than the 9.66% 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 CBC 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 2017, the CBC issued a casting set of coins for the Chinese Zodiac Year of the Rooster, and the sixth coin set of the National Parks of Taiwan series - Kinmen National Park.



Source: CBC.

## 6. Fiscal Agency Functions

The CBC, as banker to the central government, fulfills its responsibilities by managing the treasury deposit account (TDA), handling 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 CBC manages the TDA on behalf of the Ministry of Finance (MOF), processing receipts and disbursements of the central government. In order to provide convenient services for government agencies and taxpayers, the CBC delegates the handling of treasury business to 14 financial institutions and their 360 branches, including three overseas branches located in New York, Los Angeles, and Paris. In addition, there are another 4,734 tax collection agencies set in financial institutions. In 2017, the CBC received a total of NT\$3,215.9 billion in treasury deposits, a decrease of NT\$123.3 billion or 3.69% over the previous year. Payments made on behalf of the national treasury were NT\$3,223.5 billion, falling by NT\$111.0 billion or 3.30% from 2016. At the end of 2017, the TDA balance was NT\$19.8 billion, a decline of NT\$7.5 billion or 27.47% from the previous year end.

Amid a rising wave of financial digitalization, the CBC established an online national treasury fee payment mechanism, which was launched in June 2017. This service enables the public to make electronic payments of charges and fees to the national treasury on a 24/7 basis.

### Handling Central Government Agency Deposits

Central government agencies are required to make their deposits with the CBC or other delegated banks. However, the delegated banks are required by law to redeposit 60% of the deposits with the CBC, except those in interest-bearing accounts. At the end of 2017, the balance of central government agencies' deposits with the CBC amounted to NT\$156.8 billion, decreasing by NT\$16.6 billion or 9.57% over 2016. Deposits with other delegated banks were NT\$534.7 billion at the end of 2017, expanding by NT\$8.4 billion or 1.60%. Among them, redeposits with the CBC registered NT\$8.6 billion, contracting by NT\$2.4 billion or 21.82% from the end of 2016.

### Managing Central Government Bonds

As a fiscal agent, the CBC provides services related to the issuance, transfer and registration, redemption, and interest payment of central government bonds. The CBC also conducts the auctions of central government bonds. There are 57 domestic dealers qualified to directly participate in the auctions, including 24 banks, 19 securities companies, eight bills finance companies, five insurance

companies, and Chunghwa Post.

In 2017, the CBC conducted 16 issues of central government bonds in book-entry form worth NT\$400.0 billion and paid NT\$347.5 billion in principal and NT\$107.3 billion in interest for central government bonds. At the end of 2017, the outstanding amount of central government bonds was NT\$5,594.8 billion, slightly increasing by NT\$52.5 billion or 0.95% from the previous year end.

### **Managing Treasury Bills**

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

In 2017, the CBC conducted eight issues of book-entry treasury bills with a total amount of NT\$220.0 billion. At the end of 2017, the outstanding amount of treasury bills was NT\$25.0 billion, decreasing by NT\$65.0 billion or 72.21% 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 CBC conducts targeted examinations to ensure that monetary, credit, and foreign exchange policies are implemented effectively. The CBC has also established an off-site monitoring system and a financial stability assessment framework to systematically monitor and assess potential risks and their possible sources. Once sources of problems are identified, the CBC then adopts appropriate policies in a timely manner to achieve the operational goal of financial stability.

### On-Site Examination

Targeted examinations in 2017 included commercial banks' required reserves, disclosure of housing loan information, large amounts (or quantities) of returned checks, liquidity coverage ratio, counterfeit money detection, foreign exchange remittances, non-delivery forwards transactions, foreign currency exchange, foreign exchange transfer messages, and correctness of reporting to the CBC, etc.

### Follow-up on Examination Findings

Based on the findings from the CBC's targeted examinations as well as the results of the Financial Supervisory Commission's financial examinations that are related to the CBC's operations or regulations, the CBC continued to track whether the financial institutions under inspection had improved their operations to ensure the effectiveness of the CBC's policies.

### Strengthening Off-Site Monitoring

To respond to changing financial conditions and regulatory amendments and to fully understand the dynamics of financial institutions' business operations, the CBC constantly reviews and revises all relevant reporting forms and contents of statistical data submitted by financial institutions. Developments related to off-site monitoring in 2017 included the following:

- (1) Modifying the declaration format and content of the one-stop declaration window in accordance with the new version of International Financial Reporting Standard 9 (IFRS 9).
- (2) Modifying formats and contents of the table of *Term to Maturity and Term Structure of NT Dollar Liquidity* to fully understand liquidity risks faced by financial institutions. Domestic banks, local branches of foreign and Mainland Chinese banks are required to report this table.
- (3) Modifying the tables of *Loan by Borrower and by Usage*, *Credit by Collateral*, *Guarantee by type of Recipient*, *Domestic Banks Credit to Mainland Area*, and *Country Risk Exposure* to meet

the need for financial supervision.

- (4) Adjusting domestic bank capital adequacy indicators, such as minimum required ratio and its grading criteria of the *Regulatory Capital to Risk-weighted Assets Ratio*, *Tier 1 Capital Ratio*, and *Common Equity Ratio*.
- (5) Adjusting minimum required criteria of the *Liquidity Coverage Ratio* for the analysis of domestic bank compliance and liquidity conditions.
- (6) Adjusting financial holding company observation indicators, screening standards, and grading principles to meet higher standards of capital adequacy ratio and liquidity coverage ratio of commercial bank subsidiaries.
- (7) Adjusting the statutory limit on (longer-term) internal financing of credit departments of farmers' and fishermen's associations.

### **Improving Information Transparency of Financial Institution Operations**

The CBC regularly compiles and publishes financial institution statistics, such as *Condition and Performance of Domestic Banks (Quarterly)* and *Major Business Statistics of Financial Institutions*, as well as the latest financial regulations. It also discloses related information on its website to strengthen operational transparency of financial institutions, and to reinforce market self-discipline.

### **Financial Stability Assessment**

The CBC compiles financial soundness indicators and develops credit and market risks models. We 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 2017, the CBC continued to actively engage in international cooperation related to financial supervision, such as attending the eighth SEACEN Meeting of Deputy Governors in Charge of Financial Stability and Banking Supervision.



## 8. Participation in International Activities

Endeavors to take part in international activities continued in 2017. As a member, the CBC 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 CBC 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 CBC strengthens its ties with other central banks and related institutions to exchange views and share policy experience on macroeconomic and financial issues.

The CBC is a member of SEACEN. In December 2017, the CBC attended the 53rd annual conference of governors held in Bangkok, Thailand. At this conference, the CBC shared views on the risks to the financial system arising from monetary policy normalization, geopolitics, and technological innovations, and explored their implications for central banks. Moreover, monetary policy challenges stemming from the low inflation environment, the build-up of financial imbalances, and the issue of incorporating financial stability considerations into the monetary policy framework were also discussed among member banks.

Meanwhile, the CBC participated in the meetings held by other international organizations, such as the IDB's annual meeting of the Board of Governors held in Asunción, Paraguay, from March 30 to April 2, the CABEI's Ordinary Meeting of the Board of Governors in Antigua, Guatemala, on April 27 and 28, the ADB's annual meeting in Yokohama, Japan, from May 4 to 7, the EBRD's annual meeting of the Board of Governors held in Nicosia, Cyprus, from May 9 to 11, the BIS' annual general meeting in Basel, Switzerland, on June 24 and 25, and the APG's annual meeting in Colombo, Sri Lanka, from July 17 to 21.

# *Chronology of Events of the CBC in 2017*

## Chronology of Events of the CBC in 2017

Date	Event
Jan. 12	The CBC issued a commemorative coin set for 2017, the Chinese Zodiac Year of the Rooster.
Mar. 2	The CBC permitted the National Credit Card Center of R.O.C. (NCCC) to offer services involving foreign currency, including credit card dynamic currency conversion transactions.
23	The CBC's Board decided to leave the discount rate, the rate on accommodations with collateral, and the rate on accommodations without collateral unchanged at 1.375%, 1.75%, and 3.625%, respectively.
27	<p>The CBC amended the <i>Regulations Governing Foreign Exchange Business of Securities Enterprises</i> to allow securities firms to engage in New Taiwan dollar spot foreign exchange transaction business, effective from March 29, 2017.</p> <p>In connection with the above amendments, and to facilitate electronic declaration of foreign exchange settlement, the CBC amended the <i>Regulations Governing the Declaration of Foreign Exchange Receipts and Disbursements or Transactions</i>, effective from March 29, 2017.</p>
Apr. 21	The CBC began the issuance of 7-day certificates of deposit on a regular basis.
May 4	The CBC increased the monthly bidding amount for 364-day certificates of deposit from NT\$160 billion to NT\$170 billion from May onwards.
Jun. 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.
Aug. 3	The CBC released for the first time the Monetary Policy Meeting minutes (for the June 2017 meeting).
14	The CBC increased the monthly bidding amount for 2-year certificates of deposit from NT\$30 billion to NT\$40 billion from August onwards.
Sep. 21	The CBC's Board decided to leave the discount rate, the rate on

Date	Event
	accommodations with collateral, and the rate on accommodations without collateral unchanged at 1.375%, 1.75%, and 3.625%, respectively.
Oct. 31	The CBC amended the <i>Regulations Governing the Establishment and Administration of Foreign Currency Exchange Counters</i> to include rules governing the inspection and money laundering control of such counters, effective from November 2, 2017.
Nov. 16	The CBC issued the New Taiwan dollar uncirculated coin set of the National Parks of Taiwan series - Kinmen National Park.
Dec. 21	<p>The CBC's Board decided on the following measures:</p> <ol style="list-style-type: none"> <li>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.</li> <li>2. Keeping the target range of M2 growth for 2018 unchanged at 2.5% to 6.5%.</li> </ol> <p>In response to the implementation of the International Financial Reporting Standard 9, the CBC amended the <i>Directions for Auditing Liquidity of Financial Institutions</i>, effective from January 1, 2018.</p>
28	The CBC amended the <i>Regulations Governing Foreign Exchange Business of Securities Enterprises</i> , effective from December 30, 2017. Securities enterprises accepting orders to trade foreign exchange securities for customers may set up a separate account ledger for each customer to retain their settlement funds.

# Financial Statements of the CBC

## 1. Balance Sheet

Unit: NT\$ Million				
	December 31 2017	December 31 2016	Change	
			Amount	%
<b>Assets</b>				
Foreign Assets	13,629,397	14,136,872	-507,475	-3.59
Due from Domestic Banks	898,461	788,145	110,316	14.00
Loans and Accommodations to Financial Institutions	225,532	319,084	-93,552	-29.32
Other Assets	1,008,852	881,603	127,249	14.43
<b>Total Assets</b>	<b>15,762,242</b>	<b>16,125,704</b>	<b>-363,462</b>	<b>-2.25</b>
<b>Liabilities</b>				
Currency Issued	2,042,185	1,938,122	104,063	5.37
Deposits of Financial Institutions	1,743,038	1,700,514	42,524	2.50
Certificates of Deposit Issued	7,880,140	7,587,300	292,840	3.86
Redeposits of Financial Institutions	2,161,255	2,183,680	-22,425	-1.03
Government Deposits	176,862	200,764	-23,902	-11.91
Other Liabilities	740,669	1,542,415	-801,746	-51.98
<b>Total Liabilities</b>	<b>14,744,149</b>	<b>15,152,795</b>	<b>-408,646</b>	<b>-2.70</b>
<b>Equity</b>	<b>1,018,093</b>	<b>972,909</b>	<b>45,184</b>	<b>4.64</b>
<b>Total Liabilities and Equity</b>	<b>15,762,242</b>	<b>16,125,704</b>	<b>-363,462</b>	<b>-2.25</b>

Note: Figures for 2017 are unaudited. Figures for 2016 are audited by the National Audit Office.

## 2. Income Statement

Unit: NT\$ Million		
	2017	2016
<b>Income</b>		
Interest Income	384,082	386,200
Fee Income	86	100
Foreign Exchange Gains	49,678	24,227
Revenue from Trust Investment	7,314	7,625
Subsidiaries Investment Income	1,792	1,849
Others	499	2,923
<b>Total Income</b>	<b>443,451</b>	<b>422,924</b>
<b>Expenses</b>		
Interest Expenses	73,658	74,907
Fee Expenses	191	228
Expenses for Coin Issuance	1,647	1,499
Expenses for Banknote Issuance	2,476	3,552
Allowances	137,255	114,046
Operating Expenses	1,448	1,450
Administrative Expenses	467	451
Others	931	1,104
<b>Total Expenses</b>	<b>218,073</b>	<b>197,237</b>
<b>Net Income</b>	<b>225,378</b>	<b>225,687</b>

Note: Figures for 2017 are unaudited. Figures for 2016 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 <sup>(1)</sup> Total Score of Monitoring Indicators	TIER <sup>(2)</sup> 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	Construction
(average)	Sector	Sector	(%)	(US\$)	(%)	(2011=100)		(%)	(%)	(%)		
2008	19	87.43	89.96	0.70	18,564	4.14	82.93	43,121	1.50	-1.15	-0.90	-9.26
2009	19	97.36	95.54	-1.57	17,531	5.85	83.87	39,125	-7.57	-7.91	-7.80	-19.08
2010	37	101.94	105.90	10.63	19,864	5.21	96.88	42,300	-11.20	24.17	26.47	-9.17
2011	24	95.29	99.43	3.80	21,507	4.39	100.00	43,316	1.17	4.44	4.69	7.58
2012	17	91.72	90.66	2.06	21,967	4.24	99.34	43,689	2.25	-0.25	-0.32	7.12
2013	20	98.07	94.54	2.20	22,526	4.18	99.37	43,829	0.27	0.65	0.56	3.69
2014	25	100.59	98.45	4.02	23,330	3.96	103.46	45,207	-1.40	6.37	6.63	10.56
2015	17	93.91	89.36	0.81	23,019	3.78	102.52	46,781	6.22	-1.75	-1.49	3.57
2016	21	97.13	87.05	1.41	23,258	3.92	108.40	47,258	-0.71	1.53	1.99	-9.11
2017	24	98.96	92.56	2.86	24,936	3.76	110.68	48,660	0.60	2.91	3.76	-3.98
2017/1	29	99.93	90.59			3.78	118.68	91,089	18.24	2.62	3.64	12.45
2	28	98.20	90.25			3.85	113.37	43,788	-31.73	10.82	14.24	-43.70
3	24	97.88	91.83	2.64	6,062	3.78	105.85	41,943	-1.58	3.91	5.48	0.94
4	21	95.73	92.40			3.67	114.89	41,838	2.86	-0.34	1.16	-1.62
5	20	95.47	94.92			3.66	112.04	47,702	10.02	0.78	1.94	-1.44
6	22	96.58	95.51	2.28	5,983	3.74	104.60	41,836	-4.54	3.25	3.79	12.37
7	22	100.61	94.41			3.84	110.40	52,229	8.39	1.87	2.40	-9.19
8	25	102.22	95.61			3.89	106.23	45,705	-2.41	3.12	3.91	-21.11
9	28	101.66	93.28	3.18	6,312	3.77	108.25	44,119	-2.37	4.98	5.02	18.63
10	23	100.58	90.47			3.75	118.33	43,350	2.23	2.68	2.97	4.95
11	23	99.87	89.80			3.71	107.44	44,637	2.80	1.40	1.75	-17.99
12	22	98.81	91.67	3.28	6,579	3.66	111.73	46,058	1.50	1.37	1.08	8.84

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 <sup>(3)</sup>  (%)	Change of Total Imports  (%)			Capital Equipment  (%)
2008	-1.69	-11.13	-14.15	29.62	23.89	3.7	-0.6	-3.7	10.5	4.4	7.2	9.6	-9.2	13,585	1.7
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	2.32	2.27	2.77	34.31	20.19	-1.8	-0.2	-3.0	-0.2	1.0	-0.7	-2.8	12.1	49,753	-1.6
2017	2.34	0.01	-0.89	33.68	19.78	13.2	16.0	10.2	6.3	11.2	14.2	12.4	-0.4	57,983	10.9
2017/1						7.0	7.6	3.8	-1.6	7.6	11.4	8.5	4.8	3,506	5.2
2						27.5	48.8	8.6	6.7	7.2	27.4	42.0	40.8	3,357	22.0
3	1.81	4.82	3.89	33.57	20.01	13.1	16.7	10.6	3.8	6.2	16.3	19.5	21.8	3,973	12.3
4						9.3	10.2	7.6	9.2	1.3	13.8	23.4	19.0	2,778	7.4
5						8.4	6.3	12.9	3.9	12.9	6.9	10.2	-4.0	3,447	9.1
6	2.05	0.80	0.26	33.10	20.72	12.9	21.0	7.0	6.8	7.3	12.3	3.4	-15.2	5,853	13.0
7						12.4	11.7	18.6	5.6	9.3	16.2	6.2	-16.5	5,401	10.5
8						12.7	14.5	7.0	5.9	7.5	19.0	6.8	-15.3	5,727	7.5
9	2.62	-2.73	-4.35	33.95	19.35	28.0	29.4	20.5	25.5	39.9	25.1	22.2	7.1	6,663	6.9
10						3.0	4.9	0.6	-6.0	7.1	3.3	-0.1	-15.6	5,263	9.2
11						13.7	16.3	13.5	8.9	10.0	11.8	9.0	0.6	5,884	11.6
12	2.89	-2.18	-3.01	34.05	19.09	14.8	16.8	12.4	9.3	20.7	11.3	12.2	-4.7	6,133	17.5

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 <sup>(4)</sup>	Wholesale Price	Import Price	Export Price	Amount	Annual Growth Rate <sup>(5)</sup>	Amount	Annual Growth Rate	Amount	Annual Growth Rate
					(in NT Dollars)	(NT\$ Billion)	(%)	(NT\$ Billion)	(%)	(NT\$ Billion)	(%)
2008	3.52	3.27	5.15	8.83	-2.14	2,084.1	3.35	8,045.8	-2.94	26,679.3	2.71
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
2017/ 1	2.24	1.63	2.75	4.77	-0.69	3,751.1	8.00	16,244.1	6.05	41,463.0	3.72
2	-0.06	0.15	2.47	4.42	-1.34	3,790.7	3.62	16,238.2	5.07	41,823.0	3.56
3	0.18	0.96	1.71	3.08	-1.09	3,693.8	4.63	16,115.0	4.57	41,921.2	3.64
4	0.10	1.01	0.99	1.45	-1.62	3,691.1	5.14	16,064.1	4.21	41,967.2	3.63
5	0.59	1.11	-1.29	-1.93	-3.61	3,684.9	4.91	16,088.8	3.94	42,167.3	4.07
6	1.00	0.98	-1.74	-2.81	-3.58	3,660.3	4.22	16,074.1	4.43	41,986.9	3.71
7	0.77	0.92	-0.66	-1.16	-2.09	3,701.8	5.18	16,265.5	4.96	42,170.7	3.60
8	0.96	0.97	1.17	0.96	-0.57	3,726.7	5.20	16,552.3	5.11	42,393.6	3.75
9	0.49	0.81	1.92	2.63	-0.12	3,744.3	4.77	16,589.0	4.51	42,421.9	3.80
10	-0.33	1.12	1.65	2.03	0.06	3,742.0	5.23	16,564.7	4.61	42,384.7	3.85
11	0.34	1.29	1.56	2.47	-0.70	3,743.6	4.83	16,594.4	4.40	42,630.9	4.07
12	1.22	1.57	0.31	0.60	-2.16	3,780.5	4.84	16,645.7	4.03	42,719.0	3.60

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 <sup>(6)</sup>  (end of period) (%)	Interest Rates (%)						
	Deposits		Loans & Investments			CBC's Discount Rate  (end of period)	Interbank  Call Loan  Rate   (average)	31-90 Days CP Rate In Secondary Market	10-year Gov't Bond Rate in Secondary Market	Five Major Domestic Banks <sup>(7)</sup>		
	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)	
2008	27,870.2	6.98	21,331.5	3.42	1.54	2.000	2.014	1.92	2.29	1.42	2.80	
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	
2017/ 1	40,726.9	2.83	30,836.9	4.40	0.27	1.375	0.173	0.47	1.14	1.04	1.30	
2	41,022.6	3.34	31,004.7	4.34	0.29	1.375	0.177	0.44	1.12	1.04	1.40	
3	41,109.8	3.33	31,048.6	4.38	0.30	1.375	0.176	0.48	1.15	1.04	1.40	
4	41,272.8	3.18	31,179.7	5.06	0.31	1.375	0.175	0.45	1.07	1.04	1.47	
5	41,275.8	3.46	31,304.5	5.07	0.31	1.375	0.172	0.39	1.08	1.04	1.48	
6	41,431.8	3.41	31,237.1	4.76	0.30	1.375	0.183	0.42	1.04	1.04	1.36	
7	41,480.7	2.86	31,366.4	4.74	0.30	1.375	0.184	0.44	1.08	1.04	1.36	
8	41,750.4	3.41	31,672.2	4.71	0.29	1.375	0.180	0.41	1.03	1.04	1.46	
9	41,658.8	3.39	31,769.0	5.06	0.29	1.375	0.184	0.42	1.00	1.04	1.42	
10	41,812.3	3.46	31,828.4	4.90	0.29	1.375	0.181	0.46	1.05	1.04	1.50	
11	41,990.6	3.74	32,020.3	5.24	0.30	1.375	0.177	0.42	1.01	1.04	1.44	
12	42,094.0	3.38	32,022.7	4.82	0.28	1.375	0.179	0.43	0.97	1.04	1.42	

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) For data prior to Oct. 2008, the five major domestic banks are Bank of Taiwan, Taiwan Cooperative Bank, First Commercial Bank, Hua Nan Commercial Bank and Chang Hwa Commercial Bank, while beginning Nov. 2008, the Chang Hwa Commercial Bank is replaced by 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® Stock Market		Bond Market			Balance of Payments				Foreign Exchange Reserves	Exchange Rate	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) (NT\$ Billion)		Share of Outright Transactions (%)	(US\$ Million)				(end of period) (US\$ Billion)	(end of period) (NT\$/US\$)	(US\$ Billion)
2008	7,024	26,115.4	5,771.2	135,509.5	44.09	24,801	-270	1,641	26,274	291.71	32.860	19.37
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	65,965	15,011	426.03	33.066	33.35
2016	8,763	16,771.1	8,712.8	66,817.9	21.81	72,786	-9	55,773	10,663	434.20	32.279	28.92
2017	10,208	23,972.2	8,802.2	61,583.5	20.36	84,086	-12	68,640	12,467	451.50	29.848	28.62
2017/ 1	9,352	1,033.5	8,689.5	4,551.7	24.54					436.59	31.360	31.05
2	9,674	1,773.8	8,680.2	4,758.7	27.30					437.66	30.650	30.27
3	9,796	1,971.5	8,616.8	6,145.7	22.99	18,039	-3	14,559	2,433	437.53	30.336	30.67
4	9,801	1,515.2	8,692.6	4,734.5	21.10					438.43	30.218	27.98
5	9,994	1,682.2	8,777.9	4,936.8	20.98					440.25	30.102	28.40
6	10,259	2,012.4	8,796.7	5,828.1	22.72	17,386	-2	14,980	2,084	441.94	30.436	27.30
7	10,426	1,883.0	8,754.5	4,929.3	17.32					444.45	30.227	28.73
8	10,436	2,417.8	8,763.2	5,580.0	18.51					446.43	30.203	27.85
9	10,501	2,514.1	8,729.5	5,313.5	20.33	22,084	-1	18,039	3,932	447.22	30.305	29.47
10	10,684	2,156.4	8,758.4	4,730.8	17.46					447.79	30.170	28.62
11	10,743	2,728.1	8,803.2	5,272.5	16.31					450.47	30.010	27.73
12	10,501	2,284.3	8,802.2	4,801.8	14.54	26,577	-6	21,062	4,018	451.50	29.848	25.92

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

Sources: 1. NDC.

2. Taiwan Institute of Economic Research.

3. Department of Statistics, Ministry of Economic Affairs.

4. DGBAS, Executive Yuan.

5. Department of Statistics, Ministry of Finance, February 2018.

6. Banking Bureau, Financial Supervisory Commission.

7. Financial Statistics Monthly, CBC.

8. Balance of Payments, CBC, February 2018.

9. Taiwan Stock Exchange Corporation.

## Central Bank of the Republic of China (Taiwan) Annual Report 2017

**Publisher:** Chin-Long Yang

**Editor:** Department of Economic Research

**Central Bank of the Republic of China (Taiwan)**

**Publishing Date:** June 2018      **First Issue Date:** June 1962

**Published by:** Central Bank of the Republic of China (Taiwan)

Address: 2, Roosevelt Rd., Sec. 1, Taipei City 10066, Taiwan (R. O. C.)

Tel: 886 - 2 - 2393 - 6161

<http://www.cbc.gov.tw>

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### **Designed by: Central Engraving & Printing Plant**

Address: 235, Ankang Rd., Sec. 3, Xindian Dist., New Taipei City 23156, Taiwan (R. O. C.)

Tel: 886 - 2 - 2217 - 1221

**Price:** NT\$250

**GPN:** 2005100019

**ISSN:** 1017-9674

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